

To Each His Own? How Comparisons with Others Influence Consumers' Evaluations of Their Self-Designed Products

C. PAGE MOREAU
KELLY B. HERD*

The vast majority of consumer behavior research has examined how consumers respond to products that are offered on a "take it or leave it" basis by the manufacturer. Self-design changes the rules substantially, allowing consumers to have much more control over the product's characteristics. This research examines the factors influencing consumers' evaluations of self-designed products. Three studies demonstrate that a superior fit between consumers' underlying preferences and their customized products cannot fully explain self-design evaluations. Comparisons with designers of comparable products can significantly influence evaluations as well. The first two experiments examine how social comparisons with the designers of similar "off-the-rack" products influence evaluations, identifying two key moderators useful in overcoming the negative effects of an upward comparison. A third study uses a real online design task to gain understanding of how the timing of the social comparison moderates the direction of the comparison (upward vs. equivalent) to influence evaluations.

In product categories ranging from running shoes to pet beds to ceiling fans, consumers are becoming the designers of their own products. The slogan at NikeiD (Nike's custom design service), "Perfection is personal," lures consumers into this role with the promise of a product that wholly embodies their highly individual and often idiosyncratic tastes. "Self-design" (or "user-design") is the relevant construct emerging in the marketing literature to describe this voluntary shift in responsibility from the producer to the consumer. While some limited research has examined how the format of the self-design task influences consumer utility (e.g., Dellaert and Stremersch 2005; Randall, Terwiesch, and Ulrich 2007), little attention has focused on how the role shift itself has influenced the consumer, both in terms of the self-design experience and evaluations of the subsequent outcome.

*C. Page Moreau is associate professor of marketing, Leeds School of Business, University of Colorado, UCB 419, Boulder, CO 80309 (page.moreau@colorado.edu). Kelly B. Herd is a doctoral student in marketing at the Leeds School of Business, University of Colorado, UCB 419, Boulder, CO 80309 (kelly.herd@colorado.edu). The authors gratefully acknowledge the helpful input of the editor, associate editor, and four reviewers. The authors would like to thank Don Lehmann, Paul Herr, and Caleb Warren for their comments on earlier drafts of this article.

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Consumers who purchase self-designed products are effectively rejecting the professionally designed alternatives offered by the manufacturer in favor of ones they feel more accurately meet their own needs and wants. Consumers believe they have much better access to their own tastes and preferences than do anonymous designers, and the empirical research to date suggests that, holding product quality constant, most consumers show a dramatic preference for their own individual designs (e.g., Deng and Hutchinson 2009; Franke and Piller 2004). Surprisingly limited research exists, however, to explain such dominant preferences.

Superior fit alone may be responsible for the premium. However, when consumers choose to assume the role of the designer, they implicitly relinquish professional expertise and talent, a move that may have some subtle but significant effects on the evaluations of their self-designed products. Specifically, this role shift may prompt comparisons with the designers of comparable products. As social comparison theory (Festinger 1954) has repeatedly shown, almost every self-evaluation carries more weight in a comparative context (Mussweiler, Gabriel, and Bodenhausen 2000).

In this article, we use three studies to demonstrate that consumers' social comparisons to the designers of comparable products influence evaluations of their own creations. Since professionally designed, "off-the-rack" alternatives often serve as a basis of comparison for one's own designs, the first two experiments examine how social comparisons

with the designers of these products influence consumers' evaluations. These experiments also identify two key moderators useful in overcoming the negative effects of an upward comparison to a professional designer. A third study uses a real online design task to gain understanding of how the timing of the social comparison moderates the direction of the comparison (upward vs. equivalent) to influence self-evaluations. In this study, designs are created, orders are placed, and products are produced to specification. The design of this study enables us to extend recent work in social comparison theory by focusing on the motivational and behavioral consequences of the comparison (e.g., Johnson and Stapel 2007; Lockwood and Pinkus 2008, 251).

Together, these studies demonstrate how threats generated by upward comparisons with professional designers can be both overcome and leveraged to influence evaluations of self-designed products. The contributions of this research are threefold. First, prior research has focused exclusively on the relationship between social comparison information and evaluations of the self. We demonstrate that the influence of comparison information is more widespread, extending beyond self-evaluations to evaluations of products that are self-designed. Second, our research shows that consumers' behavior following an upward and potentially threatening comparison can influence subsequent evaluations. Although this mechanism has been hypothesized (Johnson and Stapel 2007), it has not been fully tested. Third, and more generally, our research identifies the important influence that social comparison information can have on the premium consumers place on their self-designed products. The prevailing belief is that consumers value customized products because the products better match their ideal, internally held preferences (Arora et al. 2008, 313) and because consumers play an active role in the design process (Franke, Schreier, and Kaiser, forthcoming). While these factors are clearly important, our findings demonstrate that external factors can also significantly influence consumers' evaluations of their products. Thus, the work has implications for firms striving to optimize the design experience for consumers and to increase both self-evaluations and product satisfaction.

SOCIAL COMPARISON AND SELF-DESIGNED PRODUCTS

Social comparison research has consistently demonstrated that people have an intense interest in gaining self-knowledge and spend a significant amount of time involved in self-reflective, comparative thought (Csikszentmihalyi and Figurski 1982; Mussweiler and Ruter 2003). Thus, consumers' evaluations of self-designed products are likely to be based on the outcomes of two key comparisons. First and most obvious is the comparison with the style, execution, and details of other comparable products. Second and more

subtle is the social comparison with the skills, talent, and expertise of the designers of those other products.

Consumers who undertake creative tasks are motivated, in part, by a sense of autonomy (Dahl and Moreau 2007). One might expect these consumers to rely primarily on their own internal standards when evaluating their creations. Yet research has shown that the innate drive to look externally for comparison information is quite strong (Klein 1997; Mussweiler and Ruter 2003; Mussweiler, Ruter, and Epstude 2004). Thus, we propose that self-designers will engage in social comparisons with the designers of comparable products and that the outcome of these comparisons will influence evaluations of their own self-designed products.

