

The Secret Ingredient Is Me: Customization Prompts Self-Image-Consistent Product Perceptions

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Abstract

Companies frequently allow customers to customize products by assembling different product features or ingredients. Whereas existing research has demonstrated that customers assign greater overall value to customized products, this research focuses on the effect of customization on customers' perceptions of specific product attributes (e.g., how healthy a product is). The findings of six studies—in the field, laboratory, and online—demonstrate that customizers and noncustomizers differ in their product perceptions even if the product is objectively the same. This is because customization leads customers to perceive the product in line with their own self-image (e.g., as an unhealthy eater), a phenomenon that the authors term “self-image-consistent product perceptions.” Essentially, customization may influence product perceptions depending on the product and individuals' self-image; this can have downstream consequences on recommendations and social media communication. The authors test this theory for different product categories (clothing, food, and vacation packages) and attributes (fashionable, healthy, and adventurous) and demonstrate that framing customization as a simple choice or strengthening product positioning through labeling mitigates negative effects of customization.

Keywords

customization, product perceptions, product recommendations, self-image

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Technological advances have allowed companies from diverse industries to use customization (i.e., letting customers determine specific product characteristics) as an integral part of their business strategy. Indeed, retail stores (e.g., Pinkberry), companies (e.g., Build-a-Bear), and websites (e.g., spreadshirt.com) enable customers to customize off-the-shelf alternatives by choosing different ingredients, features, or design elements to build a product outcome.

Previous research has shown that customization allows customers to obtain products that perfectly match their preferences (Valenzuela, Dhar, and Zettelmeyer 2009) and results in more positive product evaluations (Bendapudi and Leone 2003; Franke, Schreier, and Kaiser 2010), higher individual demand (Fuchs, Prandelli, and Schreier 2010), and higher willingness to pay (Norton, Mochon, and Ariely 2012). To verify whether these previous findings align with managers' insights, we conducted semistructured interviews with 16 marketing managers of companies that allow product customization. All managers unanimously pointed to positive outcomes such as better preference fit, greater product satisfaction, feelings of pride and ownership, delight, and loyalty; the main drawback they

identified was the financial cost of customization (for an overview of all interviews, see Web Appendix A).

We contend that both scholars and managers have neglected the possibility that customization may adversely affect customers' perception of key product attributes. For instance, would customers perceive a food as more or less healthy if they participated in its creation? Would they perceive a T-shirt as more or less fashionable if they customized it? We intend to answer these questions by observing the impact of customization (vs. noncustomization) on the perception of key product attributes while holding the end product constant across conditions. This enables us to interpret any variation in product attribute

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perceptions as evidence that the mere act of customization changes perceptual outcomes.

Importantly, whereas product perceptions predominantly depend on extrinsic cues (e.g., product category; Moreau and Herd 2010), we predict that “customizers” (i.e., customers engaged in product customization) adjust their product perceptions according to their self-image. This prediction is rooted in the finding that personal contribution prompts individuals to develop a link between the product and the self (Troye and Supphellen 2012). Whereas existing research has demonstrated a transfer of overall positive self-esteem to products (Bosson, Swann, and Pennebaker 2000; Troye and Supphellen 2012), we propose that an individual’s product perceptions will also be influenced by specific traits of his or her self-image (e.g., “Am I a healthy eater?,” “Am I a fashionable person”). This may sometimes result in more positive product perceptions, as existing research and managers’ insights suggest, but we believe it could also lead to less positive perceptions depending on the product and the customer’s self-image. For instance, customers who view themselves as unhealthy eaters will perceive a customized food outcome as less healthy than off-the-shelf alternatives. We refer to this phenomenon as “self-image-consistent product perceptions.”

We test our predictions using three product categories (clothing, food, and vacation packages) and product attributes (how fashionable, healthy, or adventurous the product is perceived to be). We consistently demonstrate an interaction effect between customization and self-image showing that customizers and noncustomizers differ in their product perceptions because customizers evaluate the product in line with their own self-image. This is reflected in the evaluation of specific product attributes, in recommendations to potential target groups, or in the way the product is portrayed on social media. Intervention strategies that decrease customers’ perceived control over customized products (framing customization as a one-time choice or strengthening the product positioning) enable managers to mitigate the potentially negative effect of customization on product perceptions.

Our work contributes to research on customization by demonstrating that the practice of customization affects product attribute perceptions in a more multifaceted way than previously documented. Furthermore, this finding has important practical implications for targeting and product positioning, as companies that rely on customization need to be aware that certain segments of customers may negatively perceive key product attributes due to the customization effects we identify. We test theory-driven and practically relevant intervention strategies and discuss implications in the “General Discussion” section.

Conceptual Background

The Overall Evaluation of Customized Products

When companies adopt a customization strategy, they enable customers to adapt the offering to their preferences

(Valenzuela, Dhar, and Zettelmeyer 2009). Such a strategy offers multiple benefits for companies such as better product evaluations (e.g., Bendapudi and Leone 2003) and higher willingness to pay (e.g., Franke, Keinz, and Schreier 2008; Franke and Piller 2004; Schreier 2006). Existing research has repeatedly demonstrated that the mere involvement in product creation prompts favorable evaluations because of feelings of accomplishment (Franke, Schreier, and Kaiser 2010; Fuchs, Prandelli, and Schreier 2010; Moreau and Herd 2010; Norton, Mochon, and Ariely 2012). Essentially, people evaluate stimuli associated with the self more favorably than those not associated with the self (Greenwald and Banaji 1995) and form implicit affective reactions to self-produced outcomes (Troye and Supphellen 2012).

The research cited here predominantly focuses on the transfer of individuals’ overall self-view, which is positive for most people (Gawronski, Bodenhausen, and Becker 2007). This perspective does not incorporate two important issues: First, although individuals’ overall self-view is generally positive, they might hold different—favorable, unfavorable, or neutral—self-views regarding specific traits. For instance, a person may hold an overall positive self-evaluation but believe that (s)he lacks healthy eating habits or is limited in fashion taste. Second, individuals might not only evaluate a product overall (e.g., “How much do I value the product?”) but also judge it according to key product attributes (e.g., “How healthy is this product?”). In the next section, we propose that customization prompts individuals to incorporate their self-image (e.g., as an unhealthy eater) in their perceptions of specific product attributes.

The Perception of Customized Products on Specific Product Attributes

Products typically evoke specific images in the marketplace—for instance, an image of healthiness (e.g., low-fat yogurt), fashion (e.g., designer T-shirt), or adventure (e.g., backcountry skiing). Consumers often assess their own self-image through the products they own (Weiss and Johar 2016). Conversely, the self might function as a reference point for the evaluation of owned products (Weiss and Johar 2013). More generally, research on the “extended self” (e.g., Belk 1988; Csikszentmihalyi and Rochberg-Halton 1981; McClelland 1951) suggests that individuals transfer their self-image onto products over which they have control (e.g., Holt 1995).

This implies that customers might perceive a customized product in line with their own self-image because they had control over product features (e.g., its components or ingredients). Thus, we argue that these features should be viewed as direct extensions of the self, in line with one’s own self-image. Whereas noncustomizers (i.e., customers purchasing “off-the-shelf” products) evaluate a product in line with extrinsic cues—such as whether the product category is healthy or not (Moreau and Herd 2010)—we expect customizers’ product perceptions to be directionally consistent with their own self-image, as it relates to the product attribute. For instance, customizers’

perceptions of the healthiness of a muesli should be adjusted to their own self-perceptions (e.g., “Am I a healthy eater?”). This prediction is broadly in line with work on identity-consistent processing documenting that when an identity is salient, it guides thinking, judgment, and behavior (e.g., Bolton and Reed 2004; Tajfel and Turner 1979).

