<table>
<thead>
<tr>
<th>Title</th>
<th>Competing for attention: The effects of jealousy on preference for attention-grabbing products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author(s)</td>
<td>Huang, Irene Xun; Dong, Ping; Wyer Jr, Robert S.</td>
</tr>
<tr>
<td>Date</td>
<td>2016</td>
</tr>
<tr>
<td>URL</td>
<td><a href="http://hdl.handle.net/10220/42537">http://hdl.handle.net/10220/42537</a></td>
</tr>
<tr>
<td>Rights</td>
<td>© 2016 Society for Consumer Psychology. This is the author created version of a work that has been peer reviewed and accepted for publication in Journal of Consumer Psychology, published by Elsevier on behalf of Society for Consumer Psychology. It incorporates referee’s comments but changes resulting from the publishing process, such as copyediting, structural formatting, may not be reflected in this document. The published version is available at: [<a href="http://dx.doi.org/10.1016/j.jcps.2016.12.001">http://dx.doi.org/10.1016/j.jcps.2016.12.001</a>].</td>
</tr>
</tbody>
</table>
Competing for Attention:

The Effects of Jealousy on Preference for Attention-Grabbing Products

Xun (Irene) Huang

Ping Dong

Robert S. Wyer, Jr.

* Xun (Irene) Huang (huangxun@ntu.edu.sg) is assistant professor of marketing at Nanyang Business School, Nanyang Technological University, 50 Nanyang Avenue, 639798 Singapore, and an ACI Fellow at the Institute on Asian Consumer Insight, hosted by Nanyang Technological University; Ping Dong (ping.dong12@rotman.utoronto.ca) is a doctoral candidate in Marketing at Rotman School of Management, University of Toronto, 105 St. George Street, Toronto ON M5S 3E6, Canada; Robert S. Wyer Jr. (mkwyer@ust.hk) is visiting professor of Marketing at CUHK Business School, The Chinese University of Hong Kong, Shatin, Hong Kong. The preparation of this manuscript was supported by NTU Start-Up Grant (M4081651.010) awarded to the first author and Hong Kong SAR RGC research grant (453816 and 16515716) awarded to the third author.
Abstract

Jealous individuals often harbor feelings of aggression toward both their relationship partner and their rivals. However, jealousy can also have quite different effects that have implications for people’s product preferences. Five experiments converge on the conclusion that jealousy induces a desire to recapture attention from one’s partner and that this desire generalizes to unrelated situations in which the partner is not involved. Thus, jealousy increases people’s preferences for attention-grabbing products and this is true even when the public display of the products could bring negative attention. The effect of jealousy only occurs when the products are consumed in public. Finally, the influence of jealousy on product evaluations is distinguished from that of other negative emotions such as envy and feelings of powerlessness.

Keywords: Jealousy, Emotion, Attention Seeking, Product Preference
Jealousy and Product Preference

“I was always jealous of something getting more attention.”

- Robyn Hitchcock

Rose has been having a romantic relationship with Jack. However, she happens to see Jack in the cafeteria with another female student, flirting with one another and obviously having a good time. Rose feels quite jealous because Jack’s new friend is receiving the sort of attention that Jack usually reserves for her. Shortly after witnessing this situation, Rose goes shopping. Will the jealousy she feels affect the type of products she buys? For example, will she prefer a t-shirt with a big eye-catching logo design or one with a more low-key design? Our research, which investigated how incidental feelings of jealousy can affect consumers’ preference for attention-grabbing products, provides an answer to this question.

Jealousy results from the perception that one’s position in a social relationship is being usurped by another (Buss, Larsen, Westen, & Semmelroth, 1992; Buss & Haselton, 2005; DeSteno & Salovey, 1996; Harmon-Jones, Peterson, & Harris, 2009; Parrot & Smith, 1993). Thus, it stimulates aggression toward both one’s relationship partner and the rival (Daly & Wilson, 1988; de Weerth & Kalma, 1993; Dutton, van Ginkel, & Landolt, 1996; Parker et al., 2005; Paul, Foss, & Galloway, 1993). As our research indicates, however, feelings of jealousy can also affect people’s behavior in situations that are unrelated to the conditions that gave rise to them. In particular, they can influence people’s consumption preferences and the type of products they are likely to purchase.

