

When Does Psychological Fit Matter? The Moderating Role of Price on Self-Brand Congruity

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Abstract

People prefer brands whose perceived image reflects their own psychological profile, a finding referred to as the self-brand congruity effect. For the first time, we test this effect in the field by utilizing over 17,000 real bank transaction records (Study 1, $N = 405$). We demonstrate that the strength of self-brand congruity is related to the financial resources a person must spend to acquire the brand, such that the effect holds only when the brand being purchased has a high (vs. low) price. We conceptually replicate the effect (Study 2, $N = 354$) and provide causal evidence through an experiment (Study 3, $N = 404$), manipulating price and brand personality while holding other brand attributes constant. We also provide evidence for one psychological mechanism underlying why price moderates self-brand congruity, finding personality-matched brands elicit fewer concerns about post-purchase regret, a bigger risk for high-price brands (Study 4, $N = 300$).

Keywords

psychological fit, Big Five personality, self-congruity, consumption

Past research has shown that people tend to favor brands whose personality matches their own—a phenomenon known as the self-brand congruity effect (Kressmann et al., 2006; Sirgy, 1985; Swaminathan et al., 2007). Because the match between a person's self-image and a brand's image has a positive effect on brand attitude, brand preference, and purchase motivation (Sirgy, 1985), companies spend billions of dollars each year influencing the perception of their products to be more consistent with customer's personality, with some marketers attempting "microtargeting" based on consumers' psychological profiles.

Existing research, however, provides little guidance about the conditions under which preferences for self-brand congruity become intensified or attenuated. Research that has explored moderators has focused largely on individual differences, with investigations centering on cognitive and motivational influences (Aguirre-Rodriguez et al., 2012). Although past work sheds light on which *people* seek to acquire brands that match their personality, it is unclear for which *brands or products* they are more (vs. less) likely to do so. Thus, an important question remains unanswered: When should we expect people to care more about purchasing personality-congruent products?

Consumer involvement, defined as the effort, investment, and commitment required to make a purchase, is one of the most important determinates of buyer behavior (Celsi & Olson, 1988). Involvement is intimately related to the price of a

purchase (Bowen & Chaffee, 1974; Zaichkowsky, 1986), such that higher involvement products are typically sold at a higher price. We expected that price should therefore moderate the self-brand congruity effect. Past work provides two streams of research that can point to more specific mechanisms as to why price could lead to greater self-brand congruity.

The first stream suggests that high prices result in greater psychological elaboration, such that people search for more information and spend more time searching for the right selection when prices are high versus low (Celsi & Olson, 1988; Greenwald & Leavitt, 1984). Because price plays such an important role in the purchase decision process, the extent to which a person is willing to expend cognitive effort to process and evaluate a brand's personality should increase with price. Thus, the preference for self-congruent brands with high (vs. low) prices could be driven by the increased elaboration, attention, and cognitive effort devoted to evaluating more expensive brands.

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A second stream of research suggests that more expensive purchases should increase concerns surrounding postpurchase dissonance. Because price serves as a signal of quality (Zeithaml, 1988), higher prices induce higher expectations of postpurchase satisfaction; if a brand does not meet the buyer's expectations that are induced by its high price, dissatisfaction will likely ensue (Diehl & Poynor, 2010; Oliver, 1980; Spreng et al., 1996). Furthermore, high price items generally carry a greater risk to buyers because they are less frequent: While purchasing the wrong sweater may be a mild annoyance, purchasing the wrong car or laptop can become a more focal source of negative emotions. The more involvement a purchase requires, the more dissonance or psychological discomfort the buyer will experience if dissatisfied with the purchase (Litt & Tormala, 2010). Therefore, the preference for self-congruent brands with high (vs. low) prices could be driven by the desire to avoid postpurchase regret.

In four studies, we test whether participants show a stronger preference for branded products that are congruent with their personality when those products are higher (vs. lower) in price. We additionally hypothesize that the moderation of price on self-brand congruity will be mediated by two aspects of consumer involvement (elaboration and postpurchase regret). Together, our findings identify a novel moderator of the self-brand congruity effect, demonstrate the psychological mechanism underlying this moderation, and illuminate important theoretical implications for research in social and cross-cultural psychology, as well as practical implications for brand management.

Study 1: Field Study Using Real Transaction Data

We first tested our hypotheses by examining over 17,000 spending records from customer bank accounts. To our knowledge, this is the first test of the self-congruence effect using real consumer spending data.

Participants and Procedure

Customers of a large retail bank in the United Kingdom consented to have their responses matched with their spending data for the purposes of research. The transaction data contain detailed monthly information on individuals' purchases, including the amount spent on individual brands. For reliability, we only included participants (1) who reported this bank account as being their main bank account; (2) who had completed the full BFI-10 personality scale; (3) for whom information on income, total spending, age, and gender was available; and (4) who had a minimum of 10 transactions. Our final sample included 108 brands, 405 participants ($\bar{x}_{\text{age}} = 37.2$ years, 51% female), and 17,899 unique transactions. Sample size was determined by the availability of participants who completed the survey.

The data and code to replicate the results for this and all subsequent studies are available on the Open Science Framework

(https://osf.io/vapwm/?view_only=5b2550056be24033a44c1b787aac1846). Additional details are provided in the transparency statement in the Online Supplementary Material (S1).

Measures

Self-brand congruity. To measure the degree of fit between person and brand personality, we rely on past research contending that human and brand personality should be measured using the five-factor model (Geuens et al., 2009; Huang et al., 2012). Although a brand-specific framework of personality (Aaker, 1997; Caprara et al., 2001) may capture the idiosyncratic meaning of brands more accurately than models that were originally designed to capture human personality, a single framework offers considerable advantages when the research goal is to study the fit between the personality of brands and that of human participants. This is because, while some dimensions of brand personality can be mapped on to human personality traits (e.g., excitement and extraversion), there is no obvious overlap between others (e.g., ruggedness). As the studies presented in this article are specifically aimed at investigating the fit between the personality of individuals and that of brands, the Big Five framework is used to measure both.

To measure participants' personalities, customers of the bank completed a survey which included the BFI-10 personality questionnaire (Big Five Inventory), an established short measure of the five-factor model (Rammstedt & John, 2007). To rate the personality of the 108 brands, we recruited 100 British raters through Prolific Academic (Peer et al., 2017), who rated the brands according to the Big Five personality dimensions (instructions adapted from Aaker, 1997). Following prior research (Matz et al., 2016), we used the 10-item Personality Inventory (Gosling et al., 2003) to create a 7-point scale for each personality trait (e.g., 1 = *reserved/quiet*, 7 = *extraverted/enthusiastic*). Each participant rated 30 brands that were randomly selected from the pool of brands.

Price. We used actual spending records to calculate the average transaction value of a brand across consumers over the course of 6 months. To account for the skewed distribution, we used price quartiles to create four groups of brands instead of raw scores in the analysis. Table 1 lists the highest and lowest rated brands for each of the Big Five dimensions.

Results and Discussion

To calculate the congruity between brand and participant personality, we adapt the procedures suggested by Matz et al. (2016). In this approach, all brand and participant traits are considered simultaneously to create a single index of fit. The advantage of using this approach compared to previous methods is that all traits are analyzed in a single model, thereby controlling for divergent congruencies and reducing the risk of under or overestimating the effect of self-brand congruity.