Our reasoning includes two important inferences. First, customizers and noncustomizers are likely to perceive and evaluate a product according to different standards, even if the product is objectively the same. Second, the effect of customization on the perception of specific product attributes may be positive or negative depending on customers’ self-image. Thus, unlike existing research, we do not specify a unique direction of the effect of customization; rather, we predict an interaction effect between customization and self-image: customizers’ (but not noncustomizers’) product perceptions are directionally consistent with their own self-image—a phenomenon that we term self-image-consistent product perceptions. Formally,

H₁: Customization results in self-image-consistent product perceptions such that customizers’ (vs. noncustomizers’) perceptions of a key product attribute is directionally consistent with their self-image, as it relates to the product attribute.

We expect this shift in product perceptions to be reflected in the evaluation of key product attributes as well as in recommendations to potential target groups, or in the way the product is portrayed on social media. Importantly, the fact that customization can sometimes result in negative product perceptions calls for interventions. We outline two potential intervention strategies, both built on the premise that self-image-consistent product perceptions are less likely to occur if customers perceive less control over the product outcome.

Framing the Task as a Choice Versus Customization

When companies allow customization, customers typically make a series of sequential decisions about features and ingredients. Such a step-by-step process provides customers with an impression of control over the product and its features (Belk 1988; Csikszentmihalyi and Rochberg-Halton 1981; McClelland 1951). However, research by Moon and Bos (2017) demonstrates that framing the same task as a simple choice between readily available options (rather than as customization) results in lower feelings of engagement and customization in the product creation process. Building on this, we expect the phenomenon of self-image-consistent product perceptions to be attenuated if a task is framed as a simple choice between readily available options rather than as a customization opportunity. Formally,

H₂: Self-image-consistent product perceptions are less likely to emerge when a task is framed as a simple choice between readily available alternatives compared with when it is framed as a customization process.

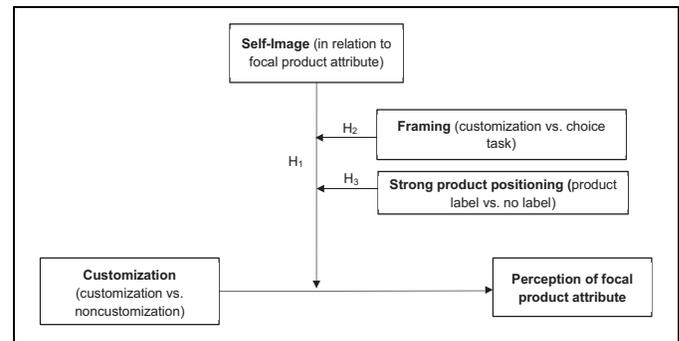


Figure 1. Conceptual model.

Strengthening Product Positioning Through Labeling

Marketers can strengthen product positioning with a vast array of extrinsic cues. For instance, labeling a food as “local” (Dallas, Liu, Fitzsimons 2016), “organic” (e.g., Schuldt and Schwarz 2010), or even “fair-trade” (Schuldt, Muller, and Schwarz 2012) can reinforce the positioning of healthy foods and increase healthiness perceptions.

Applied to our customization context, employing product labels that strengthen a key product attribute should reduce customers’ perceived control over such attributes and thus decrease self-image-consistent product perceptions. This is consistent with research showing that extrinsic cues such as labels can exceed the influence of other cues (e.g., Richardson, Dick, and Jain 1994)—or, in the case of our research, the influence of self-image. Consequently, unhealthy eaters should be less inclined to rely on their self-image when evaluating the healthiness of a customized food whose ingredients are all labeled “organic.” This is less likely to be the case among healthy eaters, whose self-image is already in line with the information provided by the “organic” label. Formally,

H₃: Self-image-consistent product perceptions in customized products are less likely to occur in the presence (vs. absence) of product labels that strengthen a key product attribute, especially if the label provides information that differs from the customizer’s self-image.

Figure 1 depicts our full conceptual model.

Overview of Studies

We test our hypotheses in six experimental studies carried out in the field, in the lab, and online. In each study, we manipulate whether participants customize a product (“customizers”) or receive a readily available version of it (“noncustomizers”) and then assess their perceptions of a key product attribute (i.e., how fashionable, healthy, or adventurous the product is). Holding the actual product outcome constant allows us to interpret any differences in perceptions as a consequence of customization. Studies 1–3 document the phenomenon of self-image-consistent product perceptions across different contexts (clothing, food, and vacation packages) and populations (diners in a restaurant, European and North American students, British

and U.S. online participants). Studies 4 and 5 test practically relevant interventions to provide managerial guidance on how to combat potentially negative consequences. Finally, we report an internal meta-analysis. Table 1 provides a detailed overview of all studies, their purposes, and main findings and Figure 2 depicts all results graphically.

Study 1: T-Shirt Fashionability as a Function of Fashionable Self-Image

Our first study provides initial evidence for self-image-consistent product perceptions (H_1) in the context of clothing. We predict that the perceived fashionability of a customized (vs. noncustomized) T-shirt depends on a customer's self-image as a fashionable person, and that customization results in more positive fashionability perceptions among individuals who hold a self-image as a fashionable person, but not among individuals who do not. This contrasts with existing research that would predict a universally positive effect of customization.

Method

Participants and design. Study 1 employed a 2 (customization: customizer vs. noncustomizer) \times measured self-image between-subjects design. Two hundred fifty-two participants (50% female; mean age = 37.47 years) completed this study through Amazon Mechanical Turk (MTurk) and were randomly assigned to a customizer ($N = 124$) or noncustomizer ($N = 128$) condition.

Materials and procedure. Participants were presented with a simple unisex white T-shirt with a basic pattern of nine gray balls organized in a square with three rows each consisting of three balls (for pictures of all stimuli, see Web Appendix B). In this basic form, this T-shirt was considered not overly fashionable ($M = 3.79$, $SD = 2.50$; evaluated on an 11-point Likert scale with 0 = "not fashionable at all," and 10 = "very fashionable"; for details on our pretest, see Web Appendix C). In a next step, we presented participants with three colors (i.e., red, green, and blue) that could be used to make the basic pattern more colorful.

Customizers could decide which color(s) they wanted to use: they were presented with a drag-and-drop task and asked to drag each of the five balls into one of four boxes labeled green, blue, red, or gray. Noncustomizers received a prepared pattern of colors: they were presented with the same drag-and-drop task but were not able to choose colors themselves; instead, the balls had already been dragged into the boxes. We created three different patterns for the noncustomizer condition to guarantee that potential perceptual differences between the two conditions would not be driven by the specific pattern that we chose for the noncustomizers.

Once participants had customized (received) the pattern for their T-shirt, all of them indicated how fashionable they perceived the T-shirt to be using an 11-point Likert scale (0 = "not

at all fashionable," and 10 = "very fashionable"). Finally, after some filler questions, participants responded to three statements measuring their self-image as a fashionable person: "I am a fashionable person," "Others admire me for my sense of style," and "I know what looks good on me" using a five-point Likert scale (1 = "strongly disagree," and 5 = "strongly agree").