The effect of jealousy on consumption behavior is not immediately obvious and, to our knowledge, has not previously been identified. Our conceptualization of this effect was in part based on our recognition that (a) people’s feelings of jealousy are influenced
in part by their perception that the attention they normally receive from a significant other is being usurped and (b) this perception motivates them to regain the attention they have lost. Moreover, although jealous individuals are primarily motivated to recapture the attention of the particular person whose attention they are in danger of losing. However, this motivation may have more general implications. As Wyer, Xu and Shen (2012; Custers & Aarts, 2007) suggest, goal-directed thoughts and behavior that occur in one situation can activate a more general goal concept that, once accessible in memory, can influence the behavior that is performed in an unrelated situation in which this concept is applicable. Thus, for example, if jealousy leads individuals to think about regaining the attention of their relationship partner, these thoughts may activate a more general concept associated with getting attention. If this goal concept is accessible in memory at the time individuals make a purchase decision, it could lead them to choose a product that consistent with this goal, that is, a product that is likely to capture others’ attention. Moreover, this could occur independently of the jealousy-eliciting situation that stimulated the motive.

The present research investigated this possibility. In the following pages, we first conceptualize the construct of jealousy more precisely and distinguish it from other, related constructs that might potentially influence behavioral decisions. We then elaborate the processes we assume to underlie the effect of jealousy on consumer behavior (in particular, product preferences) and circumscribe the conditions in which it occurs. Finally, we report five studies that confirm the implications of our conceptualization. These studies extend our knowledge in several ways. First, the implications of feeling jealous for behavior in situations that are unrelated to the
conditions that gave rise to these feelings have seldom if ever before been identified. Second, the effects of these feelings on product preferences have implications for the impact of advertisements that promote attention-getting products.

**Theoretical Background**

To reiterate, jealousy arises when either a real or imagined rival is perceived to threaten an important social relationship (e.g., Buss et al., 1992). It is particularly likely to be experienced when people in a romantic relationship suspect that their partner is becoming interested in someone else (Parrott & Smith, 1993). However, jealousy can emerge in other types of relationships as well. For instance, children can be jealous of a sibling’s relationship with their parents (Masciuch & Kienapple, 1993; Volling, McElwain, & Miller, 2002), workers might be jealous of a colleague’s close relationship with a supervisor (Vecchio, 2000), and consumers might be jealous of another’s relationship with a salesperson (Chan & Sengupta, 2013).

In a typical jealousy-related experience, one’s own interpersonal loss is another’s gain (Parrott & Smith, 1993; White & Mullen, 1989). As a consequence, jealousy is likely to induce a motive to compete with the other for the resources that one is in danger of losing. These resources can sometimes be tangible. For example, a boy might be jealous of his parents’ inclination to spend more money on gifts for his sister than on gifts for him. More generally, however, a key determinant of jealousy is the loss of attention. That is, jealousy results from the perception that the attention that one has come to expect from someone has been usurped.

**Relation to Other Constructs**
Jealousy should be distinguished from that of other emotional reactions. For one thing, jealousy does not result from a lack of attention in general. Rather, as Tov-Rauch (1980) note, it is a reaction to a specific person whose lack of attention is personally threatening. However, feelings of jealousy should be distinguished from feelings of rejection. Lee and Shrum (2012) identified two types of social exclusion, being ignored and being rejected, which exert very different effects on conspicuous consumption. Being ignored threatens efficacy needs and increases the desire for conspicuous consumption, whereas being rejected threatens relational needs and consequently increases prosocial behavior. If jealousy is the result of a lack of attention, its effects are likely to be similar to the effect of being ignored.

Jealousy should also be distinguished from two other emotions that can result from negative interpersonal relations: envy and feelings of powerlessness.

