



Moderators of the self-congruity effect on consumer decision-making: A meta-analysis[☆]

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ABSTRACT

Value-expressive brands' success stem largely from self-congruity between their brand personalities and targeted consumers' self-concepts (Aaker, 1997). Over 100 conceptual and empirical articles highlight self-congruity's effect on consumer decision-making. The following meta-analysis identifies key theoretical and managerial issues of the self-congruity effect. Study results reinforce the self-congruity effect's robustness ($r = .31$). Moderation analysis sheds theoretical insights about self-congruity's motivational and cognitive underpinnings. The findings suggest self-congruity effects are a function of underlying self-motive "socialness," degree of self-enhancement sought, the brand personality facet, the judgment object's abstraction level, cognitive elaboration, and the underlying impression formation process. These findings generate methodological and theoretical recommendations for future self-congruity research, as well as recommendations for marketing practitioners.

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1. Introduction

The self-congruity effect largely determines the success of value-expressive brands, as congruity between their brand personalities and targeted consumers' self-concepts produces favorable consumer responses (e.g., brand attitudes, purchase intentions; Aaker, 1997; Sirgy, 1982). The self-congruity effect generates sustainable competitive advantage and brand equity, evident in Apple iPhone's strong market position relative to more functional Android ("Droid") smart phones that lack the identity-expressive benefits Apple's young, cool brand personality offers (Aaker, 1997; Mantell, 2009; Miles, 2010). More than 100 scholarly articles address the managerial and theoretical importance of the self-congruity effect's impact on consumer decision-making. Self-congruity research continues evolving in such new consumer identity and symbolic consumption-related research streams as self-brand connection research (cf. Escalas, 2004) and consumer identity-based motivation research (cf. Oyserman, 2009).

Given the self-congruity effect's theoretical and managerial importance, an empirical synthesis of the extant research may benefit

both marketing practitioners and scholars. Meta-analysis provides evidence of generalizability and construct validity (Lipsey & Wilson, 2001), imperative to address the self-congruity effect's high variability (Bauer, Mader, & Wagner, 2006). Such meta-analytic evidence also bolsters the validity of future self-congruity research and emergent streams of consumer identity and symbolic consumption research (cf. Lynch, 1982). A meta-analysis also provides evidence of self-congruity effect moderators, generating theoretical and managerial insights.

2. Theoretical development and hypotheses

The conceptual model in Fig. 1 depicts six self-congruity effect moderators and three interactions among select moderator pairs. The moderators represent methodological study variations associated with motivational and cognitive self-congruity effect factors: self-motive type—self-motive socialness and degree of self-enhancement sought; brand personality facet, product stimulus abstraction, impression formation process, and cognitive elaboration. Key interactions are cognitive elaboration x impression formation process; product stimulus abstraction x impression formation process; and cognitive elaboration x product stimulus abstraction.

2.1. Self-motive type

Self-congruity research examines consumer responses to the match between brand personality and one of four self-concept facets: actual self—how one actually perceives the self; ideal self—the self one desires to become; social self—the person one believes others perceive; and

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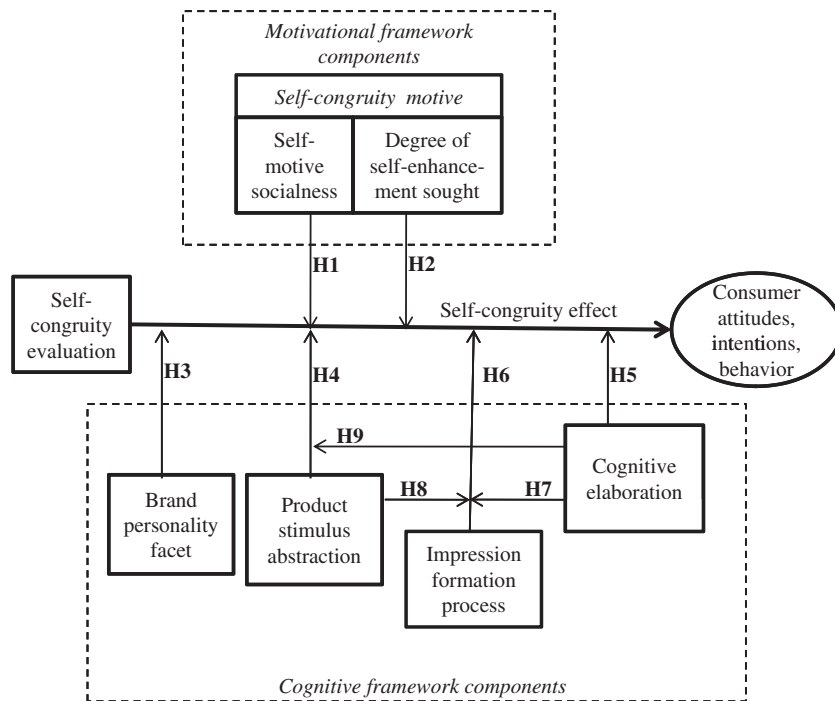


Fig. 1. The theoretical model guiding the meta-analysis.

ideal social self—the person one desires others to perceive (Sirgy, 1982). Each self-concept facet underlies a distinct self-concept motive (e.g., self-consistency is the need to maintain one's actual self-concept). Self-concept motives reflect two moderators of interest, self-motive socialness and degree of self-enhancement sought.

Self-motive socialness ranges from private versus public. Public self-motives predispose consumers toward brands congruent with either their actual self-concept (self-consistency motive-driven) or their social self-concept (social consistency motive-driven). Based on social standards, public self-motives serve social acceptance goals (Claiborne & Sirgy, 1990; Sirgy, 1982).

Private self-motives predispose consumers toward brands congruent with either their *ideal* self-concept (self-enhancement motive-driven) or their *ideal social* self-concept (social approval motive-driven) (Claiborne & Sirgy, 1990; Sirgy, 1982). Based on individuals' internal standards, private self-motives serve intra-personal acceptance purposes (Sedikides, 1993).