Results

Recall that we created three different designs for noncustomizers. An analysis of variance revealed no significant difference in perceived fashionability across these three designs ($p = .26$), allowing us to collapse across this factor. We computed the scale to measure participants' self-image as a fashionable person (Cronbach's $\alpha = .84$); the customization manipulation did not significantly influence participants' self-image ($p = .11$).

We conducted a regression analysis with customization (noncustomizer coded as -1 and customizer coded as $+1$), self-image (mean-centered continuous measure), and their interaction as predictor variables and perceived T-shirt fashionability as the dependent variable. The results revealed a significant positive main effect of customization ($\beta = .13$, $t(248) = 2.19$, $p = .03$), a significant main effect of self-image ($\beta = .23$, $t(248) = 3.71$, $p < .001$), and, most importantly, a significant customization \times self-image interaction effect ($\beta = .14$, $t(248) = 2.27$, $p = .02$). The Johnson–Neyman procedure (Hayes and Matthes 2009) highlighted that customization significantly ($p < .05$) increased the perceived fashionability of the T-shirt only among participants with a fashionable self-image score higher than or equal to 3.3. In this and all subsequent studies, we report the results of the Johnson–Neyman procedure in the text and in Figure 2, and we report the results of a spotlight analysis in Table 1.

Discussion

Study 1 provides evidence for self-image-consistent product perceptions: customization increases product fashionability (the key attribute) only among individuals who view themselves as fashionable. This suggests that the effect of customization is not universally positive but depends on customers' self-image as it relates to the product attribute.

Studies 2a and 2b: Food Healthiness as a Function of Healthy Self-Image

Studies 2a and 2b tested our hypothesis of self-image-consistent product perceptions in the domain of healthy eating. We predicted that the perceived healthiness of a customized food depends on participants' self-image as healthy eaters, which we formally test in Study 2b.

Recall that in Study 1, in addition to the hypothesized customization \times self-image interaction, we found a positive main effect of customization on the evaluation of the focal product attribute (fashionability of a T-shirt). This is probably because,

Table 1. Detailed Overview of All Studies.

| Study | Sample | Design | Hypothesis Testing | Product | IV | Moderator | DV | Spotlight Analysis (± 1 SD of Average Self-Image Score) | | |
|--|--------------------------------------|--|--------------------|------------------|-------------|-----------------------------|--|--|--------|---------|
| | | | | | | | | Mean | t-Test | p-Value |
| 1 (N = 252; 50% female; M _{age} = 37.47 years) | British Prolific | 2 (C vs. NoC) between-subjects | H ₁ | T-shirt | C | High fashion self-image | Fashion product perception | 5.38 | 3.16 | .002 |
| | | | | | | | | 3.90 | -.06 | .95 |
| 2a (N = 118; 56% female; M _{age} = 48.20 years) | Restaurant diners | 2 (C vs. NoC) between-subjects | H ₁ | Greek yogurt | C | N.A. | Healthy product perception | 7.69 | 1.81 | .074 |
| 2b (N = 210; 59% female; M _{age} = 21.78 years) | Students in Europe and North America | 2 (C vs. NoC) between-subjects | H ₁ | Muesli | NoC | High healthy self-image | Healthy product perception | 6.74 | .76 | .44 |
| | | | | | | | | 6.47 | -3.83 | <.001 |
| 3 (N = 208; 48% female) | British Prolific | 2 (C vs. NoC) between-subjects | H ₁ | Vacation package | NoC | High healthy self-image | Recommend. to healthy/ dieting person | 5.98 | 2.67 | .008 |
| | | | | | | | | 4.73 | -2.70 | .008 |
| 3 (N = 208; 48% female) | British Prolific | 2 (C vs. NoC) between-subjects | H ₁ | Vacation package | NoC | High adventurous self-image | Adventurous product perception | 5.28 | 3.91 | <.001 |
| | | | | | | | | 6.47 | -1.06 | .29 |
| 4 (N = 496; 55% female; M _{age} = 33.82 years) | MTurk | 3 (C vs. NoC vs. Choice) between-subjects | H ₂ | Gimbap | NoC | Low adventurous self-image | Recommend. to adventurous/risk-taking person | 4.89 | 4.10 | <.001 |
| | | | | | | | | 5.18 | -.44 | .66 |
| 4 (N = 496; 55% female; M _{age} = 33.82 years) | MTurk | 3 (C vs. NoC vs. Choice) between-subjects | H ₂ | Gimbap | NoC | High healthy self-image | Healthy product perception | 7.31 | .85 | .39 |
| | | | | | | | | 7.07 | 1.12 | .26 |
| 5 (N = 810; 60% female; M _{age} = 34.42 years) | MTurk | 2 (C vs. NoC) \times 2 (organic label vs. no label) between-subjects | H ₃ | Muesli | C | Low healthy self-image | Recommend. to healthy/ dieting person | 6.99 | -3.26 | .001 |
| | | | | | | | | 5.64 | -3.56 | <.001 |
| 5 (N = 810; 60% female; M _{age} = 34.42 years) | MTurk | 2 (C vs. NoC) \times 2 (organic label vs. no label) between-subjects | H ₃ | Muesli | NoC | High healthy self-image | Recommend. to healthy/ dieting person | 7.30 | 1.76 | .08 |
| | | | | | | | | 6.67 | -4.34 | <.001 |
| 5 (N = 810; 60% female; M _{age} = 34.42 years) | MTurk | 2 (C vs. NoC) \times 2 (organic label vs. no label) between-subjects | H ₃ | Muesli | Choice | Low healthy self-image | Recommend. to healthy/ dieting person | 6.23 | 3.06 | .002 |
| | | | | | | | | 5.08 | -2.05 | .04 |
| 5 (N = 810; 60% female; M _{age} = 34.42 years) | MTurk | 2 (C vs. NoC) \times 2 (organic label vs. no label) between-subjects | H ₃ | Muesli | Choice | High healthy self-image | Health-related hashtags | 6.57 | -4.34 | <.001 |
| | | | | | | | | 1.53 | .86 | .39 |
| 5 (N = 810; 60% female; M _{age} = 34.42 years) | MTurk | 2 (C vs. NoC) \times 2 (organic label vs. no label) between-subjects | H ₃ | Muesli | C + label | Low healthy self-image | Health-related hashtags | 1.38 | -2.16 | .03 |
| | | | | | | | | 1.41 | -3.12 | .002 |
| 5 (N = 810; 60% female; M _{age} = 34.42 years) | MTurk | 2 (C vs. NoC) \times 2 (organic label vs. no label) between-subjects | H ₃ | Muesli | NoC + label | Low healthy self-image | Health-related hashtags | 1.71 | -1.73 | .09 |
| | | | | | | | | 1.15 | -1.73 | .09 |
| 5 (N = 810; 60% female; M _{age} = 34.42 years) | MTurk | 2 (C vs. NoC) \times 2 (organic label vs. no label) between-subjects | H ₃ | Muesli | NoC | Low healthy self-image | Health-related hashtags | 1.64 | -1.73 | .09 |
| | | | | | | | | 1.46 | -1.73 | .09 |
| 5 (N = 810; 60% female; M _{age} = 34.42 years) | MTurk | 2 (C vs. NoC) \times 2 (organic label vs. no label) between-subjects | H ₃ | Muesli | C + label | Low healthy self-image | Health-related hashtags | 1.70 | -1.73 | .09 |
| | | | | | | | | 1.46 | -1.73 | .09 |

Notes: All DVs (except for Study 5) were rescaled to measures ranging from 0 to 10 to facilitate comparison across studies. T-test for “choice” condition in Study 4 refers to comparisons between the “choice” condition and the “customization” condition. T-tests are based on spotlight analyses, where the moderator was mean-shifted at one standard deviation above/below the mean. IV = independent variable; DV = dependent variable; C = customization; NoC = no customization; N.A. = not applicable.