**Jealousy versus envy.** First, the effect of jealousy should be distinguished from the effect of envy (Miceli & Castelfranchi, 2007; Smith & Kim, 2007). Envy typically emerges when people find that another person is superior to themselves or has a possession that they do not. This contrasts with jealousy, which results from the loss of something that one already has. Thus, a man might envy a colleague whose spouse is attractive, intelligent and wealthy. However, he would be jealous if he finds that his own attractive, intelligent and wealthy partner is spending time with someone else. Individuals who experience envy are motivated to eliminate the discrepancy between themselves and the target of their emotion, either by pulling the other down or by pulling themselves up (van de Ven, Zeelenberg, & Pieters, 2009). Thus, lack of attention is not the central focus of envious individuals.
Jealousyversuspowerlessness. People who feel that their relationship with a significant other is being threatened may experience a sense of powerlessness and consequently might be motivated to regain social power. This might be done by acquiring material possessions (e.g., luxury products) that convey high social status (Rucker & Galinsky, 2008). Thus, if high-status products attract attention, feelings of powerlessness could often have an effect similar to that of jealousy. However, attention-gabbing products do not always convey high status. Thus, feeling powerless may increase the desire for high-end clothing with conspicuous designs (Rucker & Galinsky, 2009, Experiment 5). However, it should have little effect on the desire for attention-grabbing products that do not convey high social status. In contrast, jealousy induces a more general desire to seek attention that could increase preferences for eye-catching products that signal low status as well. In fact, this might be true even if the attention elicited by the products leads to social disapproval.

Effects of Jealousy on Behavior and Judgment

When individuals feel that their romantic partner’s attention to them is being usurped, they could use several strategies in an attempt to remedy this situation (Buss, 1988; Kaighobadi, Shackelford, & Goetz, 2009). For example, they might engage in aggressive behavior toward the perceived rival (Arnocky, Ribout, Mirza, & Knack, 2014) or might signal their “possession” of their partner by displaying affection publicly (Buss, 1988). Alternatively, they might attempt to enhance their own physical attractiveness (Buss, 1988) or take on attributes of the perceived rival (Slotter, Lucas, Jakubiak, & Lasslett, 2013). The use of these strategies may reflect people’s direct or indirect attempt to compete with their rivals for their partner’s attention.
However, we hypothesized that jealous individuals’ motivation to recapture attention from their partner would generalize to situations that are unrelated to the conditions that gave rise to their feelings. This possibility is suggested by conceptualizations of goal generalization (Kruglanski et al., 2002; Wyer & Srull, 1989). Specifically, goal concepts exist in memory at several levels of generality. Moreover, several different situation-specific goals may be associated in memory with the same general goal concept. Consequently, a specific goal that is induced in one situation can activate a more general concept that it exemplifies and this concept, once activated, can increase the pursuit of other specific objectives that also exemplify it (Aarts, Custers, & Holland, 2007; Custers & Aarts, 2007). For example, feelings of hunger, which presumably induces a desire to acquire food, can activate a disposition to acquire objects in general, leading hungry individuals to purchase a greater number of non-food items in a later shopping situation than nonhungry shoppers do (Xu, Schwarz, & Wyer, 2015).

The conditions of concern in the present research are analogous. Although people who feel jealous are motivated to regain the attention of their relationship partner pays to them, this situation-specific motive may activate a more general goal of getting attention and this goal may stimulate them to seek attention in unrelated situations that they encounter later. For example, it could increase the disposition to purchase eye-catching clothing or other attention-grabbing products under conditions that led the goal to be activated.

Based on these considerations, we hypothesized that the jealousy activated in one situation would increase participants’ motivation to gain attention and that this, in turn, would increase their preference for eye-catching products in an unrelated product choice.
task. Moreover, we expected this to occur even when the product choice task was unrelated to the situation that activated feelings of jealousy.

**Overview of Studies**

We investigated these possibilities in five experiments. Experiment 1 confirmed our assumption that the desire to get attention mediated the effect of jealousy on preference for attention-grabbing products. Experiment 2 examined the effect of incidental jealousy on preferences for eye-catching products and distinguished the effect of jealousy from that of envy. Experiment 3 showed that jealous people are less sensitive than powerless individuals to the social status conveyed by attention-grabbing products. Furthermore, Experiment 4 showed that people who feel jealous, in contrast to those who feel powerless, prefer attention-grabbing products even if their use of these products is likely to elicit social disapproval.

Finally, Experiment 5 examined a further constraint on the effects we predicted. If jealous individuals’ preference for attention-grabbing products is driven by a generalized motive to get attention, this preference should only be evident if their use of the products is likely to be observed. Thus, jealous people should only seek attention-grabbing products that are consumed in public. Experiment 5 confirmed this possibility.