The congruency measure (participant–brand match [PB-match]) is derived by first *z*-standardizing the raw

Table 1. Strongly Positive and Negative Correlations Between Brands and Big Five Ratings by Price (Study 1).

Personality Trait	Positively Correlated Brands		Negatively Correlated Brands	
	Low Price (1)	High Price (4)	Low Price (1)	High Price (4)
Openness	Lidl, Slug and Lettuce	Sky Digital, LastMinute.com	WH Smith, Southern Electric Gas	Swinton Insurance, AA
Conscientiousness	Red Cross, Waitrose	British Airways, Harrods	Iceland, Talk Mobile	Ryanair, Privilege Insurance
Extraversion	Talk Mobile, Lidl	EasyJet, Virgin Media	RSPB, Boots	Bupa, Natwest
Agreeableness	Co-Op, NSPCC	John Lewis, Bupa	Aviva, Iceland	British Gas, Currys
Neuroticism	Iceland, WWF	Ryanair, Wonga	Slug and Lettuce, Homeserve	British Airways, Bupa

personality scores of participants and brands to calculate the relative position of each person and brand on each of the Big Five personality traits. We then calculated the distance between the z -standardized personality scores of a participant x and that of a brand y using Euclidean distance (Deza & Deza, 2009). Finally, we subtracted the score from the mean, so that higher scores indicate a closer match between the personality of the consumer and the brand:

$$PB - match(x,y) = \text{mean} - \sqrt{\sum_{i=1}^5 (x_i - y_i)^2},$$

with individual x and brand y , as well as the five personality traits i (openness to neuroticism).

To test whether participants spent more on brands that matched their personality, we calculated the overall spending of each participant on each brand over the 6 months of spending data. This aggregation resulted in 5,669 observations, with an average of 3.16 purchases per brand and participant. To test the effect of self-brand congruity on the amount participants spent on the brands, we used hierarchical linear modeling analysis (Raudenbush & Bryk, 2002), which accounts for the multiple observations per participant. The composite fit measure PB-match was included as a predictor along with age, gender, a customer's annual income (logged), and their overall spending over the year (logged). To more precisely estimate the effect, we also included the main effects of participant and brand personalities as controls.

In a second regression model, we investigate the moderation of price by adding an interaction effect between the PB-match variable and the average price of the brand. All continuous variables were grand-mean centered before being added to the regression model.

The match between a participant's personality and that of a brand was a significant predictor of the amount spent on that brand (see Table 2, Model 1). Next, we tested for the moderating role of price, revealing a significant interaction effect of PB-match and price (see Model 2), indicating that the higher the average price, the larger the effect of self-brand congruity on purchasing that brand. The four plots (see Figure 1) show that the effect of PB-match is positive in Quartiles 3 and 4, the highest price quartiles, and slightly negative or nonexistent in Quartiles 1 and 2, the lowest price quartiles. Our results thus provide support for the moderating role of price using real spending records.

Study 2: Conceptual Replication Using Self-Reports

We next provide a conceptual replication where we generated a list of popular brands and instructed participants to rate them on their perceived price.

Pretest: Measuring Brand Personality and Price

We first asked 100 workers on Amazon's Mechanical Turk to rate 59 brands from a range of different prices and industries according to the Big Five personality dimensions. We averaged and z -standardized the ratings for each brand across respondents. For example, the mean rating for the brand "Apple" on Openness was 2.78, suggesting people perceive Apple to be more curious and open-minded than other brands. Participants also estimated the average amount spent on the brand in a typical transaction. As in Study 1, we used price quartiles instead of relying on raw scores. Table 3 displays the standardized Big Five ratings by quartile of rated price. See section S2 in the Online Supplement for additional details and illustrations (Figures S2A and S2B) on the relationship between price and personality ratings.

Participants and Procedure

Participants were 354 workers on Amazon Mechanical Turk ($\bar{x}_{\text{age}} = 35.5$ years, 42% female), who were paid US\$1.20. In this study and all subsequent studies, sample size was determined by the availability of funds and was decided before recruitment began. Participants were presented (in a randomized order) with each of the 59 brands on a separate screen. For each brand, participants were asked "How much do you like the following brand?" using a slider bar from 0 to 100. After viewing the full set of brands, participants completed the BFI-44 (Goldberg, 1993) to measure participant's Big Five traits (scale reliabilities: $\alpha_O = .90$, $\alpha_C = .87$, $\alpha_E = .85$, $\alpha_A = .83$, and $\alpha_N = .90$).

Results and Discussion

Our calculations of the congruity between brand and participant personality are identical to those used in Study 1. We again use hierarchical linear modeling analysis, where the composite fit measure PB-match was included as a predictor, as

Table 2. Predicting Amount Spent From Participant-Brand Match (PB-Match) and Price.

Predictors	Model 1			Model 2		
	<i>b</i>	<i>t</i>	CI ₉₅ [Lower, Upper]	<i>b</i>	<i>t</i>	CI ₉₅ [Lower, Upper]
PB-match	.07***	3.73	[.03, .11]	.07***	4.00	[.04, .11]
Gender	-.05	-1.31	[-.14, .03]	-.06	-1.40	[-.13, .02]
Age	.01***	6.41	[.01, .01]	.01***	6.12	[.01, .01]
Total spend (log)	.43***	9.12	[.33, .51]	.39***	8.59	[.30, .48]
Annual income (log)	-.03	-0.75	[-.12, .05]	-.04	-1.00	[-.12, .04]
Consumer O	.02	1.02	[-.01, .06]	.02	1.22	[-.02, .06]
Consumer C	.05*	2.26	[.01, .08]	.04*	2.29	[.01, .09]
Consumer E	-.01	-0.63	[-.05, .03]	-.02	-1.13	[-.06, .02]
Consumer A	-.02	-0.77	[-.06, .02]	-.01	-0.73	[-.05, .03]
Consumer N	.02	1.05	[-.02, .06]	.02	0.88	[-.02, .06]
Brand O	-.19***	-6.20	[-.25, -.14]	-.13***	-5.01	[-.19, -.08]
Brand C	.45***	12.36	[.38, .52]	.43***	11.98	[.36, .50]
Brand E	.45***	12.83	[.38, .52]	.30***	8.40	[.22, .37]
Brand A	-.34***	-10.06	[-.40, -.26]	-.07†	-1.93	[-.14, .01]
Brand N	.24***	4.87	[.15, .34]	.45***	9.15	[.35, .55]
Brand price	—	—	—	.40***	19.21	[.36, .44]
PB-Match × Brand Price	—	—	—	.06***	3.57	[.02, .10]
ΔAIC		-809			-362	
Model comparison		$\chi^2(15) = 838.82, p < .001$			$\chi^2(2) = 366.0, p < .001$	

Note. Hierarchical linear models with amount spent as outcome and PB-match as main predictor. Model 2 includes the interaction between PB-match and price. The analysis is based on 5,669 observations from 405 participants. ΔAIC indicates the difference in AIC from each model to the next (e.g., AIC[Model2] – AIC[Model1]). ΔAIC for Model 1 indicates the difference to the baseline model with no predictors. Smaller AIC values indicate a better fit. Model comparison provides the results of analysis of variance significance tests between the models, where each is compared to the previous one (and Model 1 to the baseline). *b* = unstandardized coefficients. AIC = Akaike information criterion.