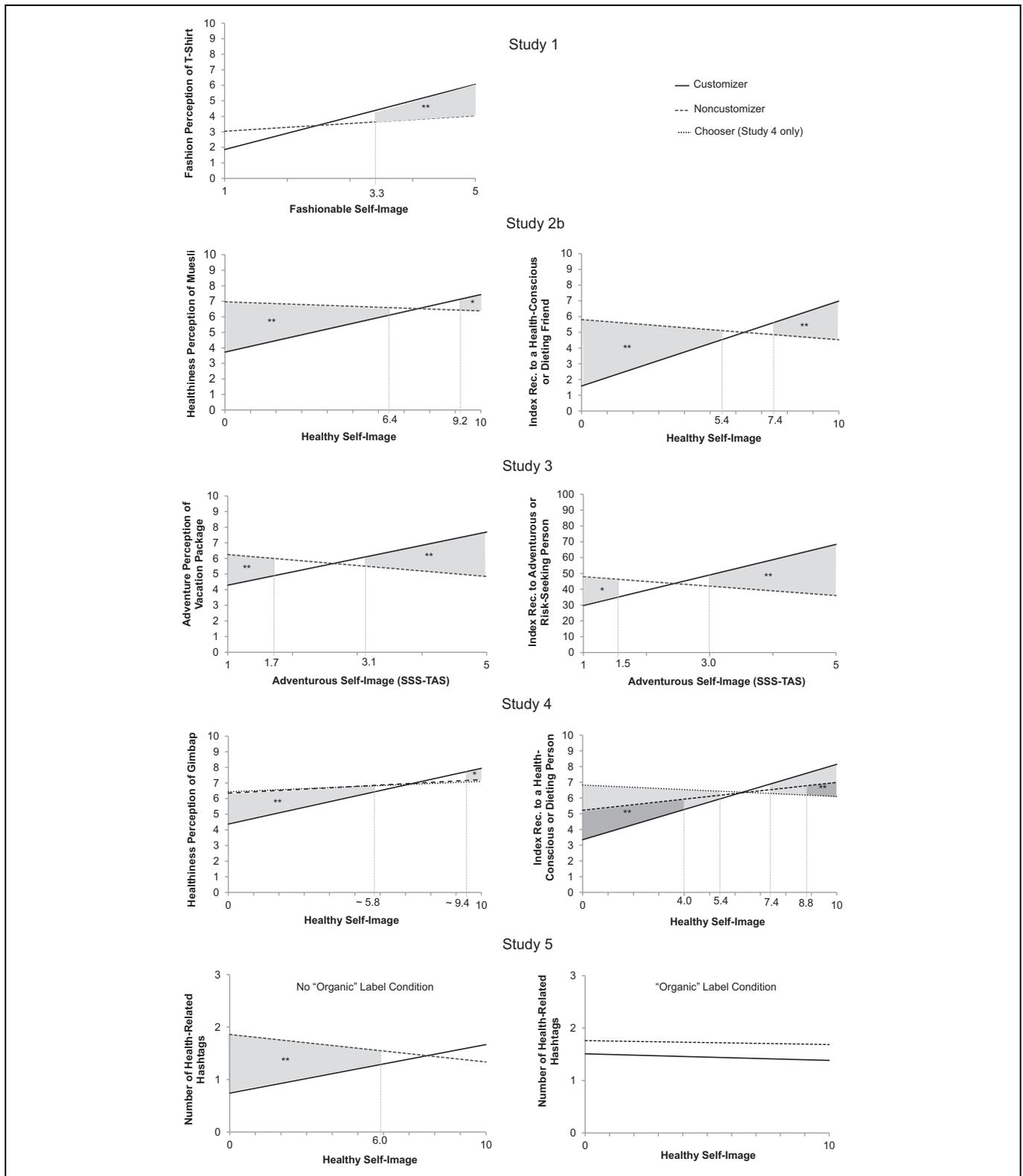


Figure 2. Johnson–Neyman analyses in Studies 1–5.

* $p < .1$.

** $p < .05$.

Notes: Gray areas indicate Johnson–Neyman regions of significance.

in its basic form, the T-shirt was somewhat unfashionable, leaving “more room” for an increase in perceived fashionability driven by a fashionable self-image. In Studies 2a and 2b, the product stimuli were Greek yogurt (Study 2a) and muesli (Study 2b), which are considered healthy foods according to our pretest (Greek yogurt: $M = 7.2$, $SD = 1.67$; muesli: $M = 7.37$, $SD = 1.77$; evaluated on an 11-point scale with 0 = “not healthy at all,” and 10 = “very healthy”; for details, see Web Appendix D). This presumably leaves “more room” for a decrease in perceived healthiness driven by an unhealthy self-image. We thus expected, in addition to the hypothesized customization \times self-image interaction, a negative main effect of customization on perceived healthiness.

Study 2a

Participants and design. One hundred eighteen guests of a Greek restaurant in a large European city (56% female; mean age = 48.20 years) agreed to participate in our study and were randomly assigned to either the customizer ($N = 59$) or noncustomizer ($N = 59$) condition.

Materials and procedure. The study took place on weekdays or the weekend during lunch (12 P.M.–3 P.M.) and/or dinner (6 P.M.–10:30 P.M.) hours. A waitress (our research assistant) approached all guests who had already requested their bill but had not ordered dessert. She invited them to participate in a complimentary tasting of Greek yogurt, on the pretext that the restaurant was considering adding Greek yogurt to the menu. She individually led participants to another room and randomly assigned them to the customizer or noncustomizer condition by table (so that participants would not realize that they were in an experiment).

In the customizer condition, participants were allowed to customize their Greek yogurt by choosing up to four ingredients out of six different options (i.e., apple, banana, pear walnuts, honey, and chocolate chips). They could choose the same ingredient several times. In the noncustomizer condition, participants received Greek yogurt with ingredients. Importantly, we used a yoked design in which each participant in the noncustomizer condition was assigned the identical Greek yogurt than a participant in the customizer condition (e.g., Botti and Iyengar 2004); thus, the overall healthiness of the product was held constant across conditions.

Regardless of condition, all participants were shown the different ingredients (for a photo of the experimental setup, see Web Appendix E). Once participants had customized or received their Greek yogurt, we assessed their perceived healthiness of the dessert on an 11-point Likert scale (0 = “unhealthy,” and 10 = “very healthy”) in a brief questionnaire before they actually consumed the Greek yogurt. After finishing the dessert, they were asked again to indicate their healthiness perceptions using the same scale. The central variable of interest—healthiness perceptions before and after consumption—was collected in a battery of measures that facilitated the cover story. As part of these measures, participants indicated

whether they would have liked to eat more of the Greek yogurt (on a seven-point Likert scale; 1 = “strongly disagree,” and 7 = “strongly agree”).

Results. We assessed participants’ healthiness perceptions before and after consumption. This means that we could only include participants who finished the Greek yogurt and completed both questionnaires. Nineteen participants did not finish the yogurt and two participants failed to respond to both questionnaires. Given the yoked design of our study, we excluded participants in pairs, leaving 88 participants (44 customizers and 44 noncustomizers) in the analysis. Note that the sample utilized in this study was heterogeneous with respect to age; because younger and older individuals differ in their health perceptions (Chandon and Wansink 2011), we included age as a covariate factor in our analysis.