**Experiment 1**

Experiment 1 provided initial evidence that feelings of jealousy can increase consumers’ evaluations of attention-grabbing products in situations that are unrelated to those that gave rise to these feelings. In doing so, it evaluated an alternative interpretation of this effect. Loss of attention is often accompanied by a threat to one’s social self-esteem. To this extent, the effect of jealousy on the desire for attention-grabbing products
Jealousy and Product Preference

might reflect a more general motivation to increase one’s status in the eyes of others (Chance, 1967; Fiske, 1993). However, our conceptualization assumes that jealousy increases the desire for attention independently of the social status that might result from this attention. Experiment 1 examined this possibility.

Method

Seventy-seven undergraduate students (20 males; $M_{\text{age}} = 18.69$ years, $SD = 1.06$) from a large North American University participated in this study for course credit. Participants were randomly assigned to conditions of a one factor, two-level (emotion: jealousy vs. control) between-subjects design.

Participants were told that the researchers were interested in collecting personal experiences, and that they would be randomly assigned a topic to write about. On this pretense, participants in jealousy conditions were told that “…We would like you to describe a situation in which you felt jealous of another person. People often feel jealous because they begrudge another person who potentially poses a threat to their own relationship or position”. In control conditions, participants wrote about their experiences on a typical day (see the Methodological Details Appendix [MDA] for the instructions). They then indicated how involved/interested/engaged they were in the writing task along a scale from 1 (not at all) to 9 (very). Responses were averaged to provide an index of involvement ($\alpha = .84$).

Then, all participants performed an ostensibly unrelated consumption choice task in which they imagined that they were shopping online and were asked to make choices of products in three different product categories (i.e., clothing, handbags, and wallets). In
each product category, participants were asked to choose between an option with a big brand logo and an option with a small brand logo.

To assess the desire to receive attention from others, participants then responded to four items along a scale from 1 to 9: “I am motivated to get others’ attention,” “I want others to pay attention to me,” “I want to be the spotlight in the crowd” and “I do not want to be ignored by others.” Responses to these items were averaged ($\alpha = .90$). Correspondingly, the motivation to be superior to others was inferred from responses to four other items: “I want to outperform others in terms of wealth,” “I want to have higher social status than others,” “I am motivated to outperform others in terms of social status” and “I am motivated to be more successful than others.” Responses to these items were also averaged ($\alpha = .87$).

Finally, participants reported their feelings of jealousy and happiness (a measure of their mood) during the recall task along a scale from 1 (not at all) to 9 (very much).

**Results and Discussion**

Except where noted, gender did not have any significant influence on the effects we observed (see the MDA) and so data were pooled over males and females in the analyses reported.

**Manipulation checks.** Participants felt more jealous after recalling an jealousy-evoking experience ($M = 5.27, SD = 2.73$) than after describing a typical day ($M = 1.70, SD = 1.24$; $F(1, 75) = 48.91, p < .001, \eta^2 = .40$), and reported being less happy in the former condition ($M = 3.16, SD = 2.17$) than in the latter ($M = 5.64, SD = 1.69$; $F(1, 75) = 29.57, p < .001, \eta^2 = .28$). However, participants in the two conditions did not differ in their involvement in the writing task (5.35 vs. 5.91; $p > .13$).
Product choices. Logistic regression analyses combining all the three product categories revealed that participants were more likely to choose attention-getting products when they felt jealous than they did in control conditions (29.5% vs. 18.2%; \( b = .64, \) S.E. = .32, Wald = 3.87, \( p < .05 \)). This was true even after controlling for participants’ feelings of happiness (\( b = .90, \) S.E. = .38, Wald = 5.77, \( p < .02 \)).

Motivation to get attention. As expected, jealous participants reported greater motivation to receive attention (\( M = 6.11, SD = 1.87 \)) than control participants did (\( M = 4.96, SD = 1.71 \)), \( F(1, 75) = 7.71, p = .007, \eta^2 = .093 \).

Desire to be superior. Jealous participants also reported greater motivation to be superior to others (\( M_{jealousy} = 6.11, SD = 1.84 \) vs. \( M_{control} = 4.95, SD = 1.88 \); \( F(1, 75) = 7.38, p = .008, \eta^2 = .090 \)).