Professionals often have a significant advantage, either real or perceived, over consumers, in terms of their knowledge, training, and experience. When a comparable product is designed by a professional, the consumer self-designer faces an upward social comparison on these dimensions. Much of the recent research on upward comparisons has focused on how individuals cope with the threats they create (Argo, White, and Dahl 2006; Schwinghammer, Stapel, and Blanton 2006), indicating that upward comparisons generate negative information about the self.

If these upward comparisons occur spontaneously, marketers and manufacturers offering self-designed products need to understand ways to avoid or mitigate their negative influences. One possibility would be to change the direction of the comparison. Rather than use professionals as default designers, marketers could highlight default designs created by other consumers. While this practice may raise some interesting ethical issues, it is a strategy employed by a growing number of companies, including Threadless (Heim, Schau and Price 2008; Humphreys and Grayson 2008), Spoonflower, and Lego. When a consumer spontaneously compares his or her own design to one created by another consumer, there should be no significant social comparison differences based on professional training and experience.

For many manufacturers, however, providing consumer-designed defaults may be either implausible or undesirable. For these firms, the negative effects of an upward comparison could be reduced by including some guidance and advice during the design process (Randall, Terwiesch, and Ulrich 2005). Ideally, the guidance would imbue the consumer with the feelings that accompany the training, skill, and experience of the professional without taking away from the perceived autonomy that motivated the self-design decision in the first place (Dahl and Moreau 2007).

Holding the actual design characteristics of the comparison product constant, the preceding discussion leads to the following hypothesis, which is tested in study 1:

- H1a:** When the default product is professionally designed, evaluations of self-designed products will be lower than evaluations when the default product is consumer designed.
- H1b:** The provision of guidance during the design process will attenuate this effect.

STUDY 1

Design and Procedure

Participants were 105 undergraduates from the University of Colorado who participated in this study for course credit. As a cover story, participants were told that the study was about products targeted to members of their demographic group. To increase involvement, participants were offered the opportunity to enter a lottery for the target product. In reality, the stimuli used for all participants was an L.L. Bean backpack that was selected because it both is relevant to the participant population and can be plausibly customized on only its aesthetic dimensions.

Two factors were manipulated between participants: (1) designer of the default backpack (professional vs. consumer) and (2) customization guidance (present vs. absent). Critically, all participants viewed the exact same color version of the default backpack from L.L. Bean (see fig. A1 in the appendix). Upon arriving, participants were randomly assigned to one of the four experimental conditions and were given a packet containing the manipulations. After hearing the cover story and the lottery option, participants were exposed to the picture of the default backpack and the designer manipulation. Participants were then informed that the L.L. Bean Web site offers consumers the option of customizing their backpacks. Participants were asked whether, if they were truly in the market for a new backpack, they would like the chance to customize the one they had just viewed (yes or no). If they answered yes, participants proceeded to the customization task (described below) and subsequently to the dependent measures, covariate measures, and lottery form. If participants answered no, they proceeded straight to the covariate measures and lottery form. For those who chose the customization task, the entire study took approximately 25 minutes to complete.

Independent Factors

Designer of the Default Product. All participants were shown a color picture of the default backpack (see fig. A1) along with the text: "L.L. Bean has just announced its new backpacks for 2007. Rather than rely on marketing research, which is typically done, the company decided to try a new approach for the design." In the professional condition, the text continued, "The company leaders picked representatives from the marketing department to choose colors based on their preferences and the color combinations they believed would be well accepted by the company's target consumers. Here is the final product." In the consumer condition, the text stated, "The company sponsored a contest in which consumers each created a color combination that they thought would be well-received by other customers. Here is one of the award winners."

It was crucial that, when combined with the picture, no differences in the perceived attractiveness or quality of the default backpack emerged across the two conditions. Establishing this fact is important to ensure that any subsequent

differences in evaluations of self-designed products can be attributed to the designer, not to the actual design itself. Thus, a pretest was conducted in which the designer manipulation was paired with the picture of the default backpack. Thirty-five participants from the same population were randomly assigned to one of the two designer manipulations described above, viewed the picture of the default backpack, and responded to measures about the default product.

On six 9-point scales, participants reported their evaluations of the backpack. The items included the degree to which participants agreed that the backpack was a good product and was well-designed, how stylish and attractive they thought it was, how much they thought they would enjoy using it, and how likely they thought other students on campus would like it.

All items loaded on a single factor and were averaged to create an overall measure of evaluation ($M = 6.3$; range = 2.2–9.0; $\alpha = .88$). The pretest revealed no differences in evaluations of the backpack between those who believed it was designed by professionals and those who believed it was designed by another consumer ($M_{\text{cons.}} = 3.8$ vs. $M_{\text{prof.}} = 3.8$; NS).

Customization Guidance. All participants who chose to customize the backpack were given a palette of 20 colors along with a black-and-white drawing of a backpack indicating the areas for which they could choose their colors (see fig. A1). Below the drawing were spaces in which participants could indicate their color choices. In the "no guidance" condition, participants were told, "If you chose 'Yes' to the customization option, please take a moment to consider the color combination that you would choose." In the "guidance" condition, the following information was also provided, which was adapted directly from the L.L. Bean Web site's instructions for its Custom Super Deluxe Book Pack (<http://www.llbean.com/>): "Attached is a list of 20 different color choices. You may choose colors for the 5 parts of the backpack, which are listed below. Please choose no more than three colors total. We suggest you start with a body color and then add one or two more colors as an accent. Too many colors can sometimes be overwhelming. Try darker colors for a conservative, timeless style. Or use bright, high-energy colors to show off your distinct personality. Experiment with high contrast—dark and light colors together can create depth and visual interest."