The perceived healthiness measures before and after consumption were highly correlated ($r = .915$, $p < .001$) leading us to compute one combined index. An analysis of covariance with customization as the independent variable, healthiness perceptions as the dependent variable, and age as the covariate revealed a significant main effect: customizers judged the Greek yogurt as significantly less healthy than noncustomizers ($M = 7.69$, $SD = 1.98$ vs. $M = 8.41$, $SD = 1.73$; $F(1, 85) = 4.05$, $p = .047$, $d = .43$); this effect was slightly weaker when we did not control for age ($F(1, 86) = 3.26$, $p = .07$, $d = .37$); for follow-up analyses comparing each pair on its healthiness score, see Web Appendix F.

Study 2b

Participants and design. Study 2b employed a 2 (customization: customizer vs. noncustomizer) \times measured self-image between-subjects design. The study was distributed in labs with student participants, on two campuses (in Europe and in North America), to verify the cross-cultural consistency of the effect and increase the power of the study. There were 210 participants: 104 in Europe (70% female; mean age = 22.58 years), and 106 in North America (48% female; mean age = 21 years). We randomly assigned participants to a customizer condition ($N = 110$) or to a noncustomizer condition ($N = 100$).

Materials and procedure. We utilized muesli as our product stimulus and replicated the design of the website mymuesli.com on Qualtrics (see Web Appendix G). In all conditions, participants were told about Mymuesli, a company that allows customers to order muesli online. We informed participants that there were five steps in the process of constituting a Muesli breakfast: Muesli Base, Refine Base, Fruits, Nuts, and Chocolate. Customizers selected one among three possible ingredients for each of these five steps. In contrast, noncustomizers received one ingredient for each step, and this ingredient was selected randomly among the three possible ingredients. Note that we varied the order in which participants added (or received) fruits and chocolate. To ensure that the healthiness of the Muesli mix was constant across conditions, the possible

ingredients were pretested to be equally healthy within each of the five creation steps (66 participants assessed the healthiness of 72 ingredients, and we selected those with equivalent ratings within each step; see Web Appendix H).

Once participants customized or received their muesli, we asked them to rate the perceived healthiness of the muesli on an 11-point Likert scale (0 = “unhealthy,” and 10 = “very healthy”), as well as whether they would recommend muesli to “a friend who cares a lot about healthy eating,” and to “a friend who is on a weight-loss diet” on 11-point Likert scales (0 = “Not at all,” and 10 = “Absolutely”). We also assessed participants’ social media behavior (this measure is described in Study 5) but for sake of brevity, we only report the result in Web Appendix I.

We measured participants’ self-image as a healthy eater using a validated three-item scale (Kendzierski and Costello 2004): “Do you describe yourself as a healthy eater?,” “Do you describe yourself as someone who eats in a nutritious manner?,” and “Do you describe yourself as someone who is careful about what I eat?” (11-point Likert scale; 0 = “does not describe me,” and 10 = “describes me”) and asked participants whether they were allergic to any of the ingredients.

Results

Four participants were allergic to at least one ingredient and were excluded from the analysis, yielding a total of 206 valid participants. First, we computed the scale to measure participants’ self-image as a healthy eater ($\alpha = .91$). We ensured that our manipulation did not affect participants’ self-image ($p = .54$) and that there was no significant difference in self-image across campus locations ($p = .13$). Then, we regressed healthiness perceptions on customization (noncustomizer coded as -1 and customizer coded as $+1$), the mean-centered healthy self-image score, their interaction, and campus locations (coded -1 for North America and $+1$ for Europe). We found a significant negative main effect of customization ($\beta = -.15$, $t(201) = -2.16$, $p = .03$) indicating that, on average, customizers perceived their muesli as significantly less healthy than noncustomizers, a main effect of healthy self-image ($\beta = .16$, $t(201) = 2.32$, $p = .02$), and, most importantly, a significant customization \times self-image interaction ($\beta = .21$, $t(201) = 3.19$, $p = .002$) but no significant effect of campus location ($p = .11$).

The Johnson–Neyman procedure revealed that customizers (vs. noncustomizers) perceived the muesli as significantly ($p < .05$) less healthy for all values of healthy self-image equal to or lower than 6.4. In contrast, for all values of healthy self-image equal to or higher than 9.2, customizers (vs. noncustomizers) perceived their muesli as marginally significantly ($p < .10$) healthier. The results for recommendation likelihood were highly similar: customizers (vs. noncustomizers) with an unhealthy self-image were less likely to recommend the muesli to a health-conscious or dieting friend, while customizers (vs. noncustomizers) with a healthy self-image were more likely to recommend it (see Table 1, Figure 2, and Web Appendix J).

Discussion

Studies 2a and 2b document that, overall, customization (vs. no customization) significantly reduces the healthiness perceptions of a product, holding the actual healthiness of the product outcome constant across conditions. Importantly, Study 2b showed that customization prompted lower healthiness perceptions for individuals who view themselves as unhealthy eaters, but this negative effect was attenuated and even marginally reversed for individuals who view themselves as healthy eaters.

Study 3: Vacation Adventure as a Function of Adventurous Self-Image

In Study 3, we intended to demonstrate the effect of customization on customers’ product perceptions in yet another context: vacation packages. In Studies 1 and 2, we utilized products that were, in their basic versions, positive or negative on the focal attribute: the T-shirt was somewhat unfashionable, while the foods were healthy. This may explain the positive main effect of customization on the fashionability of the T-shirt and the negative main effect of customization on the healthiness of the foods (notably, both contexts revealed the hypothesized interaction effect with self-image). In Study 3, we used a product (vacation package) that was average on the focal attribute (i.e., adventurousness) and expected a full crossover effect such that customization results in higher adventurousness ratings for individuals who consider themselves as adventurous and in lower adventurousness ratings for individuals who do not.

Method

Participants and design. Study 3 employed a 2 (customization: customizer vs. noncustomizer) \times measured self-image between-subjects design. Two hundred eight participants (48% female) completed this study distributed through online panel British Prolific. Participants were randomly assigned to a customizer ($N = 107$) or noncustomizer ($N = 101$) condition.

Materials and procedure. Participants were asked to imagine that they would go on a two-week trip to Costa Rica and that their vacation package included three leisure activities. This package could be customized or not depending on experimental conditions. To ensure that the adventurousness of the vacation packages was constant across conditions, all possible activities were pretested to be equally adventurous (80 participants assessed the adventurousness of 30 activities, and we selected 5 activities with somewhat moderate and statistically equivalent ratings; see Web Appendix K). Customizers could choose three activities among those five moderately adventurous activities (nature photography, wildlife photography, Segway, historic site visit, and guided city tour). Noncustomizers were assigned a specific vacation package with three activities (Segway, guided city tour, and wildlife photography).

Afterward, all participants indicated how adventurous they perceived the vacation package on an 11-point scale (0 = “not at all adventurous,” and 10 = “very adventurous”). Then,

participants indicated their likelihood of recommending the vacation package to “a person who cares about adventure” and to a “risk-taker” (scale from 0 = “not at all likely,” to 100 = “very likely”). Finally, as a measure of adventurous self-image, participants completed the Thrill and Adventure Seeking Scale, a subscale of the Sensation Seeking Scale (SSS-TAS; Zuckerman 1971). They expressed their (dis)agreement (1 = “strongly disagree,” and 5 = “strongly agree”) with 14 statements such as “I sometimes like to do things that are a little frightening” (see Web Appendix L).