Research also suggests private self-motives reflect social standards because the private self-concept (e.g., actual and ideal facets) serves as a "sociometer" affected by social inclusion or exclusion (Stinson et al., 2010). A positive social self induces esteem for the private self-concept (Felson, 1993; Leary, Haupt, Strausser, & Chokel, 1998). Because private self-motives capture both inner and social standards of the self, they should exert greater weight, producing stronger self-congruity effects than public self-motives. H₁: The socialness motive moderates the self-congruity effect, producing stronger effects under private than public self-motives.

Degree of self-enhancement sought concerns the extent of self-concept-change the self-congruent brand motivates, ranging from consistency- to enhancement-type motives. Consistency-type motives predispose consumer toward brands that maintain actual or social self-facets; enhancement-type motives predispose consumer toward brands that help them achieve ideal or ideal social self-facets (Lecky, 1945; Sirgy, 1986). Consistency-type motives foster self-knowledge-based confidence leading to smooth social interactions (Swann, Stein-Seroussi, & Giesler, 1992), but research evidence of numerous self-serving biases (e.g., the self-serving attribution bias,

the "better-than average effect", and the self-enhancing memory bias) suggests people prefer to view and present themselves as positively as possible (enhancement-type motives) (Alicke & Govorun, 2005; Mezulis, Abramson, Hyde, & Hankin, 2004; Sanitioso & Wlodarski, 2004; Sedikides & Gregg, 2008).

A self-enhancement bias implies self-congruity effects connected with enhancement-type motives should be stronger relative to self-congruity effects connected with consistency-type motives. H₂: Degree of enhancement sought moderates the self-congruity effect, producing stronger effects under enhancement-type self-motives than consistency-type self-motives.

2.2. Brand personality facet

The self-congruity effect stems from consumer self-concept match with a brand personality facet—either the brand-as-person, or stereotypical brand users (Aaker, 1997; Helgeson & Supphellen, 2004). Self-congruity evaluations targeting the brand-as-person treat the brand as possessing human-like personality (e.g., "Is Brand XYZ... youthful? cool?") (Aaker, 1997; Levy & Gardner, 1955). Self-congruity evaluations targeting stereotypical brand users treat brands as representing personality characteristics of similar or aspirational brand users (e.g., "Is the typical Brand XYZ user... youthful? Cool?").

The brand-as-person provides a more comprehensive self-congruity evaluation than the stereotypical brand-user because consumers' associate the brand-as-person with personality traits of the brand-as-person, stereotypical brand-users, brand endorsers, company employees, and even the company CEO. Furthermore, the stereotypical brand-user's human personality characteristics do not fully capture consumers' brand personality conceptions; only three brand personality dimensions (sincerity, excitement, and competence) reflect the "Big Five" human personality dimensions (Aaker, 1997). H₃: Brand personality facet moderates the self-congruity effect, producing stronger "brand-as-person"-based self-congruity effects than stereotypical brand-user effects.

2.3. Product stimulus abstraction

Consumers evaluate self-congruity with product class and brand stimuli by retrieving personality associations from memory to compare with their self-concept. Product class self-congruity evaluations trigger retrieval from abstract product class mental categories, whereas brand self-congruity evaluations trigger retrieval from concrete brand mental categories (cf. Johnson, 1984; Paivio, 1971). Two competing hypotheses explore product stimulus abstraction's impact on brand personality knowledge retrieval, in turn, influencing self-congruity effect strength.

Firstly, product class-based self-congruity effects should be stronger because greater consumer experience with product classes than specific brands yields knowledge of richer, more descriptive product attributes, facilitating self-congruity evaluation (Howard, 1977; Johnson, Lehmann, Fornell, & Horne, 1992). Product class knowledge's abstract attributes encompass multiple concrete attributes (e.g., the "athletic shoe" abstract attribute "comfort" summarizes the concrete attributes "cushioning", "shock absorbency", and "arch support"), making product class knowledge more comprehensive relative to the specific, narrow concrete attributes that define brand knowledge (Johnson, 1984; Paivio, 1971). Brand stimuli bring to mind a finite, potentially incomplete set of specific product features, constructing a less complete stimulus image.

Because consumers' product class self-congruity evaluations stem from abstract personality attributes that afford a wider range of concrete personality traits the consumer can relate to, the likelihood of experiencing richer self-congruity increases, strengthening the self-congruity effect. H_{4a}: Product stimulus abstraction moderates the self-congruity effect, producing stronger effects from product class stimuli than brand stimuli.

Alternately, brand-based self-congruity effects should be stronger because brand stimuli activate brand knowledge, providing a direct path to brand personality knowledge to apply in self-congruity evaluation. Product class stimuli activate product class knowledge, requiring consumers to search for and select a specific representative brand from which to finally retrieve brand personality knowledge to apply in self-congruity evaluation (Cohen & Basu, 1987). Requiring less cognitive resources, the direct path underlying brand-based self-congruity evaluations should produce more accurate self-congruity evaluations, strengthening self-congruity effects. H_{4b}: Product stimulus abstraction moderates the self-congruity effect, producing stronger self-congruity effects from brand stimuli than product class stimuli.

2.4. Cognitive elaboration

Low cognitive elaboration, associated with low consumer involvement, heightens self-congruity's impact as a peripheral cue on brand attitudes and intentions (Greenwald & Leavitt, 1984; Johar & Sirgy, 1991; Petty, Cacioppo, & Schumann, 1983). Some studies foster low cognitive elaboration about self-congruity by requiring "on the spot" ratings of products' personality traits without any context (e.g., "Is Brand XYZ: fun? cool? sophisticated?"). Nonetheless, certain situations, such as encountering narrative advertisements (e.g., drama ads, slice of life ads), encourage consumers to cognitively elaborate about a brand (Escalas, 2004). Other studies foster high cognitive elaboration about self-congruity by inducing participants to elaborate about the product usage situation (e.g., "Imagine yourself driving a Brand XYZ sports car...Is Brand XYZ: fun? cool? sophisticated?").

High cognitive elaboration heightens situational product involvement, diminishing self-congruity's impact as peripheral cue, and weakening the self-congruity effect (Laczniak, Muehling, & Grossbart, 1989; Petty et al., 1983). H₅: Cognitive elaboration moderates the self-congruity effect, producing stronger effects under low than high cognitive elaboration.