†*p* < .1. **p* < .05. ***p* < .01. ****p* < .001.

well as the main effects of participant and brand personalities as controls.

The results of the first regression in Table 4 provide support for the self-congruity effect, such that participants reported holding more positive attitudes toward brands that were independently rated as sharing their personality traits. More importantly, the second set of regression results (Model 2) shows that price significantly moderates the effect of fit on attitude ratings, such that fit becomes a stronger predictor of brand attitudes as the price of the brand increases.

To aid interpretation of these results, the interaction effects are illustrated in Figure 2. The flat lines in the two lower priced quantile plots (Quartiles 1 and 2) indicate that there is no effect of person-brand congruity on attitudes toward the brand. In contrast, for the two higher priced quantile plots (Quartiles 3 and 4), the increasing slope suggests a positive relationship between self-brand congruity and price.

Alternative explanations. Although these results support our hypothesis, several alternative explanations remain plausible. Price is correlated with other positive brand attributes such as status and quality (Mitra & Golder, 2006). We next attempted to rule out these alternative explanations, as well as demonstrate that the brand's absolute (rather than relative) price is driving the observed moderation.

Perceived brand status. Using a new sample of 100 Amazon Mechanical Turk workers, we followed the same rating process as we performed earlier when rating price (in this case, 1 = *very low status*, 7 = *very high status*). As expected, price and status were highly correlated ($r = .62, p < .001, CI_{95\%} [.44, .76]$). The interaction between brand–consumer match and perceived price remains significant, while the interaction with perceived status does not reach significance ($b = -0.32, t = -1.59, p = .11$, see Model 1 in Table 5), casting doubt on this alternative explanation for our reported effect.

Perceived brand quality. We also measured perceived quality (1 = *very low quality*, 7 = *very high quality*). Again, price and quality were highly correlated ($r = .66, p < .001, CI_{95\%} [.49, .78]$). However, perceived brand quality was not a significant predictor in a model where price is not included (see Model 2, Table 5), suggesting brand quality cannot explain the relationship we document. The interaction between PB-match and quality was also not significant ($b_{\text{interaction}} = 0.15, SE = 0.16, t = 0.92, p = .356$).

Perceived relative brand price. We hypothesize that it is the absolute price of a brand that should moderate the effect of self-brand congruity, because even relatively expensive branded items in a low-price category (e.g., deciding between a can of Coca-Cola or Pepsi) are unlikely to involve effortful decision making. We measured perceived brand price by

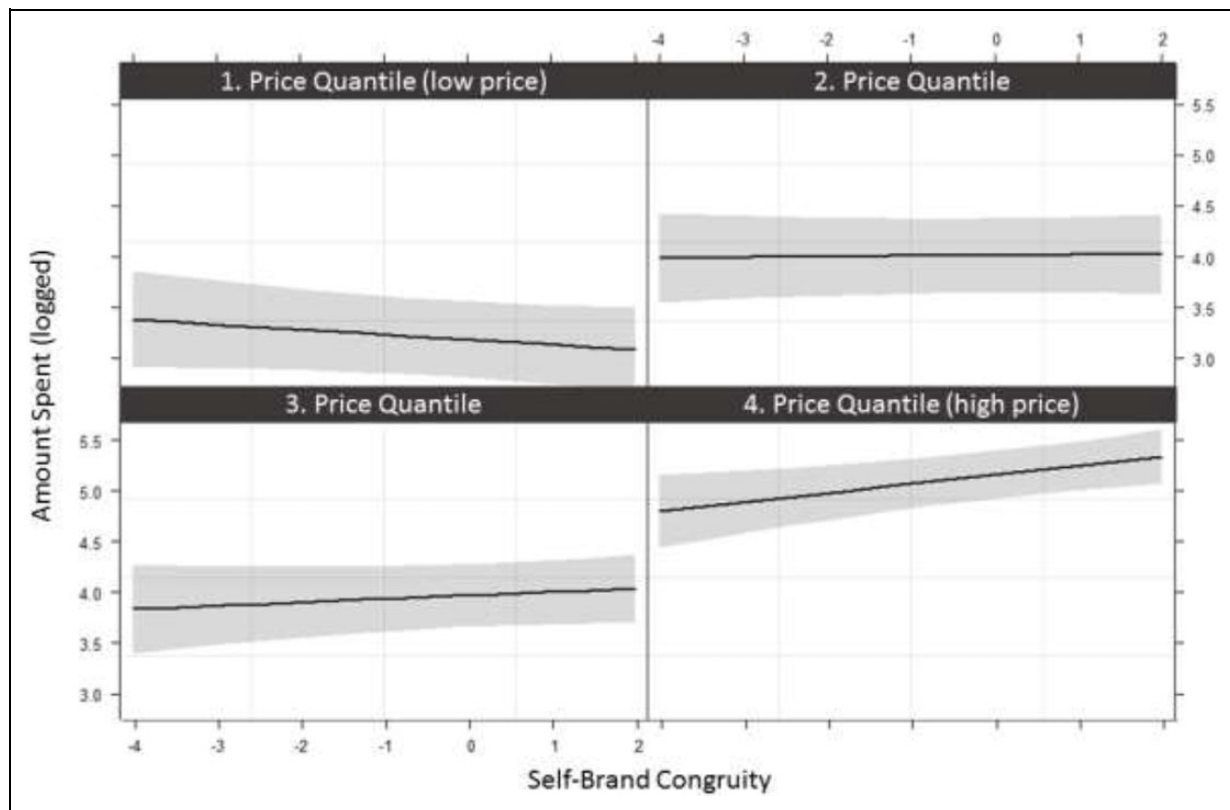


Figure 1. Interaction between price and self-brand congruity (Study 1).

asking on a 1–7 scale whether, compared to similar brands who sell similar goods, the brands were relatively very cheap to relatively very expensive. Again, perceived relative price was correlated with actual price ($r = .74$, $p < .001$, $CI_{95\%} [.60, .84]$), but the interaction between PB-match and relative price was not significant ($b = 0.23$, $SE = 0.17$, $t = 1.35$, $p = .178$).

Testing for multicollinearity. An inspection of the variance inflation factors (VIFs) for the regression models suggests that the correlation between the variables remained within an acceptable range (Kutner et al., 2004), with the highest VIF score for the correlation between status and price at 3.27.

Study 3: Causal Effect of Price on Self-Brand Congruity

We next conducted an experiment to test for the moderating effect of price on self-brand congruity while holding a single brand constant, enabling us to rule out that the results are driven by product categories rather than brand features.

Participants and Procedure

Participants were 404 workers recruited from Amazon's Mechanical Turk ($\bar{x}_{age} = 38.1$ years, 42% female), who were paid US\$0.75. Participants were presented with a hypothetical branded product—a mobile phone named X-Phone—and

randomly assigned to conditions where the phone was described as extraverted or introverted (Hirsh et al., 2012).

We focused on a single trait, extraversion because it is considered to be more informative in understanding and predicting consumer behavior than other traits (Williams et al., 1995), and in a subsequent study (Study 4) showed the smallest correlation with price compared to the other Big Five traits. Extraversion is also one of the most important traits when it comes to expressing one's personality to the outside world (Landis & Gladstone, 2017).