A pretest was conducted to gain understanding of the influence of the guidance manipulation on those undertaking the customization task. Recall that, ideally, the guidance would give consumers feelings that would help them overcome the negative effects of an upward comparison with professionals while at the same time not severely limiting their perceptions of autonomy. Forty-nine participants from the same population were randomly assigned to one of the two guidance conditions. All participants completed the customization task and responded to a set of dependent measures regarding their experiences during the customization task. The items were submitted to an exploratory factor analysis, and three factors emerged.

Four items loaded on the first dimension, indicating how talented, confident, competent, and intelligent participants felt while customizing the backpack. These items seemed to capture perceptions of competence and were averaged to create an index ($M = 4.9$; range = 1.0–8.3; $\alpha = .86$). Four items loaded on the second dimension, which appeared to capture autonomy. These items indicated the extent to which the participants were able to express their creativity, be original in their designs, and have the autonomy and freedom to express their taste in their designs ($M = 5.7$; range = 1.0–9.0; $\alpha = .80$). The third dimension was related to effort, with the final four items indicating how much effort the task required, how hard participants concentrated, how hard they thought about the task, and how overwhelming they found the task ($M = 3.0$; range = 1.0–7.8; $\alpha = .78$).

Each of the three indices was used as a dependent measure to test for differences between the types of guidance. The only significant difference that emerged was on the competence dimension. Participants for whom the guidance was present felt greater levels of competence during the customization task than did those for whom the guidance was absent ($M_{\text{pres.}} = 5.2$ vs. $M_{\text{abs.}} = 4.4$; $F(1, 48) = 4.86$, $p < .05$). As intended, the manipulation did not influence perceptions of autonomy ($M_{\text{pres.}} = 5.9$ vs. $M_{\text{abs.}} = 5.7$; $F(1, 48) = 0.76$, NS), nor did it significantly influence the perceived amount of effort required ($M_{\text{pres.}} = 3.2$ vs. $M_{\text{abs.}} = 2.7$; $F(1, 48) = 3.5$, $p > .05$). While the effect of the guidance manipulation on perceived effort was not statistically significant for this set of instructions, the pattern of data suggests that adhering to the guidance provided may require more effort than customizing a product in its absence does. Such a possibility should be considered when attempting to generalize to other contexts.

Dependent Measures

Decision to Self-Design. Participants chose whether they wanted to customize the default backpack. This decision did not affect whether they could enter into the lottery.

Evaluations of the Self-Designed Backpack. Participants' evaluations of their self-designed backpacks were measured using the same six items used to evaluate the default backpack in the pretest, reworded appropriately. All items loaded on a single factor and were averaged to create an overall evaluation index ($M = 6.3$; range = 3.0–9.0; $\alpha = .92$). Only the participants who chose to customize the backpack provided data for these measures.

Results

Decision to Self-Design. Of the 105 participants, 90% chose to self-design, a result that was rather surprising. Although it was not blatantly emphasized, participants were free to leave the experimental session when they had completed this study. Choosing to self-design the backpack required more time, and even though the vast majority of those

making this choice were not going to actually receive the customized backpack, they still chose to invest the time. With such low variance on this measure, however, it is not surprising that no significant differences emerged between the proportion choosing to self-design after seeing the professional-designed default (92%) and the proportion choosing to self-design after seeing the consumer-designed default (89%).

Evaluations of the Self-Designed Backpack. A two-way ANOVA was used to test hypothesis 1 and to assess the influence of the two manipulated factors on participants' evaluations of their own self-designed backpacks. Participants' attitudes toward L.L. Bean were used as a covariate in the analysis to control for differences in brand attitudes across participants. When the designer of the default product was a professional instead of another consumer, participants' evaluations of their own self-designed products were lower ($M_{\text{prof.}} = 6.0$ vs. $M_{\text{cons.}} = 6.6$; $F(1, 94) = 4.49$, $p < .05$). This main effect, however, was qualified by a significant interaction ($F(1, 94) = 4.05$, $p < .05$). Consistent with hypothesis 1a, this effect was significant when no guidance was provided ($M_{\text{prof., no guide}} = 5.7$ vs. $M_{\text{cons., no guide}} = 6.7$; $F(1, 44) = 7.39$, $p < .01$). However, participants who received guidance did not show evidence of the upward comparison's negative effects ($M_{\text{prof., guide}} = 6.3$ vs. $M_{\text{cons., guide}} = 6.5$; $F(1, 49) = 0.69$, NS) consistent with hypothesis 1b. Participants' attitudes toward L.L. Bean were unaffected by the manipulations, and when they were removed as a covariate, the results were replicated but with somewhat weaker effects.

Discussion

The findings of this study are important on two levels. First, a comparison of the mean evaluations of the default backpack ($M = 3.8$) with those of the self-designed backpacks ($M = 6.3$) highlights the premium value consumers place on products that they have self-designed, a finding previously documented in the literature (Franke and Piller 2004). Prior studies that have demonstrated such premiums have given participants the actual products (e.g., watches). The replication here provides confidence in the realism of our manipulations.

Second, this study provides evidence that an upward social comparison can occur when consumers take over design authority from a professional. Importantly, evidence of the social comparison emerged in evaluations of the self-designed products, indicating that these effects can extend beyond direct evaluations of the self. The data indicate that participants facing an upward comparison to a professional processed the social comparison information nondefensively, integrating the negative information into the evaluations of their self-designed backpacks (Schwinghammer et al. 2006). The provision of guidance apparently mitigated the amount of negative information generated by the comparison. In contrast, participants engaged in a comparison with another consumer likely generated little negative com-

parison information to begin with. As such, the guidance provided had no significant influence on their evaluations.