2.5. Impression formation process

Two possible impression formation routes underlie self-congruity evaluation: piecemeal processing and holistic processing. Piecemeal processing entails a trait-by-trait comparison of brand personality with the consumer's self-concept (e.g., "Is Brand XYZ/are you: cool?, fun?, youthful?"), whereas holistic processing entails a gestalt, "big picture" impression of fit between brand personality and the consumer's self-concept (e.g., "Is Brand XYZ very much like you?") (Keaveney & Hunt, 1992). Piecemeal self-congruity evaluations do not reflect the more common mode of product impression formation—holistic processing—assuming, rather, that consumers score, weight, and combine each personality trait algebraically to form an overall self-congruity impression of the object (Anderson, 1973; Keaveney & Hunt, 1992). Yet, initial stimulus impressions generally are holistic; people automatically form gestalt impressions of the stimulus as a whole (Fiske & Neuberg, 1990; Fiske & Pavelchak, 1986).

Brand image impressions are likely holistic "snap shots" of the brand as a whole—a composite greater than the sum of the parts (Keaveney & Hunt, 1992; Zimmer & Golden, 1988). Additionally, holistic self-congruity evaluations entail less cognitive elaboration, bolstering self-congruity's impact as a peripheral cue on brand attitudes and purchase intentions (Petty et al., 1983). Finally, empirical evidence suggests holistic measures produce stronger self-congruity effects than piecemeal measures (Sirgy et al., 1997). H₆: Impression formation process moderates the self-congruity effect, producing stronger effects by holistic than piecemeal processing.

2.6. Impression formation process \times cognitive elaboration interaction

Holistic and piecemeal self-congruity evaluations each entail a certain level of cognitive elaboration. As comprehensive "snapshots", holistic evaluations demand little cognitive elaboration; however, piecemeal evaluations necessitate greater elaboration to rate brand personality traits, compare them to self-concept traits, and algebraically combine trait evaluations into an overall self-congruity impression (Anderson, 1973; Keaveney & Hunt, 1992).

Congruence between the consumer's cognitive elaboration level and impression formation process facilitates self-congruity evaluation, strengthening the self-congruity effect. H₇: Cognitive elaboration interacts with impression formation process; such that (a) holistic self-congruity evaluations produce stronger self-congruity effects under low versus high cognitive elaboration, and (b) piecemeal self-congruity evaluations produce stronger self-congruity effects under high versus low cognitive elaboration.

2.7. Product stimulus abstraction \times impression formation process interaction

Self-congruity evaluations consumers derive from product class knowledge facilitate holistic processing, whereas evaluations they derive from brand knowledge facilitate piecemeal processing. The abstract product class attributes are more comprehensive than concrete brand attributes; abstract attributes encompass multiple concrete attributes. As such, the abstract product class personality attributes correspond to gestalt or holistic impressions that summarize multiple concrete personality traits. Alternately, concrete brand personality attributes are more specific and narrow, requiring piecemeal combining of traits to generate self-congruity evaluations (Johnson, 1984; Paivio, 1971).

The correspondence between abstract product class attributes and holistic impression formation, and between concrete brand attributes and piecemeal impression formation should facilitate self-congruity evaluation, strengthening the self-congruity effect. H₈: Impression formation process interacts with product stimulus abstraction, such that (a) product class self-congruity evaluations produce stronger self-congruity effects under holistic than piecemeal processing, and

(b) *brand* self-congruity evaluations produce stronger self-congruity effects under piecemeal than holistic processing.

2.8. Product stimulus abstraction \times cognitive elaboration interaction

Product class stimuli activate knowledge from consumers' *product class* mental categories whose few abstract attributes summarize a range of concrete attributes. Alternately, brand stimuli activate knowledge from consumers' *brand* mental categories, consisting of multiple concrete attributes. Condensed abstract personality attributes stimulate less cognitive elaboration to process, facilitating *product class* self-congruity evaluation, whereas concrete personality attributes require greater cognitive effort to generate *brand* self-congruity evaluation.

Consequently, congruence between product stimulus abstraction and cognitive elaboration facilitates self-congruity evaluation, strengthening the self-congruity effect. H₉: Cognitive elaboration interacts with product stimulus abstraction, such that (a) *product class* self-congruity evaluations produce stronger self-congruity effects under low than high cognitive elaboration, and (b) *brand* self-congruity evaluations produce stronger self-congruity effects under high than low cognitive elaboration.

3. Method

3.1. Locating relevant literature

A comprehensive literature search of electronic databases (e.g., EBSCO, ABI/INFORMS, Business Source Premier, Econis, Econlit, PsycINFO, Wiso-net, and Google Scholar) and self-congruity article references generated approximately 100 scholarly articles. The final sample consists of 46 empirical (262 effect sizes) articles in which self-congruity predicts pre- or post-purchase outcome variables (e.g., brand attitude, brand preference, brand choice), providing sufficient statistical information for effect size calculations. The search keywords include "self-concept," "self-image," "self-image congruity," "self-image congruence," "self-congruity," "product image congruity," "consumer self-image," and "image congruence."

3.2. Data coding

Self-congruity articles' study results provided the zero-order Pearson-Moment-Correlation coefficient (r) of self-congruity and the respective outcome variable, but, when unavailable, other statistics (e.g., F-values, t -test statistics, standardized regression-type model path weights) served as input for computing or estimating r (Lipsey & Wilson, 2001; Peterson & Brown, 2005). Four (out of 262) cases report only p -values; thus, Rosenthal and Rubin's (2003) $r_{\text{equivalent}}$ metric generated r .

Two independent coders translated the self-congruity papers' methodological factors into the moderators as the Table 1 coding scheme describes. Study coding generated satisfactory Krippendorff's Alpha inter-rater-reliability estimates exceeding .85 for all variables (Krippendorff, 2004). As Table 2 demonstrates, the self-congruity studies contained cases of all of the proposed moderators and moderator levels (only exception: Shaw & Shiu, 2002).