Participants saw an image of an unbranded phone and read descriptions of the phones designed as high or low in trait extraversion (see S4 in Online Supplement for text). Independent raters ($N = 89$) not familiar with the experiment's aims rated the two messages on a 0–100 scale. As expected, the extraverted description ($M = 80.87$, $SD = 22.60$) was perceived as more extraverted than the introverted description, $M = 30.43$, $SD = 23.38$; $t(87) = 11.30$, $p < .001$.

The price of the X-Phone was also manipulated, with participants reading: "The X-Phone is priced at the premium [budget] end of the market, at \$699 [\$89]." Prices reflected the high and low end of the mobile telephone market at the time of the study.

An attention check asked participants to recall the X-Phone's price, which most participants ($N = 398$, 98.5%) answered correctly. We then measured attitudes toward the brand with four questions: "I like this brand," "I would like to buy from this brand," "I have an interest in this brand," and

Table 3. Personality Ratings of Brands by Price Quantile (Study 2).

Price	Brand	O	C	E	A	N	Brand	O	C	E	A	N
Very high	BMW	0.62	1.54	0.71	-0.29	-1.46	Hyundai	0.9	-0.18	-0.15	-0.39	0.11
	Fiat	1.45	-0.24	0.37	-0.68	1.01	Mercedes Benz	0.49	1.84	0.05	-1.53	-1.9
High	Apple	2.78	2.32	1.3	-0.38	0.5	Louis Vuitton	0.81	1.16	0.25	-1.95	0.15
	Burberry	-0.42	-0.52	-1.47	-1.1	-0.37	Moet & Chandon	-0.58	-1.39	-1.76	-1.16	0.59
	Cartier	-0.07	0.64	-1.36	-1.13	-0.33	Prada	0.13	1.22	-0.67	-1.99	-0.09
	Chanel	-0.16	0.16	-0.81	-0.76	-1.57	Ray Ban	0.07	-0.73	0.72	-0.95	0.04
	Dell	0.7	0.97	-0.51	-0.84	-0.25	Samsung	1.86	0.69	0.28	0.05	-1.72
	Gucci	0.86	0.28	-0.43	-1.61	0.39	Tiffany & Co	0.48	0.49	-0.7	-1.05	-0.61
	Lenovo	0.75	0.83	-1.33	-0.26	-0.02	Verve Cliquot	-0.26	-1.29	-0.25	-1.58	0.87
Low	Estee Lauder	-0.31	-0.34	-0.33	-0.53	0	Nespresso	-0.51	-0.21	-1.79	0.27	0.2
	Gap	0	-0.83	0.38	-0.06	0.09	Old Navy	-0.64	-0.44	0.62	0.2	0.18
	H&M	0.55	-0.3	-0.12	-0.56	0.53	Tanqueray Gin	-0.68	-2.03	-0.57	-1.34	1.56
	Jameson whiskey	-0.53	-0.49	-0.47	-0.43	0.35	Trader Joe's	1.5	0.71	-0.12	1.01	-1.74
	Kmart fashion	-1.03	-2.4	-1.41	-0.13	1.6	Wet seal	1.33	-2.07	-0.12	0.2	2.1
	Lays	0.76	-0.84	1.26	0.5	0.59	Wholefoods	1.38	1.1	-1.88	0.8	-0.97
	Burger King	-0.07	-0.73	1.48	0.28	1.82	M&Ms	0.86	0.69	1.52	1.76	0.25
Very low	Charmin	-1.01	0.48	0.16	1.25	-0.86	Mars	-0.58	-0.36	-0.04	0.59	-0.38
	Cheerios	-2.1	0.22	1.23	1.31	-0.26	McDonalds	-0.05	-2.26	1.58	-0.42	1.19
	Cheetos	-0.46	-1.41	1.81	0.46	1.65	Oreos	-0.79	-0.24	0.45	1.96	0.46
	Colgate	-0.66	0.97	0.8	0.43	-1.86	Pepsi	0.38	0.37	1.93	0.94	0.33
	Crest	-0.71	0.65	-0.25	0.2	-1.73	Perrier	-1.17	0.34	-0.61	-0.79	0.14
	Dunkin Donuts	0.62	0.35	1.26	0.48	-0.56	Sanpellegrino	-0.52	-0.03	-1.5	-1.24	1.68
	Fanta	-0.3	-1.29	0.84	-0.43	1.41	Sears	-2.61	0	-1.18	0.01	0.09
	Ferrero Rocher	-0.41	-0.17	-0.88	0.2	-1.07	Starbucks	1.74	0.35	1.04	1.37	0.92
	Fiji water	-1.29	-0.06	-0.48	-0.65	-0.68	Subway	0.5	-0.18	0.59	0.89	0.3
	Frosted Flakes	-1.35	0.02	0.91	0.55	0.17	T J Maxx	0.13	-0.64	-0.13	0.2	0.61
	Gain	-0.78	-1.38	-0.3	0.38	-1.15	Target	1.4	0.69	1.15	1.22	0.3
	Hershey	0.46	0.97	0.88	1.63	-0.84	Tide	-0.72	1.25	0.22	1.25	-0.8
	Kleenex	-1.45	0.77	-1.31	2.09	-1.1	Tropicana	-0.52	0.85	0.57	0.57	1.1
	Lindt	-0.78	0.13	-1.46	1.18	-0.92						

Note. Brand ratings are standardized.

"I would like to learn more about this brand" (each from 0 = *disagree* to 100 = *agree*, $M = 46.40$, $SD = 28.03$, $\alpha = .95$). Finally, participants completed the BFI-44 personality scale (Goldberg, 1993), which included items measuring extraversion ($M = 2.99$, $SD = 0.87$, $\alpha = .96$).

Results and Discussion

Self-brand congruity was calculated by interacting participant's extraversion score with an indicator variable representing whether they had received the extraverted (=1) or introverted (=0) description of the X-Phone. We tested whether price moderated self-brand congruity by estimating the effect of a three-way interaction between participants' extraversion, brand extraversion, and price (0 = *low price*, 1 = *high price*) on brand attitudes.

The three-way interaction was significant, $b = 10.83$, $t(390) = 1.99$, $p = .047$ (see Table 6). Participants presented with an X-Phone that matched their personality responded more favorably to the brand compared to those in a condition where the description did not match their personality. More importantly, this effect was only present for those in the high-price condition. Figure 3 depicts the marginal effect of seeing an

extraverted (vs. introverted) advertisement on brand liking, across the range of extraversion scores and split by high- and low-price conditions. When the X-Phone had a high price, participants with higher levels of extraversion expressed a stronger preference for the extraverted product, as represented by the positive slope of the dashed line. In contrast, when the X-Phone had a low price, the personality of the brand made little difference, with no significant effect on liking.

Study 4: Consumer Involvement Mediates the Moderating Role of Price

In Study 4, we investigated *why* people favor brands that match their personality more often when the brand is high in price. To this end, we tested whether the moderating role of price on self-brand congruity was mediated by increased consumer involvement. We tested the role of two potential mechanisms: purchase regret and elaboration (see conceptual model in Figure 4).

Participants and Procedure

We recruited 300 participants ($\bar{x}_{\text{age}} = 35.5$ years, 42% female), who were each paid US\$1.20. Participants saw the same 59 brands from Study 2 and answered two questions for each one:

Table 4. Predicting Positive Brand Attitudes by Brand–Consumer Match and Price (Study 2).