DEFENSIVE VERSUS NONDEFENSIVE PROCESSING

Since not all consumers are likely to be receptive to guidance during self-design tasks, nor are all firms willing or able to provide it, identifying other means for overcoming the negative influence of upward comparisons is important. The nondefensive processing observed in study 1 resulted in lower self-evaluations. Could consumers be encouraged to process the negative comparison information defensively rather than nondefensively? Defensive processing occurs when the need to protect self-esteem is salient (Taylor and Lobel 1989; Wood 1989) and is often evidenced by self-serving behaviors designed specifically to protect the individual's self-image (e.g., Argo et al. 2006; Kunda 1990; Stapel and Koomen 2001; Tesser, Millar, and Moore 1988). Although prior research has identified a number of defensive strategies, one tactic is particularly relevant in the self-design context: diminishing the valuation of the comparison target (e.g., the default backpack). Schwinghammer et al. (2006) argue that by denying the attractiveness of the comparison target, the threat of an upward social comparison can be reduced (29).

In study 1, participants did not have the opportunity to diminish the value of the comparison target; thus, upward comparisons produced nondefensive reactions to the negative comparison information. When consumers are given the opportunity to process defensively before customizing and evaluating their own products, however, we expect that the negative information generated by an upward comparison will no longer be incorporated into self-evaluations. By denying the attractiveness of the default product, consumers can effectively cope with the upward threat, and subsequent self-evaluations should no longer reflect the negative information generated by the comparison. More formally,

- H2a:** When defensive processing is not enabled, evaluations of self-designed products will be lower when the default product is professionally designed rather than consumer designed.
- H2b:** Enabling defensive processing will attenuate this effect.

STUDY 2

In this study, we use the same stimuli, procedure, and manipulations as in study 1, with the following two important changes: (1) no guidance was provided to any of the participants, and (2) a new manipulation was added to enable defensive processing. Specifically, defensive processing was enabled for half of the participants by allowing them to evaluate (and therefore potentially diminish the value of) the default backpack with the full knowledge that

they would be customizing their own backpack. The other half of the participants evaluated the default backpack before learning about their own customization opportunity. This group was effectively denied the opportunity to diminish the value of the default.

These two changes yielded a 2 (designer of the default backpack: professional vs. consumer) \times 2 (defensive processing: enabled vs. disabled) between-participants experiment. Participants were 146 undergraduates at the University of Colorado who completed the study in exchange for course credit.

Dependent Measures

Decision to Self-Design. Participants chose whether they wanted to customize the default backpack. This decision did not affect whether they could enter into the lottery.

Evaluations of the Self-Designed Backpack. Evaluations of the self-designed backpacks were measured with the same instrument used in study 1. All items loaded on a single factor and were averaged to create an overall evaluation index ($M = 5.8$; range = 2.7–9.0; $\alpha = .92$).

Results

Decision to Self-Design. As in study 1, a large percentage (82%) of the 146 participants chose to self-design ($n = 120$). No differences in participation rates were observed across conditions.

Evaluations of the Self-Designed Backpack. A two-way ANOVA was used to test the effects of the manipulated variables on participants' evaluations of their self-designed backpacks. As in study 1, participants' attitudes toward L.L. Bean were unaffected by the manipulations and were included as a covariate. Consistent with hypothesis 2, the results revealed only an interaction between the two factors ($F(1, 119) = 5.25, p < .05$). With defensive processing disabled, participants facing an upward social comparison incorporated the negative information into their self-evaluations in a manner consistent with nondefensive processing and with the results observed in study 1 ($M_{\text{prof.,disable}} = 5.3$ vs. $M_{\text{cons.,disable}} = 6.4$; $F(1, 56) = 6.88, p < .01$). When defensive processing was enabled, however, participants had the chance to diminish the threat of an upward comparison, and no differences emerged in the self-evaluations consistent with hypothesis 2b ($M_{\text{prof.,enable}} = 5.9$ vs. $M_{\text{cons.,enable}} = 5.8$; $F(1, 62) = 0.29, \text{NS}$). Importantly, when participants faced the upward threat from a professionally designed default, the ability to process defensively significantly influenced evaluations of the self-designed backpacks ($M_{\text{prof.,enable}} = 5.9$ vs. $M_{\text{prof.,disable}} = 5.3$; $F(1, 58) = 3.75, p < .05$). This finding provides more evidence that diminishing the value of the comparison target can mitigate its threat.

Discussion

The results from study 2 demonstrate that enabling consumers to process upward social comparison information defensively can enhance the evaluations of their self-designed products. Rather than incorporate the negative comparison information into their self-evaluations, defensive processors diminished the value of the comparison target.

Together, the first two studies consistently demonstrate that the nondefensive processing of upward comparison information results in lower evaluations of one's own design. The provision of guidance (study 1) and the opportunity to diminish the valuation of the comparison target with defensive processing (study 2) work in different ways to restore these evaluations. Recent research in social comparison theory has identified another defensive mechanism, this one behavioral, by which consumers may also cope with threatening information from an upward social comparison (Johnson and Stapel 2007; Lockwood and Pinkus 2008). Specifically, Johnson and Stapel (2007, 1053) propose that "when individuals feel threatened by an upward comparison target, they will be motivated to protect or repair their self-evaluations, and one means for self-regard repair is improved performance" on a subsequent task.

THE BEHAVIORAL CONSEQUENCES OF SOCIAL COMPARISON IN SELF-DESIGN

Research examining the influence of upward social comparisons on individuals' behavior has produced equivocal results (Johnson and Stapel 2007; Lockwood and Pinkus 2008). In some cases, superior others serve as role models to motivate self-improvement (e.g., Blanton et al. 1999; Lockwood and Pinkus 2008; Taylor and Lobel 1989); in others, they reduce self-concepts and lead to diminished performance (Guay, Marsh, and Boivin 2003). Johnson and Stapel (2007) assert that the inconsistencies in this prior research can be attributed to the presence or absence of an opportunity to repair a threatened self-regard (i.e., an opportunity to engage in an ensuing task that is related to the domain in which the individual was threatened).

Johnson and Stapel (2007) hypothesized and found that higher threat perceptions were related to higher performance on subsequent tasks. Their studies manipulated the type of comparison target (extreme upward, moderate upward), measured the effect on self-evaluations, and measured the effect on task performance. Their research, however, did not provide evidence that the improved task performance had a positive influence on subsequent self-evaluations. In fact, they note that "future studies examining the efficacy of performance as a means of self-regard repair would be useful" (1055).