3.3. Procedure for statistical analysis

This meta-analysis follows standard meta-analysis statistical methods (c.f., Lipsey & Wilson, 2001) with MetaWin Version 2.0 software's assistance (Rosenberg, Adams, & Gurevitch, 2000). First, the average of the 211 Fisher's Z_r transformed effect sizes, weighted by an inverse variance component encompassing subject-level sampling error variance and estimated between-study variance, produced the mean self-congruity effect (Hedges & Olkin, 1985). Second, the 95 percent confidence interval around the mean self-congruity effect size determined the estimated population effect size

is statistically different from zero. Third, a homogeneity analysis assessed whether the effect sizes are from the same population of studies under the fixed effects distributional assumption. In the final step, separate moderator analyses tested the present self-congruity meta-analysis model, determining which moderators and their interactions account for significant differences in the self-congruity effect.

4. Results

4.1. Main effect analysis

The weighted mean effect size estimate across all 262 cases is $r = .31$ ($Z_r = .32$), which is statistically significant based on the 95 percent CI for Z_r (.31 to .33). The "fail-safe N", representing the number of non-significant, unpublished, or missing studies needed to nullify the meta-analysis results (Rosenthal, 1979), amounted to 590,939, requiring at least 590,939 non-significant correlations between self-congruity and consumption-related outcome variables to invalidate the self-congruity effect. The large number of non-significant cases required relative to the number of actual meta-analysis cases ($k = 262$) indicates the self-congruity effect size ($r = .31$) is largely unaffected by selective publication of results.

4.2. Moderation analysis

First, a homogeneity analysis reveals a statistically significant Q -score of 3707.91 ($df = 261$, $p < .01$), suggesting effect size distribution heterogeneity and supporting the plausibility of investigating moderator variables to explain this heterogeneity. Table 3 provides the moderation analysis results using a fixed effects model assumption (c.f. Hedges & Vevea, 1998) and presents the number of effects sizes (k), the mean effect size estimate (Fisher's Z_r and r), and 95 percent confidence interval Z_r 's for each moderator category. The table reports Q_B , the heterogeneity between moderator categories, as a measure of effect size.

4.2.1. Analysis of the main moderation effects (H1 through H6)

Statistically significant differences result from non-overlapping confidence intervals of the Z_r values under comparison, shown in Table 3. The self-motive socialness moderation test (H1) reveals that private self-motives yield significantly stronger self-congruity effects ($r = .32$) compared to public self-motives ($r = .21$), supporting H1. The degree of self-enhancement sought moderation analysis (H2) shows that enhancement-type self-motives ($r = .35$) produce significantly stronger self-congruity effects than consistency-type self-motives ($r = .29$), supporting H2. The brand personality facet moderation test (H3) shows that "brand as person" personality produces significantly stronger self-congruity effects ($r = .34$) than brand-user personality ($r = .26$), supporting H3.

The product stimulus abstraction moderation analysis (H4) suggests product class stimuli ($r = .39$) produce stronger self-congruity effects than brand stimuli ($r = .25$), supporting H4a. The cognitive elaboration moderation analysis (H5) reveals equally strong self-congruity effects under low ($r = .30$) and high cognitive elaboration ($r = .32$), not supporting H5. The impression formation process moderation analysis (H6) demonstrates that holistic impression formation ($r = .35$) produces stronger self-congruity effects than piecemeal impression formation ($r = .27$), supporting H6 (see Table 3 for non-overlapping H1-H4 and H6 confidence intervals).

4.2.2. Analysis of interactions between moderator variables (H7 through H9)

The overlapping confidence intervals for the impression formation process \times cognitive elaboration interaction in Table 3 do not support H7. Rather, they imply self-congruity effect strength is equal for holistic self-congruity evaluations under low ($r = .35$) or high

Table 1
Self-congruity moderator variables conceptualization, operationalization, and related hypotheses.

Moderator variable name (Variable type)	Moderator levels	Conceptualization	Operationalization	Hypotheses
Self-motive socialness (Motivation variable)	Private self-motives	The motivation to seek brands congruent with private self-concept facets (actual and ideal facets) to maintain or enhance the private facets for intra-personal acceptance purposes	Measuring self-congruity as correspondence between brand personality and actual/ideal self-concept.	H1
	Public self-motives	The motivation to seek brands congruent with public self-concept facets (social and ideal social facets) to maintain or enhance the public facets for social acknowledgement/acceptance purposes	Measuring self-congruity as correspondence between brand personality and social/ideal social self-concept.	
Degree of self-enhancement sought (Motivation variable)	Consistency-type self-motives	The motivation to seek brands congruent with actual self-concept facets (actual and social facets) to maintain consistency with one's actual or social self-view.	Measuring self-congruity as correspondence between brand personality and actual/social self-concept.	H2
	Enhancement-type self-motives	The motivation to seek brands congruent with ideal self-concept facets (ideal and ideal social facets) to enhance one's self-view by aspiring to achieve one's ideal or ideal social self-view.	Measuring self-congruity as correspondence between brand personality and ideal/ideal social self-concept.	
Brand personality facet (Cognitive variable)	Brand-as-person personality	Personality traits associated with the anthropomorphic perception of the brand as a person with human personality traits.	Measuring self-congruity as correspondence between self-concept and brand-as-person personality.	H3
	Brand-user image	Personal traits associated with the stereotypical brand user perceived to represent the brand personality.	Measuring self-congruity as correspondence between self-concept and stereotypical brand-user personality.	
Product stimulus abstraction level (Cognitive variable)	Product-class stimuli	A more abstract stimulus because of the abstract mental category (product class schema) the consumer must retrieve from memory to evaluate product class stimuli.	Measuring self-congruity as correspondence between participant self-concept and a named product class's personality.	H4, H8, H9
	Brand stimuli	A less abstract stimulus because of the more concrete mental category (brand schema) the consumer must retrieve from memory to evaluate brand stimuli.	Measuring self-congruity as correspondence between self-concept and a named brand's personality.	
Cognitive elaboration level (Cognitive variable)	Low cognitive elaboration	The consumer expends less cognitive effort to process and evaluate stimulus personality.	The measure asks participants to rate self-congruity without asking them to elaborate about any product usage context. (e.g., "Do you consider <i>Brand XYZ</i> : cool? sophisticated?")	H5, H7, H9
	High cognitive elaboration	The consumer expends greater cognitive effort to process and evaluate stimulus personality.	The measure asks participants to rate self-congruity by first asking them to elaborate about the product usage context by instructing participants to visualize the product usage situation prior to evaluating the brand/product (e.g., "Imagine yourself driving a <i>Brand XYZ</i> sports car. Is <i>Brand XYZ</i> : cool? sophisticated?")	
Impression formation process type (Cognitive variable)	Holistic processing	The consumer forms a self-congruity evaluation based on the perception of brand personality as a composite rather than as the sum of individual personality traits.	Measuring self-congruity with global measurement items (e.g., "To what extent do you see that most people who use <i>Brand XYZ</i> are very much like you?")	H6, H7, H8
	Piecemeal processing	The consumer forms a self-congruity evaluation based on the perception of brand personality as the sum of individual personality traits.	Measuring self-congruity with pre-established personality trait lists. (e.g., Is <i>Brand XYZ</i> /Are you: cool? sophisticated?")	