Mediation analyses. To test the process underlying the relationship between jealousy and preference for conspicuous consumption, we employed the INDIRECT macro (Preacher & Hayes, 2008) to simultaneously compute a confidence interval (CI) around the indirect effect of the mediators in a model that included both participants’ motivation to get attention and their desire to be superior. The results revealed that the CI for motivation to get attention was significantly different from zero (95% CI: [-1.17, -.28], see Figure 1 for regression coefficients), but the CI for desire to be superior was not (95% CI: [-.13, .51]), based on 5,000 bootstrap resamples. Therefore, these results suggest that jealous individuals prefer conspicuous products because they wanted to get greater attention from others.

Thus, the results of this study are consistent with our assumption that jealousy activates a desire to seek attention from others and that this motive, in turn, generalizes to
unrelated domains, increasing evaluations of attention-grabbing products. Activating feelings of jealousy also increased the motivation to be superior to others, consistent with the possibility that it induces a desire for social status (Fiske, 1983). However, the effects of jealousy on the desire for attention-getting brands did not depend on this motivation. Further evidence that jealousy increases the desire for attention-getting products independently of their implications for social status is provided in Experiment 3.

**Experiment 2**

Experiment 2 replicated the findings of the first experiment 1 using a different measure of preference for attention-grabbing products. In doing so, it distinguished the effect of jealousy from that of envy. We predicted that although feelings of jealousy would increase consumers’ preference for eye-catching, brightly colored products, feelings of envy would not.

**Method**

**Procedure.** One hundred thirty participants (61 males; $M_{\text{age}} = 39.15$ years, $SD = 12.58$) were recruited on Amazon’s Mechanical Turk for payment of US$0.50. They were randomly assigned to conditions of a one-factor, three-level (emotions: jealousy vs. envy vs. control) between-subjects design. The first task followed the same procedure as in Experiment 1. Participants in jealousy and control conditions received the same instructions provided in similar conditions of Experiment 1. Participants in envy conditions were first reminded that people often feel envious if they are exposed to others with superior possessions and want to have what others have, and then were asked to describe a situation in which they felt envious of another person (see the MDA for details of the instructions). Participants then indicated how involved, interested, and engaged
they were in the writing task along a scale from 0 (not at all) to 9 (very). Responses to the items were averaged to provide an index of involvement (α = .84).

Participants then proceeded to an ostensibly unrelated study. In this study, they were asked to imagine they were shopping online and to indicate their preference for a brightly colored coat or a dull-colored coat. (Pictures of the coats were specific to participants’ sex; see the MDA for the stimuli.)

Finally, participants reported how jealous, envious, and happy they felt during the recall task on scales from 1 (not at all) to 9 (very much).

**Pretest.** To confirm the difference between the two coats we presented, 42 participants (20 males; $M_{age} = 21.86, SD = 4.21$) rated the brightness of each coat along a scale from 1 (very dull) to 9 (very bright). They also rated how eye-catching and attention-grabbing each coat was along a scale from 1 (not at all) to 9 (very). Responses to the three items were averaged to provide a composite indication of the coat’s conspicuousness, $\alpha > .97$. They also evaluated the coat’s uniqueness, attractiveness and comfortableness along scales from 1 (not at all) to 9 (very) and the masculinity of the coats along a scale from 1 (very feminine) to 9 (very masculine).

As expected, the brightly colored coat was rated as more attention getting than the dull-colored coat (6.85 vs. 3.70, respectively; $F(1, 41) = 91.56, p < .001, \eta^2 = .69$). However, the two coats did not differ in perceived uniqueness (4.62 vs. 4.19, respectively), attractiveness (5.24 vs. 5.14, respectively), comfortableness (5.60 vs. 5.50, respectively), or masculinity (5.21 vs. 5.00, respectively), all $p$'s > .250. These differences did not depend on participants’ gender.