Results

We computed the index for adventurous self-image (SSS-TAS; $\alpha = .88$) and verified that the customization manipulation did not affect it ($p = .19$). Then, we regressed perceived adventurousness on customization (coded -1 for noncustomizer and $+1$ for customizer), the mean-centered self-image score, and their interaction. The results revealed a significant main effect of customization ($\beta = .14$, $t(204) = 2.00$, $p = .047$), an insignificant main effect of self-image ($p = .33$), and, most importantly, a significant customization \times self-image interaction effect ($\beta = .24$, $t(204) = 3.49$, $p = .001$). The Johnson–Neyman procedure showed that for all values of adventurous self-image lower than or equal to 1.7, customization (vs. noncustomization) resulted in significantly ($p < .05$) lower perceived adventurousness of the vacation package. In contrast, for all values of self-image higher than or equal to 3.1, customization (vs. noncustomization) resulted in significantly ($p < .05$) higher perceived adventurousness. We thus found evidence of a full crossover effect. The pattern of results for recommendation likelihood to “a person who cares about adventure” and to a “risk-taker” were highly similar, with lower recommendations among customizers (vs. noncustomizers) with nonadventurous self-image and higher recommendations among customizers (vs. noncustomizers) with adventurous self-image (see Table 1, Figure 2, and Web Appendix M).

Discussion

Study 3 demonstrated self-image-consistent product perceptions in a different context (vacation packages) with another product attribute (adventurousness). Importantly, utilizing a base product that scores average with respect to the product attribute, we documented a full crossover effect: nonadventurous customizers (vs. noncustomizers) perceived the vacation package as significantly less adventurous, whereas adventurous customizers (vs. noncustomizers) perceived the vacation package as significantly more adventurous. We found downstream consequences on recommendations to target groups of adventurous people.

Study 4: Framing a Task as Choice Versus Customization

The next study focused on an unfamiliar food product for which customers presumably have weaker preexisting

healthiness perceptions: gimbap, a Korean specialty made from rice and other ingredients that are rolled in dried sheets of laver seaweed. A pretest with 78 MTurk participants showed that 76% had never heard of gimbap, and 85% had never eaten it, yet they found it somewhat appealing ($M = 3.63$, $SD = 1.39$ on a scale with 1 = “would definitely not eat,” and 5 = “would definitely eat”). In addition, this study tested an intervention that marketers can utilize to prevent the negative effect (i.e., lower healthiness perceptions) of customization for customers who consider themselves unhealthy eaters. We predicted that framing a selection task as a one-time choice between readily available options, rather than as step-by-step customization, would reduce self-image-consistent product perceptions (H_2). Because the product always included meat, we decided in advance to exclude vegetarian participants from our analysis.

Method

Participants and design. Study 4 employed a 3 (customization: customizer vs. noncustomizer vs. chooser) \times measured self-image between-subjects design, distributed through MTurk. Four hundred ninety-six (out of a total of 571) participants were neither vegetarians nor vegans (55% female; mean age = 33.82 years). We randomly assigned participants to a customizer condition ($N = 171$), a noncustomizer condition ($N = 163$), or a chooser condition ($N = 162$). Note that in this MTurk study (and Study 5), participants first completed an attention check that automatically excluded those who failed before they could answer any question. We also used metadata filters designed to identify and exclude “bots” before they could answer any questions.

Materials and procedure. All participants were shown a picture and a brief description of gimbap. Customizers selected their own ingredients sequentially: one meat (beef, crab stick, or canned tuna), one vegetable (carrot, cucumber, or spinach), and one cheese (hard cheese or cream cheese). Noncustomizers received one version of gimbap (which was either beef–carrot–hard cheese, crab stick–cucumber–hard cheese, or canned tuna–spinach–soft cheese). Choosers could choose one gimbap in a list of all 18 combinations of one meat, one vegetable, and one cheese. Within each ingredient category, the ingredients were equal on perceived healthiness based on a pretest (see Web Appendix N); this procedure ensured that the product outcome would be similar in healthiness across all experimental conditions.

Once participants customized, received, or chose their gimbap, they indicated its perceived healthiness on an 11-point Likert scale (0 = “unhealthy,” and 10 = “very healthy”) and their likelihood to recommend gimbap to “a friend who cares a lot about healthy eating,” and to “a friend who is on a weight-loss diet” (0 = “Not at all,” and 10 = “Absolutely”). Finally, we measured participants’ healthy eating self-image using the same scale as in Study 2b (Kendzierski and Costello 2004) and assessed vegetarian or vegan eating habits.

Results

We computed the healthy eating self-image scale ($\alpha = .93$) and verified that our manipulation did not affect it ($p = .24$). We regressed perceived healthiness a contrast-coded variable comparing noncustomizers versus customizers, a contrast-coded variable comparing customizers versus choosers, the mean-centered self-image score, and the interactions between self-image and each of the two contrast-coded variables. The results revealed marginally significant main effects of the “noncustomizer vs. customizer” contrast ($\beta = .09$, $t(490) = 1.86$, $p = .06$) and of the “customizer vs. chooser” contrast ($\beta = -.09$, $t(490) = -1.70$, $p = .09$) indicating that, on average, customizers considered gimhap marginally less healthy than noncustomizers and choosers. There was also a positive main effect of self-image ($\beta = .21$, $t(490) = 4.68$, $p < .001$). Most importantly, the interaction effects of self-image and “noncustomizer vs. customizer” and of self-image and “customizer vs. chooser” were both significant (respectively, $\beta = -.14$, $t(490) = -2.81$, $p = .005$; $\beta = .17$, $t(490) = 3.37$, $p = .001$). The Johnson–Neyman procedure highlighted that customizers perceived gimhap as significantly ($p < .05$) less healthy compared with noncustomizers for all values of self-image equal to or lower than 5.9 and compared with choosers for all values of self-image equal to or lower than 5.8. Conversely, customizers perceived gimhap as marginally significantly ($p < .10$) healthier compared with noncustomizers for all values of self-image equal to or higher than 9.7 and compared with choosers for all values of self-image equal to or higher than 9.1. The pattern of results was highly consistent when looking at recommendation likelihood to a health-conscious friend and to a dieting friend as the outcome variable of interest (see Table 1, Figure 2, and Web Appendix O).

Discussion

Study 4 replicated the crossover effect in the context of food: customization (vs. noncustomization) resulted in lower healthiness perceptions for customers with an unhealthy self-image but in higher healthiness perceptions for customers with a healthy self-image. In addition, this study introduced a practically relevant intervention strategy: framing customization as a choice between all combinations of available ingredients, rather than as customization, diminishes self-image-consistent product perceptions.

Study 5: Strengthening Product Positioning

In Study 5, we returned to our muesli paradigm (Study 2b) and investigated another downstream consequence of self-image-consistent product perceptions: customers’ social media behavior when promoting the product online. For this purpose, we told participants to create a social media post about the muesli that they customized (or received) and to generate five keywords (or “hashtags”) to describe the product. We measured

the extent to which the keywords reflected healthy perceptions of the product.

In addition, this study investigated another intervention: strengthening the product positioning through product labels as a way to mitigate self-image-consistent product perceptions. We utilized “organic” food labels as a means to strengthen the healthiness positioning of the product and predicted that customizers (vs. noncustomizers) with an unhealthy self-image would be less likely to perceive the product as less healthy (H_3).