($r = .37$) cognitive elaboration, as well as for piecemeal self-congruity evaluations under low ($r = .26$) versus high ($r = .29$) cognitive elaboration. Holistic processing produces stronger self-congruity effects than piecemeal processing, period.

Findings from the product stimulus abstraction x impression formation process interaction support H8. Specifically, product class self-congruity evaluations produce stronger self-congruity effects under holistic ($r = .40$) than piecemeal processing ($r = .34$), supporting H8a. Furthermore, brand self-congruity evaluations produce stronger self-congruity effects under piecemeal ($r = .25$) than holistic processing ($r = .21$), supporting H8b.

The product stimulus abstraction x cognitive elaboration interaction analysis supports H9. Specifically, product class self-congruity evaluations produce stronger self-congruity effects under low ($r = .40$) than high ($r = .34$) cognitive elaboration, supporting H9a. The data also show that brand self-congruity evaluations produce stronger self-congruity effects under high ($r = .31$) than low ($r = .17$) cognitive elaboration, supporting H9b.

5. Discussion

The meta-analysis results provide evidence of a robust self-congruity effect ($r = .31$), explaining approximately ten percent of the variance in consumer attitudes, intentions, and behavior in the present sample—a rate comparable with other consumer behavior

phenomena (cf. Cohen, 1988; Peterson, Albaum, & Beltramini, 1985). Thus, the self-congruity construct is a valid and robust foundation for current and emerging consumer identity and symbolic consumption research.

The moderation analyses offer insights into the self-congruity effect's motivational and cognitive underpinnings that augment theory, identify opportunities for future research, and guide managerial decision-making. The motivational component of the self-congruity meta-analysis model demonstrates that the types of self-motives driving the greatest impact of self-congruity on consumer behavior are private rather than public self-motives (H1), and enhancement-type rather than consistency-type self-motives (H2). The H1 findings support the notion that private self-motives carry the weight of both internal and social standards, influencing consumer responses to self-congruent products more strongly than public self-motives (cf. Leary et al., 1998). Managerially, this finding implies value-expressive advertising should reference brand congruity with consumers' private self-concept facets—actual and/or ideal—to ensure a strong self-congruity experience.

The H2 findings indicate that self-enhancement motives more strongly drive favorable consumer responses to self-congruent brands than self-consistency motives, following the general human tendency toward positive self-presentation (cf. Sedikides & Gregg, 2008). The managerial implication is that value-expressive advertising should accentuate the brand's ability to enhance (rather than to merely maintain) facets of targeted consumers' self-concepts. Future research

Table 2
Moderator levels reflected in self-congruity studies included in meta-analysis^a.