Predictors	Model 1			Model 2		
	<i>b</i>	<i>t</i>	CI ₉₅	<i>b</i>	<i>t</i>	CI ₉₅
			[Lower, Upper]			[Lower, Upper]
PB-match	0.56**	2.95	[0.19, 0.93]	0.54**	2.86	[0.17, 0.91]
Gender	−1.26	−0.80	[−4.32, 1.80]	−1.26	−0.80	[−4.32, 1.80]
Age	0.17	0.23	[−1.31, 1.65]	0.17	0.22	[−1.31, 1.65]
Consumer O	−1.22	−1.52	[−2.78, 0.34]	−1.28	−1.59	[−2.84, 0.29]
Consumer C	0.96	1.00	[−0.90, 2.82]	0.93	0.97	[−0.93, 2.79]
Consumer E	4.13***	4.57	[2.37, 5.88]	4.18***	4.63	[2.43, 5.94]
Consumer A	2.40**	2.59	[0.60, 4.20]	2.47**	2.67	[0.67, 4.27]
Consumer N	2.53*	2.37	[0.45, 4.61]	2.56*	2.39	[0.48, 4.63]
Brand O	0.37*	1.96	[0.001, 0.74]	0.19	0.79	[−0.28, 0.65]
Brand C	2.01***	8.76	[1.56, 2.46]	2.06***	8.88	[1.61, 2.52]
Brand E	2.80***	14.32	[2.42, 3.19]	2.95***	13.55	[2.52, 3.38]
Brand A	3.01***	15.95	[2.64, 3.38]	3.16***	13.90	[2.72, 3.61]
Brand N	−2.50***	−11.03	[−2.94, −2.05]	−2.43***	−10.47	[−2.88, −1.97]
Brand price	—	—	—	0.40***	1.42	[−0.15, 1.00]
PB-Match × Brand Price	—	—	—	0.41*	2.40	[0.08, 0.75]
ΔAIC	−1,382			−4		
Model comparison	$\chi^2(13) = 1,407.8, p < .001$			$\chi^2(2) = 8.06, p = .018$		

Note. Hierarchical linear models with positive attitude rating as outcome and brand–consumer match (PB-match) as main predictor in Study 2. Model 2 includes the interaction between PB-match and price. The analysis is based on 19,283 observations from 354 participants in Study 2. ΔAIC indicates the difference in AIC from each model to the next (e.g., AIC[Model2] − AIC[Model1]). ΔAIC for Model 1 indicates the difference to the baseline model with no predictors. Smaller AIC values indicate a better fit. Model comparison provides the results of analysis of variance significance tests between the models, where each is compared to the previous one (and Model 1 to the baseline). *b* = unstandardized coefficients. AIC = Akaike information criterion.

p* < .05. *p* < .01. ****p* < .001.

“How much do you like this brand?” ($M = 53.64, SD = 30.23$) and “How much would you like to buy from this brand?” ($M = 50.34, SD = 33.01$), using a slider bar from 0 to 100. We combined the two questions into a single measure of brand attitude by averaging them ($M = 51.66, SD = 30.39, \alpha = .90$).

We tested two potential mechanisms to explain the effect of price on self-brand congruity. To measure purchase regret (0–100), we asked: “In deciding whether or not to buy from this brand, how much would it matter if you made a mistake buying one of their products?” ($M = 33.17, SD = 32.74$). To measure elaboration (0–100), we asked: “In deciding whether or not to buy from this brand, how deeply would you think about the decision?” ($M = 34.70, SD = 31.85$). Participant’s Big Five traits were measured using the BFI-44 items (Goldberg, 1993; scale reliabilities: $\alpha_O = .83, \alpha_C = .89, \alpha_E = .88, \alpha_A = .83$, and $\alpha_N = .90$).

Results and Discussion

We analyzed the results in two stages. First, we replicated Studies 1 and 2, showing that the fit between brand and person significantly predicted attitudes toward the brand ($b = 0.72, SE = 0.20, t = 3.59, p < .001$). This effect was moderated by price, such that the effect of fit was stronger for higher priced brands (see Table 7, Model 1). Four plots (see Figure 5) show that the effect of PB-match is negative in Quartile 1, the lowest price quartile, and positive in Quartiles 2–4, the higher price quartiles.

Second, we tested the mediating role of purchase regret and elaboration, within the context of the moderating role of price. Adjusting the procedure suggested by prior work by Muller et al. (2005) on mediated moderation (see section S5 and Figure S5A in Online Supplement for details), the mediating variable is required to significantly correlate with price, which it did; the correlation between purchase regret and price was significant and of medium effect size, $r(299) = .35, p < .001$. The correlation between elaboration and price was also significant, but smaller in magnitude, $r(299) = .19, p < .001$.

In addition, the interaction effects of (i) PB-match and purchase regret as well as (ii) PB-match and elaboration should be significant when tested in a model that does not include the interaction with price. The interaction of purchase regret aversion and price was found to be significant, whereas the interaction between elaboration and price was not (see Model 2, Table 7). Therefore, in the last stage (Model 3), we only included the interaction of regret aversion and price.

Following the logic of mediated moderation, the magnitude of the moderating effect of price (the interaction between PB-match and price) should be reduced when entering the moderating effect of regret aversion (the interactions between PB-match and regret aversion). Although the interaction effect between price and PB-match remained highly significant, the effect shrunk from $t = 3.80$ (Model 1) to $t = 3.29$ (Model 3). In addition, the statistical comparison between the two models showed that Model 3—which included the interactions for both