Method

Participants and design. Study 5 employed a 2 (customization: customizer vs. noncustomizer) \times 2 (label: no label vs. organic label) \times measured self-image between-subjects design. Eight hundred ten participants (60% female; mean age = 34.42 years) took part in this study on MTurk and were assigned to a customizer ($N = 408$) or noncreator customizer ($N = 402$) condition and to a no-label ($N = 403$) or organic label ($N = 406$) condition.

Materials and procedure. We used the same paradigm as in Study 2b. Customizers selected ingredients in a five-step process, whereas noncustomizers received one ingredient for each step, randomly selected among all ingredients. In the “organic label” condition (but not in the “no-label” condition), we also told participants that all ingredients were healthy, certified organic, and added a “100% organic” logo next to the picture of each ingredient (see Web Appendix P).

Then, we collected the same measures as in Study 2b (healthiness perceptions and recommendations). Participants subsequently engaged in a social media simulation. They were shown a social media (Instagram) post with a picture of muesli and were asked to complete this post with five relevant hashtags. To help them, we provided 12 examples of hashtags, including five health-related (e.g., nutritious) and seven non-health-related hashtags (e.g., delicious), but participants were free to write whatever they wanted. Finally, we measured participants’ healthy eating self-image (Kendzierski and Costello 2004) and asked them whether they were allergic to any of the ingredients.

Results

Three participants were allergic to at least one of the ingredients, and six participants did not provide social media hashtags (e.g., they wrote “no comment” or “xxx” in the textboxes), yielding a total of 801 valid participants. First, we computed the scale to measure participants’ self-image as a healthy eater ($\alpha = .95$) and verified that our manipulations did not affect it ($ps > .11$). We counted the number of health-related hashtags (directly mentioning health or a balanced meal, good nutrition, fitness, dieting, or weight loss) for each participant. On average, 1.49 hashtags (out of a total of 5 possible hashtags) were health-related.

We regressed the number of health-related hashtags on customization (coded -1 for no-customization and $+1$ for customization), label (coded -1 for no label and $+1$ for organic label), the mean-centered healthy self-image score, and all interactions. Consistent with Studies 2a and 2b, we found a significant main effect of customization indicating fewer health-related hashtags in the customization (vs. no-customization) condition ($\beta = -.10$, $t(793) = -2.95$, $p = .003$). In addition, we found a marginally significant main effect of label indicating marginally more health-related hashtags in the organic label (vs. no label) condition ($\beta = .07$, $t(793) = 1.86$, $p = .06$), a marginally significant customization \times self-image interaction ($\beta = .07$, $t(793) = 1.89$, $p = .06$), and a significant customization \times label \times self-image three-way interaction ($\beta = -.08$, $t(793) = -2.18$, $p = .03$). There were no other significant effects ($ps > .4$).

Follow-up analyses revealed that the customization \times self-image interaction was significant in the “no-label” condition ($\beta = .13$, $t(397) = 2.71$, $p = .007$), consistent with H_1 and previous studies. The Johnson–Neyman procedure showed that customization (vs. noncustomization) led to significantly fewer health-related hashtags among participants with an unhealthy self-image (self-image ≤ 6.0). However, in the “organic label” condition, the customization \times self-image interaction was no longer significant ($\beta = -.01$, $t(396) = -.22$, $p = .83$), as we hypothesized (H_3). Other follow-up analyses revealed that the label \times self-image interaction was significant among customizers ($\beta = -.10$, $t(400) = -1.95$, $p = .051$) but nonsignificant among noncustomizers ($\beta = .06$, $t(393) = 1.14$, $p = .26$). In the customization condition, the organic label (vs. no label) made customizers with an unhealthy self-image (self-image ≤ 3.6) generate significantly more health-related hashtags. However, the label made no significant difference among customizers with a healthy self-image. The results on healthiness perceptions and recommendation likelihood were similar to the aforementioned results (except for recommendation to dieting people, for which we failed to find a significant customization \times label \times self-image three-way interaction; see Web Appendix Q).

Discussion

As hypothesized, we found that customizers (vs. noncustomizers) of muesli with an unhealthy self-image perceived their product as less healthy and thus generated fewer health-related hashtags for a social media post. However, the presence of “organic” labels reduced these self-image-consistent product perceptions: customizers (vs. noncustomizers) with an unhealthy self-image no longer perceived the product as less healthy when the muesli ingredients were labeled “organic.” This study shows that strengthening a product’s positioning through the use of product labels can mitigate potentially negative effects of customization.

Meta-Analysis

We demonstrated the phenomenon of self-image-consistent product perceptions across various product domains, populations, and outcome variables. To assess the overall strength of the effect, we conducted a meta-analysis of all studies (except for Study 2a, our field experiment). We utilized the “metan” program in Stata, which allows for performing meta-analyses based on unstandardized regression coefficients; this is necessary because we intended to depict the effect at different levels of the self-image moderator. We employed a random-effect model because the contexts differed greatly across studies, and thus we could only assume that we were working with multiple true effects.

We report the meta-analysis for our two main outcome variables—product perceptions and recommendation likelihood—and across customizer and noncustomizer conditions. We excluded the conditions aimed at testing intervention strategies in Studies 4 and 5. For each study, we estimated the effect of customization among participants low in attribute-related self-image (i.e., one standard deviation below the average score) and among participants high in attribute-related self-image (one standard deviation above the score). Overall, we found crossover effects: among participants low in attribute-related self-image, customization led to unfavorable product perceptions (effect size = $-.49$) and lower recommendations ($-.49$). In contrast, among participants high in attribute-related self-image, customization led to favorable product perceptions (effect size = $.32$) and higher recommendations ($.45$). For details, see Web Appendix R.

General Discussion

Whereas existing research has demonstrated that customers attach greater overall value to customized products (vs. off-the-shelf alternatives), we examined the effect of product customization on the perceptions of key product attributes. Six studies in three different contexts (clothing, food, and vacation packages) and with different product attributes (fashionability, healthiness, and adventurousness) demonstrate the phenomenon of self-image-consistent product perceptions. Specifically, customizers and noncustomizers differ in their perceptions of focal product attributes, even if the product outcome is kept constant; this occurs because customizers (but not noncustomizers) perceive the product in line with their self-image in a domain directly related to the key product attribute. Accordingly, product customization may result in more or less favorable product perceptions depending on customers’ self-image.

Theoretical Contribution

Essentially, our research documents that allowing product customization prompts customers to perceive the end product in line with how they see themselves on salient attributes. The consequences can sometimes be positive (in line with prior

research) or negative (in contrast with prior research) depending on the base level of a product's attribute and on customers' self-image. Thus, the effects of customization are more multifaceted than previously assumed (e.g., Franke, Schreier, and Kaiser 2010; Troye and Supphellen 2012). Moreover, whereas existing research mostly refers to a sense of accomplishment (i.e., the feeling of being the originator of the product) as the main driver of product evaluations, our work elucidates the general feeling that the product is a direct extension of the self as another important component through which customization affects perceptions and behavior.

In doing so, this work also contributes to the literature on the extended self (e.g., Belk 1988) and the relationship between product image and self-image (e.g., Weiss and Johar 2016). In particular, Weiss and Johar (2013) showed that individuals rely on the self as a reference for objects that they own, or more generally for objects that they "control." We extend this finding by documenting that customers rely on the self as an evaluation standard when judging customized products. Importantly, the two intervention strategies (i.e., framing a task as a choice rather than customization and strengthening product positioning) that we document here elucidate instances in which individuals are less likely to transfer their own image onto the product; this nicely adds to existing work on the extended self.