Author & Publication year	Journal Title Abbreviation	Study ID	Motive socialness	Enhancement sought	Brand personality facet	Product stimulus abstraction (prod class or brand)	Cognitive elaboration level	Impression formation process
Aaker (1999)	J MARKETING RES	1	Private (2)	Consistency (2)	Brand-as-person (2)	Brand (2)	High (2)	Piecemeal (2)
		2	Private (5)	Consistency (5)	Brand-as-person (5)	Other (5)	High (5)	Piecemeal (5)
Armstrong (2001)	WSPAJ	3	Private (1)	Consistency (1)	Brand-as-person (1)	Brand (1)	Low (1)	Piecemeal (1)
Barone, Shimp, and Sprott (1999)	MARKET LETT	4	Private (2), public (1)	Consistency (2), Enhancement (1)	Brand-as-person (3)	Brand (3)	Low (3)	Piecemeal (3)
Bauer, Maeder, and Huber (2002)	ZFBF	5	Private (4)	Consistency (2), Enhancement (2)	Brand-as-person (4)	Brand (4)	High (4)	Piecemeal (4)
Chang (2002)	COMM RES	6	Private (2)	Consistency (2)	User (2)	Other (2)	Low (2)	Piecemeal (2)
		7	Private (2)	Consistency (2)	User (2)	Other (2)	Low (2)	Piecemeal (2)
Chon and Olsen (1991)	J INT ACAD HOSP RES	8	Private (1)	Consistency/ Enhancement (4)	User (1)	Brand (1)	Low (1)	Holistic (1)
Delozier and Tillman (1972)	SOUTH J BUS	9	Private (4)	Consistency (2), Enhancement (2)	Brand-as-person (4)	Brand (4)	High (4)	Piecemeal (4)
Dennison and Shepherd (1995)	J HUM NUTR DIET	10	Private (4)	Consistency (4)	User (4)	Prod Class (4)	High (4)	Holistic (4)
Ekinci and Riley (2003)	J RETAILING CONS SERV	11	Private (8)	Consistency (4), Enhancement (4)	Brand-as-person (8)	Brand (8)	High (8)	Piecemeal (8)
		12	Private (8)	Consistency (4), Enhancement (4)	Brand-as-person (8)	Brand (8)	High (8)	Piecemeal (8)
Graeff (1996a)	PSYCHOL MARKET	13	Private (8)	Consistency (4), Enhancement (4)	User (8)	Brand (8)	Low (8)	Piecemeal (8)
Graeff (1996b)	J CONSUM MARK	14	Private (8)	Consistency (4), Enhancement (4)	Brand-as-person (8)	Brand (8)	High (8)	Piecemeal (8)
Hamm and Cundiff (1969)	J MARKETING RES	15	Private (3)	Consistency/ Enhancement (3)	Brand-as-person (3)	Prod Class (3)	Low (3)	Holistic (3)
Helgeson and Supphellen (2004)	INT J CONS RES	16	Private (2)	Consistency (1), Enhancement (1)	User (2)	Brand (2)	High (2)	Holistic (2)
Hog, Cox, and Keeling (2000)	EUR J MARKETING	17	Private (4)	Consistency (4)	Brand-as-person (4)	Brand (4)	High (4)	Piecemeal (4)
Jamal (2004)	INT REV RET DIST CONS RES	18	Private (6)	Consistency (6)	User (6)	Brand (6)	High (6)	Holistic (6)
Kleijnen, de Ruyter, and Andreassen (2005)	J SERV RES	19	Private (8)	Consistency (4), Enhancement (4)	Brand-as-person (8)	Prod Class (8)	Low (8)	Piecemeal (8)
		20	Private (8)	Consistency (4), Enhancement (4)	Brand-as-person (8)	Prod Class (8)	Low (8)	Piecemeal (8)
Kleine, Schultz- Kleine, and Kernan (1993)	J CONSUM PSYCHOL	21	Private (3)	Consistency (3)	Brand-as-person (3)	Brand (3)	High (3)	Piecemeal (3)
Landon Jr (1974)	J CONSUM RES	22	Private (38)	Consistency (19), Enhancement (19)	Brand-as-person (38)	Prod Class (38)	Low (38)	Holistic (38)
Litvin and Goh (2002)	TOURISM MANAGE	23	Private (24)	Consistency (12), Enhancement (12)	User (24)	Brand (24)	High (24)	Piecemeal (24)
Malhotra (1988)	J ECON PSYCHOL	24	Private (3)	Consistency (2), Enhancement (1)	Brand-as-person (3)	Prod Class (3)	High (3)	Piecemeal (3)
Manetti, Pierro, and Livi (2002)	J APPL SOC PSYCHOL	25	Private (1)	Consistency (1)	User (1)	Prod Class (1)	Low (1)	Piecemeal (1)
		26	Private (1)	Consistency (1)	User (1)	Brand (1)	Low (1)	Piecemeal (1)
		27	Private (1)	Consistency (1)	User (1)	Brand (1)	Low (1)	Piecemeal (1)
Shaw and Shiu (2002)	INT J CONS STUDIES	28	Private (2)	Consistency (2)	n/a	n/a	n/a	Piecemeal (2)
Sirgy (1985)	J BUS RES	29	Private (16)	Consistency (8), Enhancement (8)	Brand-as-person (16)	Brand (16)	High (16)	Piecemeal (16)
Sirgy, Grewal, Mangleburg, Park, Chon, Claiborne, Johar and Berkman (1997)	J ACAD MARKET SCI	30	Private (2)	Consistency (2)	User (2)	Brand (2)	Low (2)	Holistic (2)
		31	Private (2)	Consistency (2)	User (2)	Prod Class (2)	Low (2)	Piecemeal (2)
		32	Private (2)	Consistency (2)	User (2)	Brand (2)	High (2)	Holistic (2)
		33	Private (2)	Consistency (2)	User (2)	Prod Class (2)	Low (2)	Piecemeal (2)
		34	Private (2)	Consistency (2)	User (2)	Brand (2)	Low (2)	Holistic (2)
Sirgy, Johar, Samli, and Claiborne (1991)	J ACAD MARKET SCI	35	Private (2)	Consistency (2), Enhancement (2)	User (2)	Brand (2)	Low (2)	Piecemeal (2)
		36	Public (4)	Consistency (2), Enhancement (2)	User (4)	Brand (4)	High (4)	Piecemeal (4)
		37	Public (1)	Consistency (1)	Brand-as-person (1)	Brand (1)	High (1)	Piecemeal (1)
		38	Public (2)	Consistency (2), Enhancement (2)	User (2)	Brand (2)	High (2)	Piecemeal (2)
Sparks and Guthrie (1998)	J APPL SOC PSYCHOL	39	Private (1)	Consistency (1)	User (1)	Brand (1)	High (1)	Piecemeal (1)
		40	Private (2)	Consistency (2)	User (2)	Prod Class (2)	High (2)	Holistic (2)
		41	Private (2)	Consistency (2)	User (2)	Prod Class (2)	High (2)	Holistic (2)
Sparks, Shepherd, and Frewer (1994)	BASIC APPL SOC PSYCH	42	Private (2)	Consistency (2)	User (2)	Prod Class (2)	High (2)	Holistic (2)
Sparks and Shepherd (1992)	SOC PSYCHOL QUART	43	Private (1)	Consistency (1)	User (1)	Prod Class (1)	High (1)	Holistic (1)
Tsai (2005)	J RELAT MARKETING	44	Private (2)	Consistency (2)	User (2)	Prod Class (2)	High (2)	Holistic (2)
Wilkins, Merrilees, and Herrington (2006)	J TOURISM ANALYSIS	45	Public (1)	Consistency (1)	Brand-as-person (1)	Brand (1)	Low (1)	Piecemeal (1)
		46	Public (1)	Consistency (2), Enhancement (2)	Brand-as-person (1)	Brand (1)	Low (1)	Holistic (1)

Table 2 (continued)