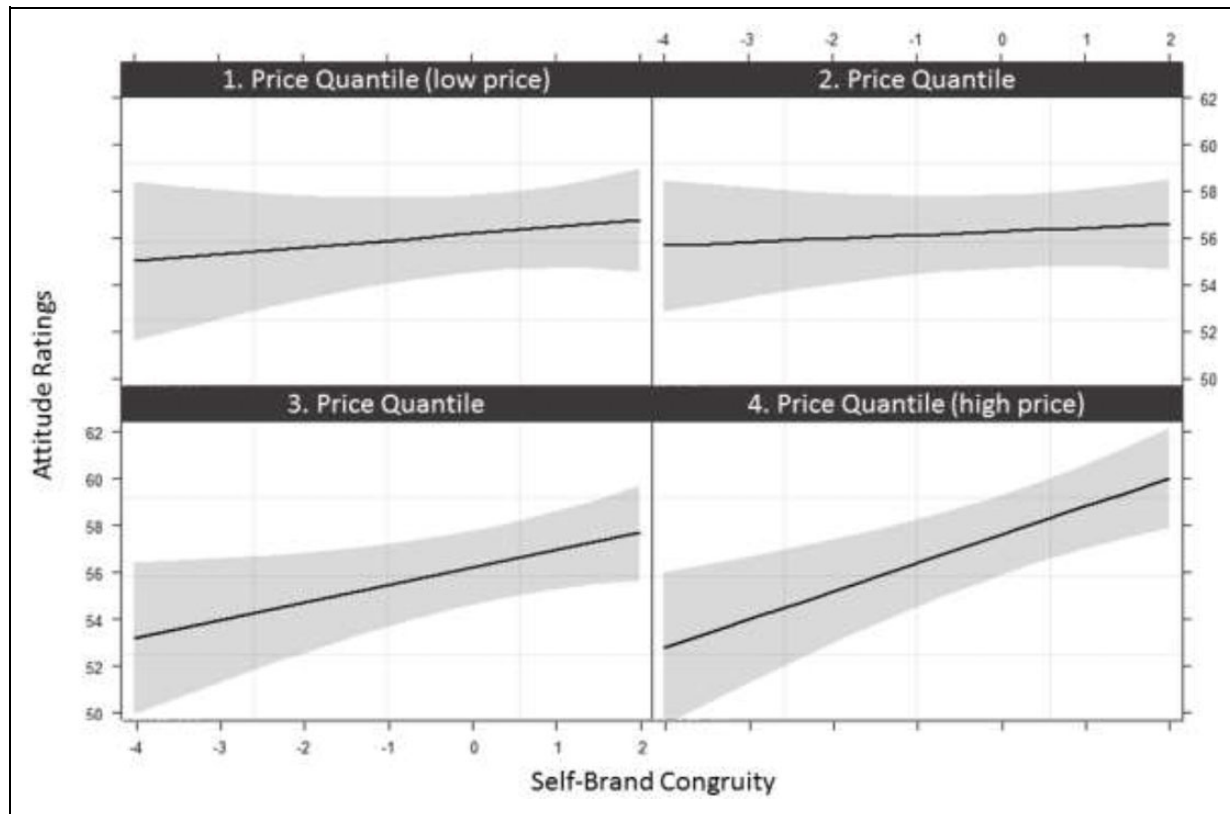


Figure 2. Interaction between price and self-brand congruity (Study 2).

price and regret aversion—did not explain significantly more variance than Model 1—which included only the interaction for price—suggesting that both interactions tap into the same pool of variance. Similarly, the interaction effect of PB-match and regret aversion was no longer significant, indicating that the two moderating effects at least partly explain the same outcome variance.

The results thus suggest that the moderating effect of price on the relationship between self-brand congruity and brand attitudes can, at least partially, be explained by the fact that higher priced items are perceived as purchase contexts in which people try to avoid making the wrong decision. We thus suggest that one important way consumers seek to minimize regret when paying a high price for a new product is through the purchase of self-congruent brands.

General Discussion

The primary goal of our research was to develop a better understanding of when brand attitudes and choice are driven by the congruity (or lack thereof) between brand and consumer personality. In line with previous research (Kressmann et al., 2006; Sirgy, 1985; Swaminathan et al., 2007), we find that individuals consistently show greater preference for, and are more likely to buy, brands which match their psychological characteristics. However, the results of four studies add to the available literature by demonstrating that the price of the brand moderates this

effect, such that self-brand congruity becomes more important with high (vs. low) priced brands. The combination of attitudinal measures from online surveys (Studies 2–4) coupled with real spending data from a large field study (Study 1) allowed us to test the effect of self-brand congruity in settings of high experimental control as well as high external validity.

Our findings provide three main contributions. We are the first to use objective spending records to test self-brand congruity, demonstrating an important instantiation of the theory in an externally valid setting. Second, by incorporating the role of price, our work extends past research by illuminating a boundary condition of the self-brand congruity effect. In this way, we contribute more generally to past work on the price-quality heuristic (Gneezy et al., 2014) by showing that higher prices not only increase perceived attractiveness and quality of products and brands (Allison & Uhl, 1964; Rao & Monroe, 1989) but also a greater desire to engage in personality-matching. Third, we shed light on the underlying mechanism by showing that the moderating role of price works, at least in part, through the elevated risk for purchase regret associated with high-priced brands.

The results of this research have theoretical and practical implications that deepen our understanding of when and why brands may be used for self-expressive purposes as well as identify opportunities for future research. Our finding that post-purchase regret acts as a mechanism demonstrates an important motivational component of the process and is also consistent with past work demonstrating that private (vs. public) self-

Table 5. Predicting Positive Brand Attitudes by Brand–Consumer Match and the Moderating Effects of Brand Status, Quality, and Relative Price.

Predictors	Model 1: Status			Model 2: Quality			Model 3: Relative Price		
	<i>b</i>	<i>t</i>	CI ₉₅	<i>b</i>	<i>t</i>	CI ₉₅	<i>b</i>	<i>t</i>	CI ₉₅
PB-match	0.52**	2.75	[0.15, 0.90]	0.56**	2.91	[0.18, 0.93]	0.55**	2.89	[0.18, 0.93]
Age	0.17	0.22	[−1.31, 1.65]	0.17	0.22	[−1.31, 1.65]	0.17	0.22	[−1.31, 1.65]
Gender	−1.27	−0.81	[−4.33, 1.79]	−1.26	−0.80	[−4.32, 1.79]	−1.26	−0.80	[−4.32, 1.80]
Consumer O	−1.27	−1.58	[−2.84, 0.29]	−1.28	−1.59	[−2.84, 0.28]	−1.28	−1.59	[−2.84, 0.28]
Consumer C	0.96	1.00	[−0.90, 2.82]	0.95	0.99	[−0.92, 2.81]	0.94	0.98	[−0.93, 2.80]
Consumer E	4.17***	4.61	[2.41, 5.92]	4.17***	4.62	[2.42, 5.93]	4.17***	4.62	[2.42, 5.93]
Consumer A	2.45**	2.65	[0.65, 4.25]	2.46**	2.66	[0.66, 4.26]	2.46**	2.65	[0.66, 4.26]
Consumer N	2.53*	2.36	[0.45, 4.61]	2.54*	2.37	[0.46, 4.62]	2.55*	2.39	[0.47, 4.63]
Brand O	−0.02	−0.09	[−0.51, 0.46]	0.12	0.52	[−0.34, 0.59]	0.11	0.47	[−0.37, 0.59]
Brand C	1.76***	6.87	[1.26, 2.27]	1.86***	7.14	[1.35, 2.36]	1.96***	7.81	[1.47, 2.46]
Brand E	3.02***	13.66	[2.59, 3.45]	2.99***	13.59	[2.56, 3.42]	3.00***	13.33	[2.56, 3.44]
Brand A	3.55***	12.80	[3.01, 4.10]	3.45***	12.10	[2.89, 4.01]	3.38***	10.50	[2.75, 4.01]
Brand N	−2.25***	−9.28	[−2.73, −1.78]	−2.28***	−9.20	[−2.77, −1.8]	−2.40***	−10.24	[−2.86, −1.94]
Price	0.38	1.35	[−0.17, 0.94]	0.31	1.08	[−0.25, 0.88]	0.33	1.12	[−0.25, 0.90]
PB-Match × Price	0.60**	2.89	[0.19, 1.01]	0.52*	2.37	[0.09, 0.95]	0.52*	2.10	[0.04, 1.00]
Status	0.72*	2.33	[0.11, 1.32]	—	—	—	—	—	—
PB-Match × Status	−0.32	−1.59	[−0.72, 0.08]	—	—	—	—	—	—
Quality	—	—	—	0.55	1.65	[−0.1, 1.19]	—	—	—
PB-Match × Quality	—	—	—	−0.16	−0.78	[−0.58, 0.25]	—	—	—
Relative price	—	—	—	—	—	—	0.36	0.94	[−0.39, 1.1]
PB-Match × Relative Price	—	—	—	—	—	—	−0.14	−0.59	[−0.62, 0.33]
ΔAIC	−1,391			−1,383			−1,386		
Model comparison	$\chi^2(17) = 1,424.3, p < .001$			$\chi^2(17) = 1,417.1, p < .001$			$\chi^2(17) = 1,419.2, p < .001$		

Note. Three multilevel models testing the alternative moderating effects of status, brand quality, and relative price in Study 2. ΔAIC indicates the difference in AIC from each model to the next (e.g., AIC[Model2] − AIC[Model1]). ΔAIC for Model 1 indicates the difference to the baseline model with no predictors. Smaller AIC values indicate a better fit. Model comparison provides the results of analysis of variance significance tests between the models, where each is compared to the baseline. AIC = Akaike information criterion.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 6. Three-Way Interaction Between Person and Brand Extraversion and Price (Study 3).