**Results**
**Emotional reactions.** The results of this experiment are summarized in Table 1. Participants felt more jealous in jealousy conditions ($M = 6.17$) than in either envy conditions ($M = 4.96; F(1, 127) = 6.43, p = .012$) or control conditions ($M = 1.76; F(1, 127) = 81.44, p < .001$). Correspondingly, they felt more envious in envy conditions ($M = 6.78$) than in either jealousy conditions ($M = 5.64; F(1, 127) = 5.22, p = .024$) or control conditions ($M = 1.88; F(1, 127) = 96.55, p < .001$). In contrast, participants felt happier in control conditions ($M = 4.79$) than in either jealousy conditions ($M = 2.48; F(1, 127) = 24.57, p < .01$) or envy conditions ($M = 2.72; F(1, 127) = 20.61, p < .01$). Involvement in the writing task did not vary over conditions ($F < 1$). Thus, although feelings of envy and feelings of jealousy were significantly correlated ($r = .79, p < .001$), they were affected differently by our manipulations.

---Insert Table 1 about here---

**Product preferences.** The proportion of participants who chose the brightly colored coat varied over conditions as expected (see Table 1). Logistic regression analyses indicated that participants were more likely to choose the brightly colored coat in the jealousy condition (57.1%) than in either the envy condition (34.8%; Wald = 4.35, $p = .037$) or the control condition (23.8%; Wald = 9.21, $p = .002$). The results were similar when happiness was used as a covariate (Wald = 4.36, $p = .037$ and Wald = 7.95, $p = .005$, respectively). The contrast between the envy and the control condition was not significant ($p > .26$).

Further analyses indicated that women were more likely to choose the brightly colored coat than men were (62.3% vs. 11.5%; Wald = 29.06, $p < .001$). However, the effect of jealousy on product choices did not depend on this factor.
In summary, Experiment 2 provided evidence that feelings of jealousy increased participants’ likelihood of choosing the attention-grabbing product. However, although envy and jealousy were positively correlated, envy did not influence participants’ product choices.

**Experiment 3**

Experiment 3 distinguished the effect of jealousy from that of powerlessness. We expected that both participants who felt jealous and those who felt powerless would have greater preference for attention-grabbing products that were associated with high social status, but that only jealous participants would show a preference for attention-grabbing products that were associated with low status.

**Method**

Three hundred seventy-nine participants (203 males; $M_{age} = 39.32$ years, $SD = 12.48$) were recruited on Amazon’s Mechanical Turk for payment of US$0.50. Participants were randomly assigned to conditions of a 3 (event priming: jealousy vs. powerlessness vs. control) × 2 (product status: high-end vs. low-end) between-subjects design.

As in Experiments 1 and 2, participants in *jealousy* conditions were asked to write about a past situation in which they felt jealous of another person, and participants in *powerless* conditions wrote about a situation in which someone had power over them. *Control* participants wrote about their experience on a typical day. Then, all participants indicated how involved/interested/engaged they were in the writing task along a scale from 1 (not at all) to 9 (very). The three items were averaged to provide an index of involvement ($\alpha = .82$).
Next, in a subsequently unrelated “consumption preference” task, participants in the high-end conditions were asked to imagine that they were buying an article of expensive, high-end clothing, whereas those in the low-end conditions were asked to imagine that they were buying an article of cheap, low-end clothing. Then, all participants were asked to indicate their opinions on the characteristics of the logos printed on this clothing item along a 4-item scale developed by Rucker and Galinsky (2009). These items concerned the extent to which participants preferred a brand logo that was (a) nonvisible versus visible, (b) small versus large, (c) unnoticeable versus noticeable and (d) inconspicuous versus conspicuous. Responses to these items, along a 9-point scale, were averaged to create an index of the preference for a conspicuous logo design ($\alpha > .95$). Participants then indicated (a) whether they felt that having this clothing could signal high social status to others and (b) whether having the clothing would gain respect from others, along scales from 1 (not at all) to 9 (very). Responses to these items were averaged ($r = .82, p < .001$) to provide an indication of the status-signaling function of the clothing item.

Finally, participants reported how jealous, powerful (reverse-coded to create a measure of feeling of powerlessness), and happy they felt while recalling their past experience, all along scales from 1 (not at all) to 9 (very much).