Author & Publication year	Journal Title Abbreviation	Study ID	Motive socialness	Enhancement sought	Brand personality facet	Product stimulus abstraction (prod class or brand)	Cognitive elaboration level	Impression formation process
Chebat, Hedli, and Sirgy (2009)	J RETAILING CONS SERV	47	Private (1)	Consistency (1)	User (1)	Brand (1)	Low (1)	Holistic (1)
Graeff (1997)	PSYCHOL MARKET	48	Private (4)	Consistency (2), Enhancement (2)	Brand-as-person (4)	Brand (4)	High (4)	Piecemeal (4)
	PSYCHOL MARKET	49	Private (4)	Consistency (2), Enhancement (2)	Brand-as-person (4)	Brand (4)	High (4)	Piecemeal (4)
Cowart, Fox, and Wilson (2008)	PSYCHOL MARKET	50	Private (1)	Consistency (1)	User (1)	Prod Class (1)	Low (1)	Piecemeal (1)
Ibrahim and Najjar (2007)	INNOV MARKET	51	Private (4)	Consistency (4), Enhancement (4)	Brand-as-person (8)	Brand (8)	Low (8)	Piecemeal (8)
Kang, Hong, and Lee (2009)	COMPUT HUM BEHAV	52	Private (1)	Consistency (1)	Brand-as-person (1)	Brand (1)	Low (1)	Piecemeal (1)
Kressman, Sirgy, Herrmann, Huber, Huber, and Lee (2006)	J BUS RES	53	Private (1)	Consistency (1)	User (1)	Brand (1)	Low (1)	Piecemeal (1)
Han and Back (2008)	J HOSP TOURISM RES	54	Public (2)	Consistency (1), Enhancement (1)	User (2)	Brand (2)	High (2)	Holistic (2)
Parker (2009)	J CONSUM MARK	55	Private (11)	Consistency (11)	User (6), Brand-as-person (5)	Brand (11)	Low (11)	Holistic (6), Piecemeal (5)
Sung and Choi (in press)	J CROSS CULT PSYCHOL	56	Private (2)	Consistency (2)	Brand-as-person (2)	Other (2)	Low (2)	Piecemeal (2)
Usakli and Baloglu (2011)	TOURISM MANAGE	57	Private (2)	Consistency (2)	Brand-as-person (2)	Brand (2)	Low (2)	Piecemeal (2)
	MANAGE	58	Private (2)	Consistency (1), Enhancement (1)	Brand-as-person (2)	Brand (2)	High (2)	Holistic (2)
Hung and Petrick (2011)	J TRAVEL RES	59	Private (2)	Consistency (2), Enhancement (2)	Brand-as-person (4)	Prod Class (4)	Low (4)	Piecemeal (4)
Ibrahim and Najjar (2008)	MARKET INTELL PLAN	60	Private (1)	Enhancement (1)	Brand-as-person (1)	Brand (1)	Low (1)	Piecemeal (1)
Jamal and Goode (2001)	MARKET INTELL PLAN	61	Private (1)	Consistency (1)	Brand-as-person (1)	Brand (1)	High (1)	Holistic (1)
Kwak and Kang (2008)	INT J SPORT HEALTH SCI	62	Private (2)	Consistency (1), Enhancement (1)	User (2)	Brand (2)	Low (2)	Holistic (2)
Massicotte, Michon, Chebat, Sirgy, and Borges (2010)	J RETAILING CONS SERV	63	Private (1)	Consistency (1)	User (1)	Brand (1)	Low (1)	Holistic (1)
Rhee (2007)	U of MN PH.D. THESIS	64	Private (2)	Consistency (2), Enhancement (1)	Brand-as-person (3)	Brand (3)	Low (3)	Piecemeal (3)

^a The numbers in parentheses represent the number of effect sizes contained in each study for the given moderator level.

should examine other factors impacting self-motive influence on the self-congruity effect, such as developmental changes from childhood onward leading to increased self-congruity experiences with brands.

Past research involving children's self-congruity with brands focuses solely on the actual self (associated with self-consistency and private self-motives) due to methodological challenges (Chaplin & John, 2005), but a longitudinal or cohort study could capture self-congruity motive changes across key developmental stages from childhood to adulthood. Future research also should consider the impact of the role types consumers assume in life; public roles (e.g., company manager versus a private role as stay-at-home mother) would leverage the impact of public (versus private) self-motives on the self-congruity effect. Likewise, aspirational roles (e.g., promotion to company executive) would leverage the impact of self-enhancement (versus self-consistency) motives on the self-congruity effect.

The moderation analyses also reveal five insights about how consumers cognitively process self-congruity evaluations. First, results showing "brand as person" personality produces stronger self-congruity effects than brand-user personality (H3) affirm that consumers connect more strongly with the personality of the "brand-as-person", reinforcing the "brand as person" as the main self-congruity relationship foundation (Aaker, 1997; Helgeson & Supphellen, 2004). Self-congruity researchers should use "brand-as-person"-based self-congruity measures. Managers should position products on "brand-as-person" personality (versus brand-user image) to foster strong self-congruity experiences with targeted consumers.

Second, product class stimuli render stronger self-congruity effects than brand stimuli, suggesting that consumers' abstract product class personality associations offer a rich foundation for self-congruity evaluation (H4). Managers should draw attention to the product class via product packaging and marketing communications to encourage

consumers to evaluate self-congruity with rich, comprehensive product class personality associations. The product stimulus abstraction effect is qualified by the significant interaction with impression formation process type (H8) and cognitive elaboration level (H9) discussed below.

Future research should examine product stimulus abstraction moderators, such as consumer expertise, which influences the extensiveness of consumer product class schemas and brand schemas (Alba & Hutchinson, 1987). Greater expertise generates more extensive, descriptive brand schemas, strengthening the effect of brand (versus product class) self-congruity evaluations. Novices' shallow brand schemas should strengthen product class (versus brand) self-congruity effects.

Third, the self-congruity effect is stronger when consumers' self-congruity evaluations are holistic (versus piecemeal) (H6), a robust effect even across cognitive elaboration levels as H7 results demonstrate. Holistic self-congruity evaluations are more complete and accurate than trait-by-trait piecemeal evaluations (Keaveney & Hunt, 1992), affirming past empirical evidence of holistic self-congruity measures' superiority (Sirgy et al., 1997). Self-congruity researchers should employ holistic self-congruity measures based on one or two personality dimensions that characterize how consumers perceive the brand holistically (Helgeson & Supphellen, 2004). Managerially, this finding also suggests value-expressive brands should communicate a holistic brand personality image rather than emphasize individual brand personality traits to encourage holistic self-congruity evaluation.