Our third study is designed to do just that, with the context of a contest hosted by a real Web site offering consumers the opportunity to self-design products. The direction of the social comparison is manipulated by varying the nature of the self-designers expected to enter the contest (consumers vs. professionals). We chose the contest context, in part,

because firms across a wide range of industries are using competitions to generate and evaluate consumers' design ideas and other forms of consumer-generated content. Threadless, for example, has experienced revenue growth of 500% per year by holding T-shirt design competitions; at Threadless, both the designs and their evaluations are done by consumers (Chafkin 2008). Other examples include Tree Hugger, which sponsors a furniture design competition for consumers, and Spoonflower, which hosts a "fabric-of-the-week" contest (Scelfo 2009).

We propose that competing to publicly demonstrate one's design ability can serve as a means for repairing or enhancing self-regard, an opportunity likely to be particularly appealing to those whose self-evaluations have been threatened by an upward comparison. While some design contests do offer a cash reward to the winner, almost all of them offer some level of public recognition as a prize. Actively pursuing (and achieving) such recognition is likely to serve as a means for improving one's self-evaluations in the design arena. At Threadless, for example, the appeal to artists is much less about the monetary reward (\$150 in 2004) and much more about the visibility associated with having their shirt available for sale (Chafkin 2008).

The benefits of a contest to self-evaluations, however, should be observed only when the contest creates a repair opportunity by allowing the consumer to work explicitly toward the goal of winning. By choosing to compete, people can work intentionally to demonstrate their competency in the threatened domain to both themselves and others. Such a situation would occur when a contest is announced before the self-design opportunity. When the contest does not provide such a repair opportunity (e.g., if it is announced after the design process is complete), the degree to which the person's ability is threatened is unlikely to influence the appeal of the contest and, thus, self-evaluations.

More formally, we advance the following:

- H3a:** When a social comparison is followed by a repair opportunity, upward comparison targets (i.e., professional designers) will yield higher evaluations of self-designed products than will equivalent comparison targets (i.e., consumer designers).
- H3b:** When a social comparison is not followed by a repair opportunity, evaluations of self-designed products will be unaffected by the type of comparison target.

In the following study, all participants have the opportunity to process the comparison information defensively by diminishing the value of the comparison targets (i.e., the other potential contest entrants) before providing self-evaluations. Were such an opportunity unavailable, we would expect to observe lower evaluations for those facing the upward rather than the equivalent comparison targets when the comparison follows the repair opportunity.

STUDY 3

Stimuli and Procedure

Several criteria were used to select the product for this study: (a) affordability (since participants would receive the self-designed product created), (b) relevance to the participant population (University of Colorado undergraduates), and (c) customization dimensions (products that offered aesthetic but not functional customization opportunities were considered). Customizable vinyl "skins" for electronic devices (e.g., cell phones, MP3 players) met all three criteria. MyTego.com agreed to work with us, providing us with unique coupon codes for 50% off the skins' face value and individually packaging and batch shipping our orders.

Participants were 93 undergraduates from the University of Colorado who participated in this study in exchange for both course credit and receipt of the self-designed product. The study was administered using online survey software (Survey Monkey), and participants completed the study at the time and location of their choosing (within a 48-hour window). The intent was to create a study atmosphere that most closely approximated a real world setting. While participants' motivation for participating in the study was certainly influenced by their course participation credit, seven other experiments were available to them at the time. Thus, some self-selection was involved, further adding to the study's realism.

Participants all received an e-mail message containing their identification number, \$10 coupon code, and link to the online survey. Upon opening the survey, participants were asked to agree to complete the study in one sitting and in a private setting relatively free from distractions. They then were provided with an overview of the study, were exposed to the manipulations, and were directed to open the MyTego.com Web site in another browser in which they proceeded to design their skin. Although MyTego.com allows customers to upload their own pictures to use in their designs, we instructed our participants not to do this but rather to use the library of design options provided on the Web site. Even with this restriction, participants were able to choose one or more of the more than 300 stored designs, select the parts of them they wanted, and alter the size and orientation to create their design (see fig. A2 for examples). On MyTego.com, consumers can experiment with various designs, viewing the outcomes as they work.

Once they finished designing their skin, participants completed the dependent measures, using the online survey. When the shipment of skins arrived, participants were e-mailed and informed of the location and times for pick up.

Design

Two factors were manipulated between participants: (1) the timing of the social comparison (before the design task vs. after the design task) and (2) the direction of the social comparison (upward: professional designers vs. equivalent: consumer peers).

Independent Factors

Timing of the Social Comparison. Half of the participants were provided with the social comparison information (via the contest announcement) before going to MyTego.com to begin designing their skin. These participants had an opportunity to repair or enhance a threatened self-regard via their performance on the design task. The other half were informed of the contest just after they finished designing their skin, leaving them with no opportunity to use the design task to repair or enhance their self-regard. All dependent measures (including the decision to enter the contest) were collected after participants had completed the design process. Importantly, evaluations of the self-designed products for all participants were collected after they were exposed to the contest announcement, thus allowing all participants an equal opportunity to engage in other defensive coping strategies.

Direction of the Social Comparison. The type of competition faced in the contest was used to manipulate the direction of the social comparison (upward: professional designers vs. equivalent: consumer peers). When informed of the contest, all participants were given the following information: "The web site where you'll be customizing your skin does a lot of business with college students, and they want to better understand and communicate with the customers in this group. To do so, they have identified the University of Colorado as a representative market. The company is sponsoring a contest for the best skin design." In the professional condition, the following statement was then included: "Up until now, professional designers have competed to have their designs displayed on the company's home page. This year, the company is opening up the contest by including a small percentage of designs produced by college students."