Results

**Manipulation checks.** As shown in Table 2, participants felt more jealous in jealousy conditions ($M = 6.58$) than in either powerlessness conditions ($M = 2.13; F(1, 376) = 323.77, p < .001$) or control conditions ($M = 1.75; F(1, 376) = 391.31, p < .001$). They felt more powerless in the powerlessness condition ($M = 7.79$) than in either
Jealousy and Product Preference

jealousy conditions ($M = 7.14; F(1, 376) = 5.39, p = .021$) or control conditions ($M = 6.78; F(1, 376) = 14.70, p < .001$). Also, participants felt happier in control conditions ($M = 5.34$) than in either jealousy conditions ($M = 2.97; F(1, 376) = 59.54, p < .001$) or powerlessness conditions ($M = 2.94; F(1, 376) = 61.47, p < .001$). Involvement in the writing task did not vary across conditions ($F(2, 376) = 1.68, p > .18$).

Moreover, participants perceived that having a high-end clothing item ($M = 4.85, SD = 2.29$) would signal higher social status than having a low-end item ($M = 3.55, SD = 2.34; F(1, 377) = 30.68, p < .001, \eta^2 = .08$).

---Insert Table 2 about here---

Preferences for Logo Conspicuousness. We expected that jealous participants would report greater preferences for products with a conspicuous logo regardless of the product’s implications for social status, but that powerless individuals would report greater preferences for a conspicuous product only if the product was associated with high social status. Analyses of product judgments, summarized in Table 3 as a function of product status and emotion conditions, yielded an interaction of these variables ($F(2, 373) = 5.07, p = .007, \eta^2 = .026$) that remained significant even after happiness was included as a covariate ($F(2, 372) = 4.79, p = .009, \eta^2 = .025$. Planned comparisons shown in the table indicated that participants had a greater preference for high end products if they were either jealous ($M = 3.46$) or powerless ($M = 3.31$) than they had in control conditions ($M = 2.48$); in each case, $F(1, 373) > 5.06, p < .025$). However, whereas jealous participants’ preferences for conspicuous products did not significantly depend on whether the products were high end or low end ($3.46 \text{ vs. } 3.17$, respectively; $F < 1$), powerless individuals’ preferences for conspicuous low-end products ($M = 2.41$) were
significantly less than their preference for conspicuous high-end products ($M = 3.31; F(1, 373) = 6.03, p = .015$).

--- Insert Table 3 about here ---

**Discussion**

The results of this study suggest that feeling powerless leads persons to prefer attention-grabbing products only when the products can enhance their social status. In contrast, jealous people are less sensitive to whether the attention-grabbing products signal high social status. In other words, these results imply that regaining attention from others is a primary motivation triggered by jealousy, whereas elevating social status is a primary motivation activated by powerlessness.

Although this pattern of results is consistent with expectations, a possible qualification on this conclusion should be noted. That is, although jealous participants’ preference for conspicuous low-status products did not differ from their preference for conspicuous high-status products, it also did not differ from the preference for these products that control participants reported (3.17 vs. 3.21, respectively). However, this null effect might be attributable to a spuriously high preference for low-end conspicuous products under control conditions (see Table 3). The next experiment provides further confirmation of the different effects of jealousy and powerlessness on product preferences.

**Experiment 4**

Experiment 4 provided further evidence of the different effects of jealousy and powerlessness on preferences for conspicuous products. Participants who were either jealous or powerless reported their preference for attention-grabbing products under
conditions in which using the products were likely to elicit social approval or social disapproval. If powerless individuals are motivated to regain their social status in the eyes of others, they should prefer attention-grabbing products if using them would increase their social status but not if it could potentially hurt their status. In contrast, jealous participants should express a desire for attention-getting products regardless of the reactions that using them might elicit.

**Method**

Three hundred one participants (165 males; \(M_{age} = 38.69\) years, \(SD = 12.57\)) were recruited on Amazon’s Mechanical Turk for payment of US$0.50. Participants were randomly assigned to conditions of a 3 (event recall: jealousy vs. powerlessness vs. control) \(\times\) 2 (valence of attention: positive vs. negative) between-subjects design.

Participants were instructed that the study was concerned with their daily life experiences and consisted of several unrelated tasks conducted by different researchers. As in Experiment 3, participants were first asked to write about (a) a past experience in which they felt jealous toward another person, (b) a past experience in which they felt powerless, or (c) their experience during a typical day. Afterwards, they indicated how involved/interested/engaged they were in the writing task along a scale from 1 (not at all) to 9 (very). The three items were averaged to provide an index of involvement (\(\alpha = .86\)).