Fourth, product class self-congruity effects are stronger under holistic than piecemeal processing (H8a), whereas brand self-congruity effects are stronger under piecemeal than holistic processing (H8b). Ostensibly, product class personality attributes resemble holistic or gestalt representations that summarize various concrete traits (cf.

Table 3
Summary of moderator analysis results.

Moderator Variable	Categories (and number of effect sizes, <i>k</i>)	Mean Z_r -score (<i>r</i> -Score)	95% CI of Z_r -score	Q_B
Self-congruity motive socialness (H1)	Private-type facets (242)	.3313 (.32)	(.3228/.3397)	$Q = 78.65$ $df = 2$ $p < .01$
	Public-type facets (16)	.2080 (.21)	(.1798/.2362)	
	Other (4)			
Degree of self-enhancement sought (H2)	Actual-type facets (167)	.2969 (.29)	(.2872/.3066)	$Q = 98.06$ $df = 2$ $p < .01$
	Ideal-type facets (87)	.3696 (.35)	(.3550/.3841)	
	Other (8)			
Brand personality facet (H3)	Brand personality (166)	.3494 (.34)	(.3393/.3594)	$Q = 93.65$ $df = 2$ $p < .01$
	Brand-user image (94)	.2678 (.26)	(.2545/.2811)	
	Other (2)			
Product stimulus abstraction (H4)	Brand name (166)	.2565 (.25)	(.2454/.2676)	$Q = 365.89$ $df = 3$ $p < .01$
	Product class name (83)	.4085 (.39)	(.3961/.4208)	
	Other (13)			
Cognitive elaboration (H5)	High elaboration (132)	.3256 (.32)	(.3126/.3389)	$Q = 2.40$ $df = 2$ $p = .30$
	Low elaboration (125)	.3133 (.30)	(.3031/.3235)	
	Other (5)			
Impression formation process (H6)	Piecemeal (147)	.2764 (.27)	(.2650/.2879)	$Q = 121.36$ $df = 2$ $p < .01$
	Holistic (84)	.3705 (.35)	(.3580/.3829)	
	Other (31)			
Impression formation process x Cognitive elaboration (H7)	Holistic & Low elaboration (57)	.3634 (.35)	(.3486/.3782)	$Q = 133.31$ $df = 5$ $p < .01$
	Holistic & High elaboration (26)	.3901 (.37)	(.3654/.4148)	
	Piecemeal & Low elaboration (68)	.2655 (.26)	(.2511/.2799)	
	Piecemeal & High elaboration (78)	.2993 (.29)	(.2797/.3189)	
	Other (33)			
Product stimulus abstraction x Impression formation process (H8)	Product class & holistic (56)	.4278 (.40)	(.4131/.4424)	$Q = 423.88$ $df = 6$ $p < .01$
	Product class & piecemeal (27)	.3585 (.34)	(.3344/.3827)	
	Brand & holistic (28)	.2111 (.21)	(.1861/.2361)	
	Brand & piecemeal (109)	.2557 (.25)	(.2416/.2698)	
	Other groups (42)			
Product stimulus abstraction x Cognitive elaboration (H9)	Brand & Low elaboration (51)	.1746 (.17)	(.1578/.1914)	$Q = 568.44$ $p < .01$ $df = 7$
	Brand & High elaboration (112)	.3179 (.31)	(.3024/.3334)	
	Product class & Low elaboration (68)	.4211 (.40)	(.4074/.4349)	
	Product class & High elaboration (15)	.3546 (.34)	(.3241/.3851)	
	Other groups (16)			

Johnson, 1984), facilitating holistic processing. Alternately, concrete brand personality attributes serve as piecemeal input in self-congruity evaluations, facilitating piecemeal processing. Managerially, this finding implies that product class-focused advertising should present a holistic brand personality image rather than a trait-by-trait exposition of the brand personality. Alternately, brand-focused advertising should emphasize individual brand personality traits.

Fifth, product class self-congruity effects are stronger under low versus high cognitive elaboration (H9a), whereas brand self-congruity effects are stronger under high versus low cognitive elaboration (H9b). This finding draws attention to the amount of cognitive processing consumers undergo to evaluate self-congruity with abstract (product class) versus concrete (brand) product stimuli. Because product class personality attributes are abstract and fewer in number, they are easier to process into self-congruity evaluations. Alternately, brand personality attributes constitute a wider range of concrete traits requiring greater effort to process into self-congruity evaluations. Managerially, this finding suggests brand-focused advertisements should use high cognitive elaboration execution methods (e.g., drama, slice of life) (cf. Escalas, 2004). In contrast, product class-focused ads should minimize cognitive elaboration.

Two null effects (H5 and H7) associated with cognitive elaboration provide additional theoretical and methodological insight. The H5 test suggests high cognitive elaboration produces equally strong self-congruity effects as low cognitive elaboration; cognitive elaboration level alone is insufficient to increase or decrease consumer reliance on self-congruity as a peripheral product cue. Future self-congruity studies should implement a stronger product involvement manipulation to test the impact on self-congruity effect strength and the interaction with impression formation process. For instance, rather than presenting participants with only brand personality information (peripheral cues), typical in most self-congruity studies (see Johar & Sirgy, 1992 for an exception), some participants should receive

functional product information to induce elaboration of central product cues.

The H7 test demonstrates a main effect of impression formation process type (holistic processing generated stronger self-congruity effects than piecemeal processing) suggesting consumers' predisposition toward holistic rather than piecemeal object impressions is unaffected by cognitive elaboration level. This result highlights the importance, managerially, of conveying *holistic* brand images in value-expressive advertisements.

6. Conclusion

The meta-analysis results support the self-congruity construct's valid and robust foundation for current and emerging consumer identity and symbolic consumption research. Moderation analyses provide insights regarding the self-congruity effect's motivational and cognitive underpinnings that can guide self-image congruence researchers in conducting future studies, and benefit marketers using self-congruity in their promotional messages.

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