All participants were then given a bulleted list of the contest specifics, detailed below for the professional [consumer] conditions:

- The company will post the winning design as an award-winner on their home page for the first 6 months of 2009.
- The winner will have the option of how (or if) they would like their name displayed along with the design. No one will be able to purchase that exact design, but it will be prominently displayed.
- The total number of contest participants, primarily professional designers, is expected to be around 100. [The only possible entrants into the contest will be BCOR (undergraduate business core) students participating in this study at the University of Colorado. The number of entrants is expected to be around 100.]
- A panel of professional designers [a panel of other students participating in this study] will select the best design from among those entered.

Dependent Measures

Decision to Enter the Contest. Upon completion of the design task, all participants were asked to indicate whether they wanted to enter their skin into the competition.

Evaluations of the Self-Designed Skins. In addition to the evaluation measure used in the prior two studies, we collected an additional indicator of participants' evaluations of their self-designed products: their expectations of others' willingness to pay. Participants' evaluations of their self-designed skins were measured using the set of six items adapted from those used in the prior studies. Specifically, participants indicated the degree to which they agreed that their skin was well-designed, stylish, attractive, and close to their ideal, how much they thought they would enjoy using it, and how much they thought that other students on campus would like it. All items loaded on a single factor and were averaged to create an overall evaluation measure ($M = 5.21$; range = 1.0–7.0; $\alpha = .90$).

Because participants had such a strong reference price for the skin they had just designed (given the salient \$10 coupon), we asked them a willingness-to-pay question designed to free them of that anchor. Specifically, we asked, "How much do you think other students (who are unfamiliar with the pricing on the MyTego website) would be willing to pay for the skin you just designed if it fit their cell phone or MP3 player?" ($M = \$8.45$; range = \$0–\$30).

Results

Evaluations of the Self-Designed Skins. A MANOVA was used to test hypothesis 3, with the two independent factors and their interaction serving as predictors of the two evaluation indicators. Only the interaction was significant ($\lambda = .92$, $F(2, 89) = 3.69$, $p < .05$).

To better interpret this interaction, separate ANOVAs were run on each evaluation indicator. For the evaluation measure, only the interaction was significant ($F(1, 92) = 4.06$, $p < .05$). Consistent with hypothesis 3a, when the social comparison was followed by the design task, participants facing an upward comparison reported significantly higher self-evaluations than did those facing an equivalent comparison: ($M_{\text{prior, upward}} = 5.6$ vs. $M_{\text{prior, equiv.}} = 4.6$; $F(1, 46) = 6.67$, $p = .01$; see fig. 1A). When the social comparison occurred after the design task, no significant differences emerged ($M_{\text{after, upward}} = 5.5$ vs. $M_{\text{after, equiv.}} = 5.4$; $F(1, 45) = 0.05$, NS), as predicted by hypothesis 3b.

For participants' expectations of others' willingness to pay for their skin, the pattern of results is also consistent with hypothesis 3. Overall, others were expected to pay more for the skins after an upward rather than an equivalent social comparison ($M_{\text{upward}} = \$10.04$ vs. $M_{\text{equiv.}} = \$7.56$; $F(1, 92) = 4.58$, $p < .05$). This main effect was qualified by a significant interaction ($F(1, 92) = 5.62$, $p < .05$). As predicted by hypothesis 3a, when the design task followed the social comparison, participants facing an upward com-

parison had significantly higher expectations of others' willingness to pay than did those facing an equivalent comparison ($M_{\text{prior, upward}} = \12.51 vs. $M_{\text{prior, equiv.}} = \6.62 ; $F(1, 46) = 7.81$, $p < .01$; see fig. 1B). When the design task occurred before the social comparison, no significant differences emerged on this measure ($M_{\text{after, upward}} = \8.15 vs. $M_{\text{after, equiv.}} = \8.45 ; $F(1, 45) = 0.13$, NS), consistent with hypothesis 3b.

The results for both of these indicators are consistent with hypothesis 3. However, it is interesting to note that their patterns differ to some extent. For evaluations, an upward comparison before the design task resulted in evaluations similar to those observed when the comparison (upward or equivalent) followed the design task. For expectations of others' willingness to pay, however, an upward comparison before the design task yielded expectations higher than those observed when the comparison followed the design task. The difference between these two measures is that one is projective (others' willingness to pay) while the other is not (self-evaluations). Because it encourages participants to view their self-designed product from a more objective vantage point, this projective measure may have better enabled participants to exclude some of the negative information initially generated by the upward comparison.