Managerial Implications and Recommendations

Our findings have important implications for companies that rely on customization as part of their business strategy. As became apparent in our interviews, marketing managers predominantly believe that customization positively influences the overall evaluation of a product, for instance, because the product better fits customer needs and customers feel proud of their creation. Surprisingly, marketing managers were unaware of the possibility that it could (sometimes negatively) shift product perceptions of specific product attributes. Consequently, the product image that customers have in mind and communicate with others (e.g., on social media) might deviate from the value proposition that companies intended.

Companies could benefit or suffer from self-image-consistent product perceptions. For instance, for healthy foods such as muesli or yogurt, we consistently found a negative main effect of customization (vs. no customization) on healthiness perceptions; this might be problematic for companies (e.g., Mymuesli) with a health-related value proposition. This suggests that products positioned at the extreme end of a continuum with respect to a specific product attribute (e.g., healthiness) might be perceived more negatively if they are customized, particularly if customers generally perceive themselves negatively with respect to the salient attribute (e.g., healthiness).

It is noteworthy that self-image-consistent product perceptions emerged with only limited involvement from the customer's side in offline as well as online contexts. Simply selecting different ingredients for a Greek yogurt or different activities for a vacation package from a limited choice set was sufficient

to influence customizers' product perceptions in the direction of how they view themselves. Thus, companies relying on customization should be aware that minimal engagement from the customer changes product perceptions.

Importantly, this shift in product perceptions has a variety of behavioral consequences. First, our studies document that customizers and noncustomizers differ in their likelihood to recommend the end product to target groups, even if the end product was identical. For instance, customizers who view themselves as unhealthy eaters were less likely to recommend the product to a health-conscious target group and promoted the product as less healthy on social media compared with noncustomizers. These are important insights for companies that rely on customization as part of their business strategy, because such companies frequently encourage customers to share their creations with a large network (Gandhi, Magar, and Robers 2013). Second, self-image-consistent product perceptions might have direct consequences for consumption patterns. For instance, our restaurant study (Study 2a) revealed that customizers expressed lower desire to eat more of the Greek yogurt than noncustomizers, and this effect was mediated by reduced healthiness perceptions. This suggests that customization (vs. no customization) might result in differences with respect to, for instance, portion sizes selected.

To counteract the potentially harming effect of customization, our research proposed actionable intervention strategies. Specifically, for companies (e.g., a company allowing customers to customize a food product positioned as healthy) fearing a negative impact of customization, the customization process can be reframed as a mere choice task between readily available options. This will weaken customers' reliance on the self as a salient evaluation standard, presumably because they feel less control over the end product. Alternatively, a stronger product positioning (e.g., conveyed by using "health" or "organic" labels on all ingredients used to customize a food product) can also weaken customers' reliance on the self. Again, we contend that strengthening the product positioning decreases customers' sense of control in creating a product that deviates from readily available options.

Finally, instead of strengthening a product's positioning, another strategy might be to bolster customers' self-image relevant to the product that they customize. We conducted a study in the laboratory of a major European university ($N = 414$) utilizing the muesli paradigm to test this potential intervention in the domain of healthy food (for details, see Web Appendix S). Half of the participants elaborated on what makes them a healthy eater (treatment), whereas the other half provided reasons for why they buy products online (control). Afterward, participants either customized their own muesli or received a readily available mix and then indicated their healthiness perceptions. We replicated the interaction effect between self-image and customization in the control condition ($\beta = .13$, $t(223) = 2.04$, $p = .04$) such that customizers with an unhealthy self-image perceived the muesli as less healthy than noncustomizers. However, for participants with a bolstered healthy self-image, we no longer found a difference between customizers

and noncustomizers with respect to product perceptions ($p = .6$). Marketers specialized on customization in the food context could leverage this insight by ensuring that customization opportunities are framed with healthy attributions, thus ensuring that customers draw from positive self-perceptions as they customize their products.

Limitations and Future Research

We argue that customers perceive a customized product in line with their own self-image. One may argue, however, that customizers' knowledge (or expertise) of what it takes to create a fashionable T-shirt or a healthy muesli may also play a role in product attribute perception. Indeed, trait-specific self-image and domain-specific knowledge are very much interrelated. For instance, a person with a healthy self-image is probably knowledgeable in nutrition, and a person with a fashionable self-image is probably a fashion expert. Notably, our measure of self-image in Study 1 (clothing) explicitly incorporates knowledge ("I know what looks good on me") as one component of self-image. Exploring the interaction effect between customization and this single-item measure for knowledge results in a similar but weaker interaction pattern than the interaction with the complete measure for self-image; this suggests that knowledge is an important component that is related to (rather than independent from) our explanation.

Importantly, in our studies we sometimes documented an effect of customization at only one end of the continuum of our moderator (e.g., individuals who hold the self-image as an unhealthy eater perceived the customized product as less healthy, or individuals who hold the self-image as a fashionable person perceived the customized product as more fashionable), and we sometimes observed a full crossover effect such that customizers and noncustomizers differed in their product perceptions at both ends of the self-image moderator. As elucidated, we argue that the specific effects of customization on self-image-consistent product perceptions depend on two factors: the product (and its position on the continuum of the focal attribute) as well as individuals' self-image (related to the focal attribute). Accordingly, the strength of the effects at either end of the continuum of the moderator is likely to vary depending on the specific product and the sample (i.e., its composition with respect to the relevant self-image) utilized in a study.

Future research could investigate different kinds of product customization and explore how they affect product attribute perceptions. Indeed, customers might customize products for self-expressive or functional reasons. Whereas functional customization influences product performance, self-expressive customization helps convey customers' identity (e.g., Hunt, Radford, and Evans 2013). The phenomenon of self-image-consistent product perceptions is probably more pronounced for self-expressive customization because, in this case, products are particularly likely to be viewed as extensions of one's identity (Kaiser, Schreier, and Janiszewski 2017). Conversely, self-image-consistent product perceptions might be less pronounced in a gift-giving context. A preliminary study

($N = 279$; see Web Appendix T) in which we manipulated the recipient (self-purchasing context versus gift-giving) revealed self-image-consistent product perceptions when the product was intended for the self but not when it was meant as a gift for a friend. Future research could explore these different contexts to understand in which instances self-image-consistent product perceptions are more or less likely to emerge.

Finally, we found that customers with an unhealthy self-image considered customized food unhealthy and customers with an unadventurous self-image considered a customized vacation package unadventurous. One might wonder whether such customers are actually less likely to customize products. We conducted a correlational study on British Prolific ($N = 82$ participants who passed an attention check; see details in Web Appendix U) in which we presented participants with our muesli paradigm and explained that customers could choose readily available options or customize their own muesli. Participants then expressed their likelihood to customize their own muesli rather than choosing a prepared mix (1 = "prefer to buy readily available muesli," and 11 = "I prefer to customize"), indicated their general customization tendencies (measured with three items; e.g., "In general, I like to customize products"), and indicated their self-image as a healthy eater (Kendzierski and Costello 2004). We found a positive correlation between participants' general tendency to customize products and the likelihood of customizing a muesli ($r = .59, p < .001$) but no significant correlation between self-image as a healthy eater and the likelihood of customizing muesli ($r = .11, p = .34$). Essentially, this suggests that unhealthy and healthy eaters might be equally likely to customize muesli; we leave it to future research to further explore this avenue.

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Author Contributions

Cornil, Dahl, and Gros contributed equally and are listed alphabetically.

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