	Model 1		Model 2		Model 3	
	<i>b</i>	<i>t</i>	<i>b</i>	<i>t</i>	<i>b</i>	<i>t</i>
Person E	5.81***	4.28	5.82*	2.52	8.34**	3.17
Brand E	−5.08†	−1.89	−0.29	−0.08	0.09	0.02
Price high	−12.22***	−4.54	−7.09†	−1.86	−6.99†	−1.84
Person E × Brand E	—	—	1.46	0.53	−4.01	−1.04
Price High × Brand E	—	—	−1.88	−0.64	−7.38†	−1.90
Brand E × Price High	—	—	−9.95†	−1.84	−10.06†	−1.87
Brand E × Price High × Person E	—	—	—	—	10.83*	1.99
Adjusted R^2	.09		.09		.10	

Note. $N = 397$. “Person E” refers to participant extraversion (z-standardized, measured continuously). “Brand E” refers to the manipulation of brand extraversion (binary scale, 1 = *extraverted brand*, 0 = *introverted brand*). “Price High” refers to the price condition (binary scale, 1 = *high price condition*, 0 = *low price condition*). All models include age and gender as controls.

† $p < .1$. * $p < .05$. ** $p < .01$. *** $p < .001$.

motives have the greatest impact on self-brand congruity (Aguirre-Rodriguez et al., 2012). Thus, this work is particularly relevant for psychologists who study how individuals make self-congruent choices when considering internal as well as social standards.

Because we suggest that personality-matched purchases are more common for high-priced brands due to the underlying motivation to avoid postpurchase regret, this research also has

theoretical implications for how brands may be used across cultures. Past research has shown that the experience of regret depends on whether regret affects the self or others, such that U.S. participants experience regret more intensely when it affects the self, whereas Taiwanese participants experience regret more intensely when it affects others (Breugelmans et al., 2014). As our results are based on Western samples from wealthy countries, future research could test whether the

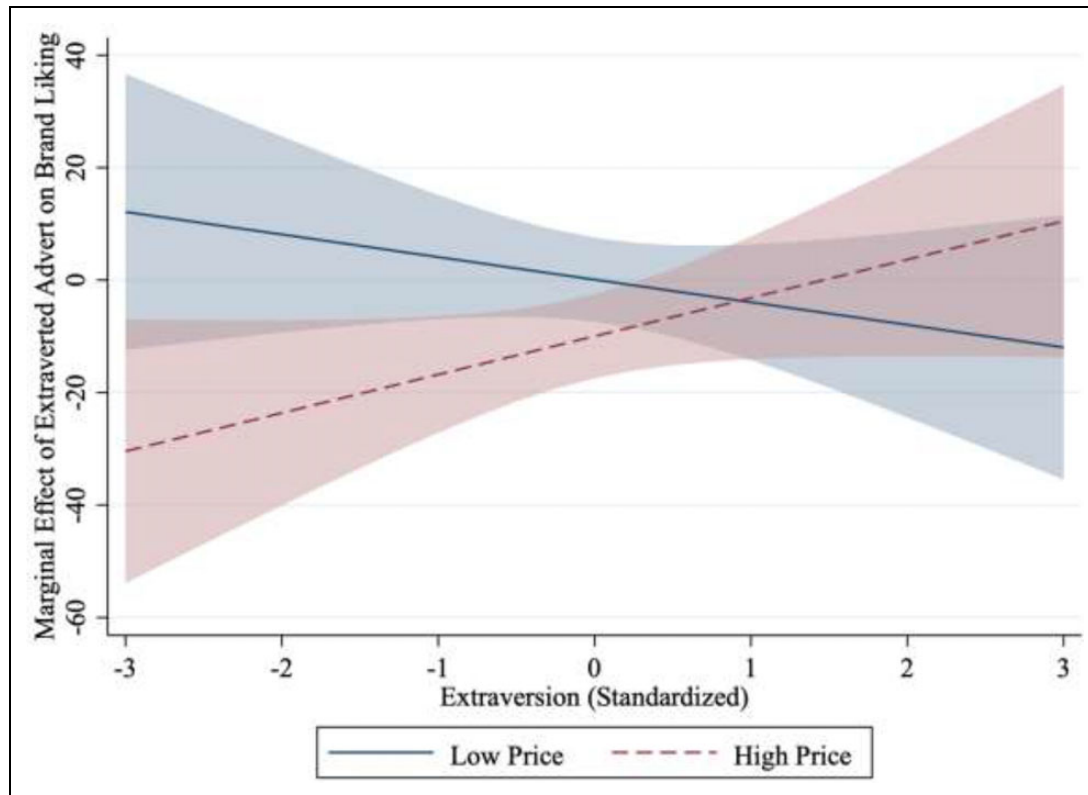


Figure 3. Marginal effect of extraverted advert on attitudes toward the brand across participant extraversion and price conditions (Study 3). Note. Error bands represent 95% confidence intervals.

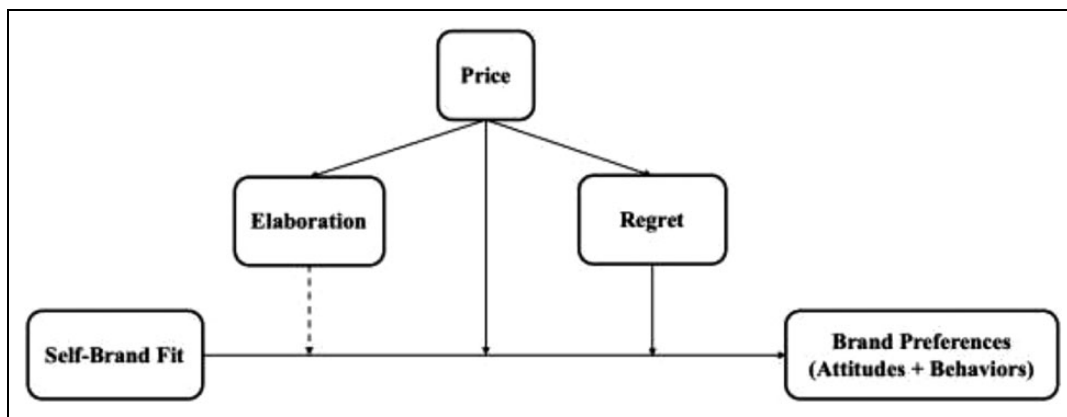


Figure 4. Conceptual mediated moderation model tested (Study 4).

moderating role of price on self-brand congruity intensifies in Eastern cultures when the negative consequences of making the wrong choice for someone else are highlighted.