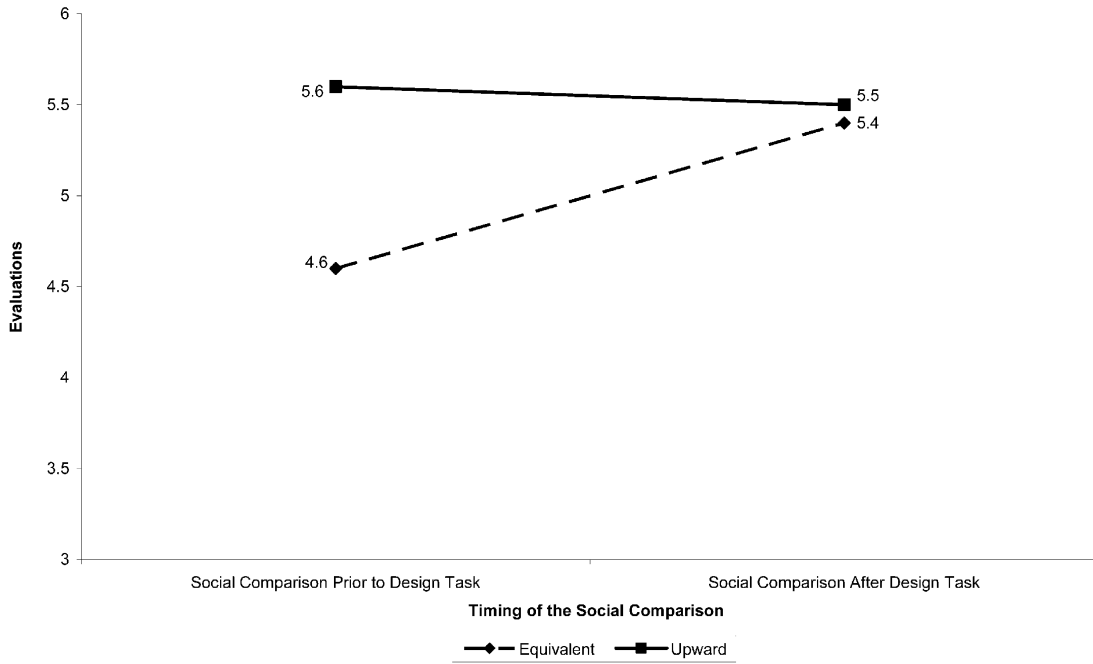
Decision to Enter the Contest. A logistic regression model was used to predict the likelihood that participants would choose to enter their design into the contest. The independent factors and their interaction were used as predictors. The results revealed a significant interaction between the variables ($\chi^2(1, 92) = 4.51$, $p < .05$). When the social comparison occurred before the design task, 62% of those facing an upward comparison to professional designers chose to enter the contest, compared with 32% of those facing an equivalent comparison to their peer consumers. When the social comparison occurred after the design task, the type of comparison had no significant influence on the contest entry decision (upward: 33% vs. equivalent: 38%).

Earlier, we proposed that competing to publicly demonstrate one's design ability (by entering the contest) could serve as a means for repairing or enhancing a threatened self-regard. As noted, nearly twice as many participants who were given this opportunity took it when the direction of the comparison was upward rather than equivalent. To understand whether the contest entry decision could account for the pattern of evaluations observed in this study, a mediation test was used (Baron and Kenny 1986). As described above, the interactive effect of the independent variables is a significant predictor of evaluations in the MANOVA ($F(2, 89) = 3.69$, $p < .05$). Further, the same interaction significantly predicts the proposed mediator, contest entry decision ($\chi^2(1, 92) = 4.51$, $p < .05$). When the contest entry decision is included as a covariate in a MANCOVA, its effect is significant ($F(2, 88) = 7.93$, $p < .001$), and the interactive effect of the independent variables falls below significance ($F(2, 88) = 2.54$, $p > .05$). Together, these find-

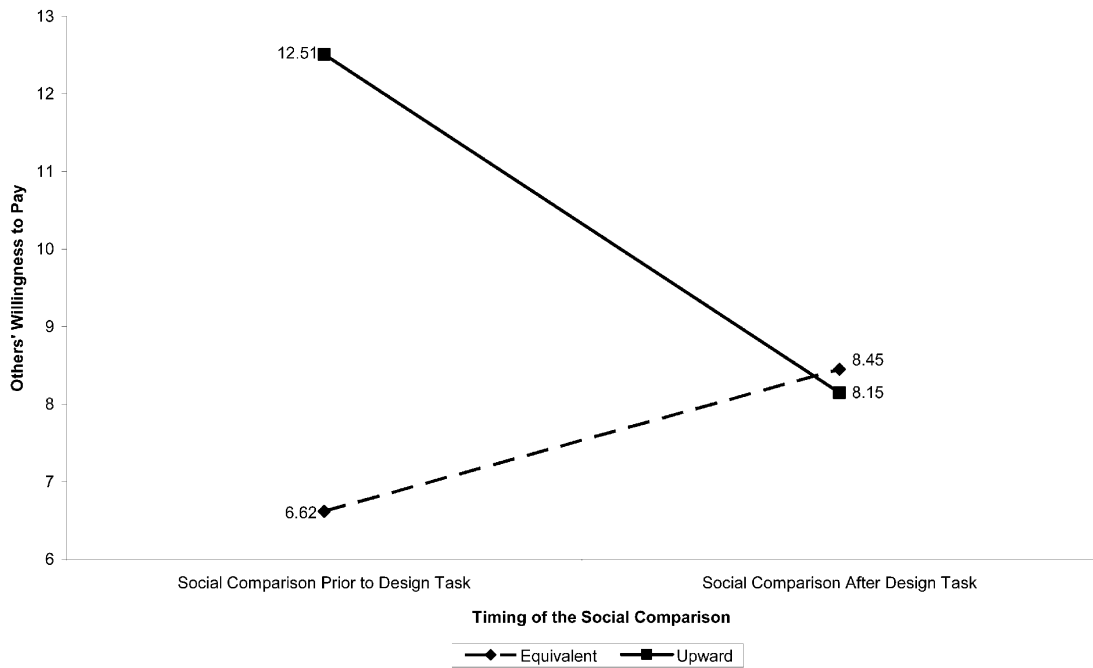
FIGURE 1

THE INFLUENCE OF THE TIMING AND DIRECTION OF THE SOCIAL COMPARISON INFORMATION ON EVALUATIONS OF SELF-DESIGNED PRODUCTS (STUDY 3)

A) Evaluations



B) Others' Willingness to Pay



ings indicate that the contest entry decision mediates the interactive effects of the independent variables on evaluations, providing support for the proposition that actively competing in a contest is a mechanism by which consumers can repair or enhance their threatened self-regard.

Discussion

Theoretically, this study extends recent work in social comparison theory by demonstrating that when upward social comparisons precede an opportunity to repair one's self-regard, subsequent evaluations of self-designed products are higher than evaluations made when no such upward threat exists. Further, these findings show that participants who faced that upward threat before designing their skins were almost twice as likely to enter the contest as those either facing a lesser threat or those informed of the contest after the design task. Because entering the contest can serve as a way to publicly repair one's threatened self-regard, this finding provides further evidence documenting the mechanism proposed by Johnson and Stapel (2007).

Managerially, this study provides more insight into the success of firms, such as Threadless, that host design contests that reward consumers for their creativity and design ability. While some design contests do offer a cash reward to the winner, almost all of them offer some level of public recognition as a prize: Tree Hugger presents the winning furniture design at a trade show (attributed to the designer), and Threadless displays the winning T-shirts on its Web site and prints the name of the designer on the label of those sold (Ogawa and Piller 2006). Our findings show that knowledge of the competition before the design task can increase the subjective value consumers place on their self-designed products, provided that the competition is perceived as sufficiently threatening. By enabling consumers to compete against professionals, firms may be able to maximize consumer involvement and participation in self-design, as well as other strategically important activities. One way these firms may ensure that their contests will be motivating to consumers is to create a tension between the professional designers and consumer designers who have equal access to the Web sites or communities.

GENERAL DISCUSSION

In 2006, *Time* magazine named "you" its Person of the Year "for seizing the reins of the global media, for founding and framing the new digital democracy, and for working for nothing and beating the pros at their own game" (Grossman 2006). As consumers increasingly assume roles traditionally performed by professionals, understanding the factors that influence them is critical for managers whose goals are to identify these consumers, design marketing strategies to communicate with them, and develop new interfaces to optimize their experiences. This research focuses on one arena in which such a role shift is occurring: self-design.

Theoretical Contributions and Opportunities for Future Research

The vast majority of research in consumer behavior has examined how consumers respond to products offered on a "take it or leave it" basis by the manufacturer. Self-design changes the rules substantially, allowing consumers to play a much more active role in the process. Together, these three studies demonstrate that superior fit alone does not fully explain consumers' dominant preferences for self-designed products. More subtle factors, such as social comparisons to other designers, also influence consumers' evaluations.

Together, all three studies demonstrate that the information generated by social comparisons can be incorporated into judgments that extend beyond the immediate self and into judgments of products reflective of the self. This finding has important theoretical and substantive implications as consumers play a larger role in designing products to suit and express their identity. These studies further show that the premium that consumers place on these customized products is determined not only by internal standards but also by external ones. Little research has examined why and how consumers value customized products, and these studies provide some needed insight.

More specific theoretical contributions are found in the studies as they distinguish between the effects of nondefensive and defensive processing of upward comparison threats. This research shows that upward comparison threats generate negative comparison information if unaccompanied by guidance (study 1). That negative information is subsequently incorporated into evaluations of self-designed products (studies 1 and 2) unless consumers are prompted to process defensively (study 2) or are given the opportunity to repair their threatened self-regard by purposefully engaging in a related task (study 3).

The theoretical opportunities in this growth area are abundant. A broader understanding of consumers' motivation to self-design is needed. Factors related to the product, to the brand, and to the design context are also likely to play a significant role in determining whether consumers will choose to assume the designer role. Gaining this knowledge would further our theoretical understanding of consumer creativity and would also provide much-needed segmentation information for managers.

Further research is also needed to understand the influences that social factors and group dynamics have on both the design process itself as well as subsequent evaluations of the customized product. Self-design communities are enjoying tremendous growth, and consumers working together play a significant role in both the design and evaluation of the products sold in these commercial venues. Additional research might also examine the influence of the intended consumption context (private vs. public), the nature of the product (hedonic vs. functional), and the structure of the design process on consumers' motivation to self-design, their self-design experience, and their satisfaction with the outcome.

Managerial Implications

The findings presented here have implications for companies in the process of determining whether and how to allow their customers to participate in self-design. As the results demonstrate, consumers will compare their design skills with those of a relevant comparison designer when evaluating their own designs. The extent to which the company can manage the type of information that results from those comparisons may influence consumers' ultimate satisfaction with both the self-design experience and the outcome. Our results show that companies may influence the comparison information by controlling either the comparison target or the guidance available. Companies can also influence the way in which consumers process the comparison information by facilitating defensive or nondefensive strategies.

Limitations

Because our studies were intentionally constrained to focus on customization decisions that required limited functional knowledge and technical expertise, the generalizability is limited. Future work could relax these requirements for a better understanding of their influence on consumers' decisions to customize, perceptions of the process, and ultimate evaluation of and satisfaction with the outcome. A comprehensive examination of consumers' motivations to engage in self-design would also help overcome the limitation of the student sample. Overall, our hope is that the current work will generate additional interest and research for a better understanding of why consumers are choosing to take on new roles in the value chain and, when they do, how those new roles are affecting both them and the broader market.

APPENDIX

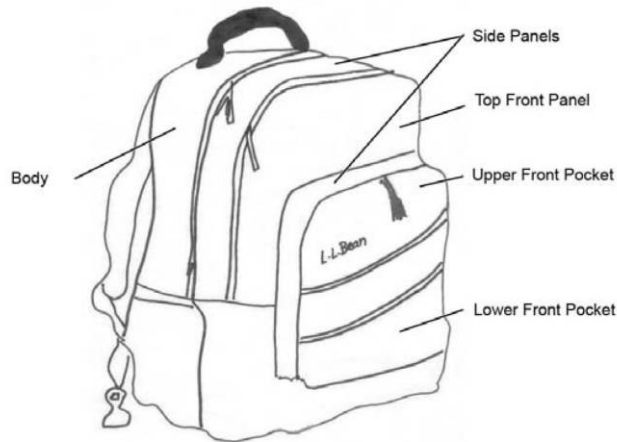
FIGURE A1

SELF-DESIGNED BACKPACK (STUDIES 1 AND 2)

The Default Backpack for Studies 1 & 2



Self-Design Task



	Black		Light Pink
	Red		Sky Blue
	Navy Blue		Dark Green
	Green		Maroon
	Purple		Cream
	Yellow		Periwinkle
	Orange		Army Green
	Pink		Light Blue
	Brown		Gray
	Violet		White

NOTE.—Color version available as an online enhancement.

FIGURE A2
SELF-DESIGNED SKINS (STUDY 3)



NOTE.—Color version available as an online enhancement.

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