In addition, our findings offer practical lessons for managers seeking to develop their brands with the goal of “microtargeting” to fit specific personality traits of their customers (Matz et al., 2017) by clarifying that the value of self-brand congruity depends on the price point of the brand. For high-priced brands, such as car manufacturers or luxury fashion retailers, the match between customer and brand personality is important, whereas

the benefits of personality-matching tactics for low-priced brands might not justify the additional costs that are oftentimes associated with personalization and branding. Our work also suggests that managers of expensive brands who are unable to effectively target individuals with personalities that match those of their brand could consider ways to minimize the potential experience of postpurchase regret, for example, by providing the option to receive a full refund on products they return.

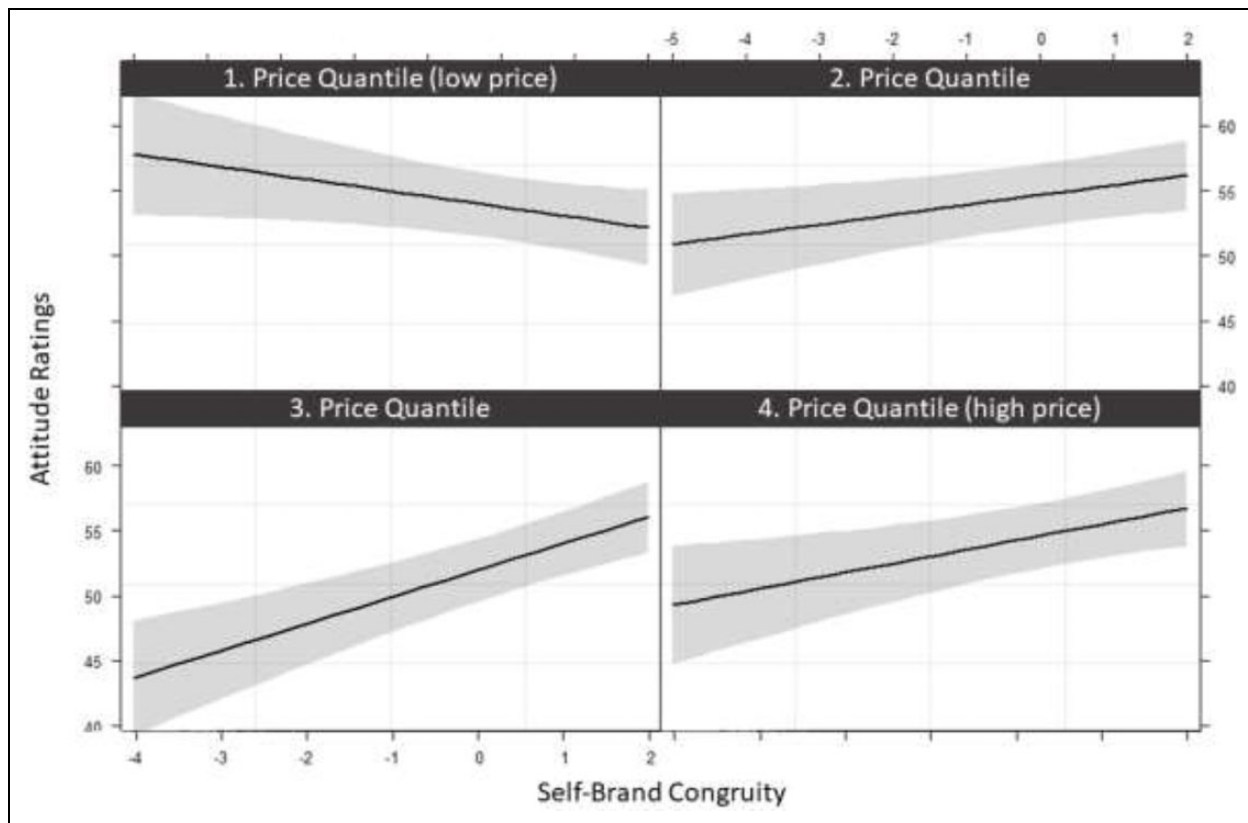
We conclude by acknowledging a few limitations of the work. The fictional brand used in Study 3 allowed us to

Table 7. Three Regression Models Representing the Mediated Moderation Analysis (Study 4).

Predictors	Model 1			Model 2			Model 3		
	<i>b</i>	<i>t</i>	CI ₉₅	<i>b</i>	<i>t</i>	CI ₉₅	<i>b</i>	<i>t</i>	CI ₉₅
PB-match	.71***	3.51	[0.31, 1.10]	0.75***	3.75	[0.36, 1.15]	.74	3.67	[0.34, 1.13]
Price	-.01	-0.04	[-0.6, 0.58]	—	—	—	-.01	-0.02	[-0.61, 0.59]
PB-Match × Price	.70***	3.80	[0.34, 1.07]	—	—	—	.66**	3.29	[0.26, 1.05]
Elaboration	—	—	—	3.51***	12.24	[2.96, 4.09]	—	—	—
PB-Match × Elaboration	—	—	—	-0.25	-1.15	[-0.67, 0.18]	—	—	—
Regret	—	—	—	-1.37***	-4.64	[-1.94, -0.78]	-.04	-0.16	[-0.59, 0.52]
PB-Match × Regret	—	—	—	0.64**	3.01	[0.22, 1.05]	.26	1.35	[-0.12, 0.64]
ΔAIC	-1,041			-1,130			-2		
Model comparison	$\chi^2(15) = 1,070.8, p < .001$			$\chi^2(17) = 1,163.5, p < .001$			$\chi^2(2) = 1.99, p = .370$		

Note. Number of observations = 14,947; number of participants = 281. All Models include age, gender, as well as the main effects for brand and participant personality as controls. ΔAIC for Models 1 and 2 indicate the difference in AIC to the baseline model with no predictors. ΔAIC for Model 3 indicates the difference between Model 3 and Model 1, which it is compared to in effects. Smaller AIC values indicate a better fit. Model comparison provides the results of analysis of variance significance tests between the models. AIC = Akaike information criterion.

* $p < .05$. ** $p < .01$. *** $p < .001$.

**Figure 5.** Interaction between price and self-brand congruency (Study 4).

manipulate both price and brand personality but may also have introduced potential confounds, limiting our ability to draw clear causal inferences. In particular, the name *X-phone* could have activated impressions of other leading mobile phone brands (e.g., *iPhone*). Similarly, the text used to describe the phone could plausibly have manipulated attributes other than extroversion, including status. Although we ruled out alternative explanations surrounding quality and status in Study 2,

future research could run experiments using multiple fictional brands to minimize any impact from consumer associations linked to any individual name or description.

Lastly, our research is based on objective differences in prices across brands, but it is important to recognize that the same objective price can have different subjective psychological meanings for different people. For a wealthy person, the decision of which laptop to buy may be of little consequence,

subsequently decreasing their motivation to evaluate a brand's personality, whereas this would not be the case for a moderately poor person. Although this makes intuitive sense, when we tested the interaction with income in Studies 1 and 3 (the only two studies where income data are available), we find no evidence that income moderates the self-brand congruency effects, nor the effect of price (results reported in the Supplementary Material S3). This could be because normative expectations have developed around which types of goods should reflect our personality. With this work, we thus hope to shed light on which types of branded products facilitate personality-matching the most, as these types of products are most likely to lead to the greatest amount of happiness and postpurchase satisfaction (Matz et al., 2016).

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Supplemental Material

The supplemental material is available in the online version of the article.

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