Participants then proceeded to a product choice study. In this task, they imagined that they were invited to a party and had to decide whether to wear either an ordinary pair of sunglasses or a unique and eye-catching) pair (Ames & Iyengar, 2005; See the MDA for the stimuli). In *positive attention* conditions, they were told to imagine attending a costume party organized by friends. In *negative attention* conditions, however, they were
told to imagine attending a formal welcoming party for new staff members in their company. We assumed that wearing the eye-catching sunglasses would be seen as appropriate in the first context but as inappropriate in the second.

Participants first chose which pair of sunglasses they would wear. After doing so, they estimated the conspicuousness of each pair of glasses along three scales from 1 (not at all eye-catching/unusual/attention-grabbing) to 9 (very eye-catching/unusual/attention-grabbing) and the appropriateness of wearing them along two scales from 1 (inappropriate for wearing them to the party/wearing this pair of sunglasses to the party will arouse negative attention) to 9 (appropriate for wearing to the party/wearing this pair of sunglasses to the party will arouse positive attention). Responses to each set of items were averaged (in the first case, $\alpha_s \geq .89$; in the second case, $r_s \geq .64$).

Finally, participants indicated how jealous, powerful (reverse-coded to create a measure of powerlessness), and happy they felt during the recall task along scales from 1 (not at all) to 9 (very much).

**Results**

**Manipulation checks.** As shown in Table 4, participants felt more jealous in jealousy conditions ($M = 5.13$) than in either powerlessness ($M = 2.07$; $F(1, 298) = 105.44$, $p < .001$) or control conditions ($M = 1.47$; $F(1, 298) = 162.13$, $p < .001$). They felt more powerless in powerlessness conditions ($M = 7.76$) than in either jealousy ($M = 6.94$; $F(1, 298) = 5.91$, $p = .016$) or control conditions ($M = 6.26$; $F(1, 298) = 21.20$, $p < .001$) conditions. Participants felt happier in control conditions ($M = 5.58$) than in either jealousy conditions ($M = 3.96$; $F(1, 298) = 21.67$, $p < .001$) or powerlessness conditions.
Jealousy and Product Preference

Involvement in the writing task did not vary over conditions \((F(2, 298) = 1.77, p = .173)\).

Analyses of participants’ perception of the appropriateness of wearing the sunglasses yielded a significant interaction of sunglasses type and party type \((F(1, 299) = 88.32, p < .001, \eta^2 = .23)\). Specifically, participants rated the ordinary sunglasses as equally appropriate for the costume party \((M = 5.63, SD = 2.04)\) and the formal party \((M = 5.97, SD = 2.43); F(1, 150) = 1.32, p = .253\). However, they considered the unique glasses to be much less appropriate than the ordinary glasses at the formal party \((M = 3.24, SD = 2.19 \text{ vs. } M = 6.71, SD = 1.82, \text{ respectively}; F(1, 149) = 158.11, p < .001)\).

Moreover, as expected, participants rated the unique pair of sunglasses as more attention grabbing \((M = 7.95, SD = 1.66)\) than the ordinary pair \((M = 3.48, SD = 2.00); F(1, 300) = 642.48, p < .001, \eta^2 = .68)\).

**Choice of sunglasses.** The proportion of participants who chose the unique sunglasses is summarized in Table 5 as a function of emotion conditions and the type of party that participants imagined attending. Logistic regression analyses indicated that participants were generally more inclined to wear the unique glasses to the costume party \((29.1\% \text{ vs. } 9.3\% \text{, Wald} = 14.96, p < .001)\), and were generally more inclined to choose the unique glasses when they felt jealous \((26.6\% \text{ vs. } 16.7\% \text{, Wald} = 4.32, p = .038)\) or in control conditions \((15.3\% \text{, Wald} = 5.03, p = .025)\). The interaction of emotion conditions and party type was not significant \((p = .11)\). However, between-cell comparisons (see Table 5) indicate that jealous participants were more likely to choose the unique glasses for the formal party.
(19.2%) than were either powerless individuals (4.2%, $\chi^2 = 5.21, p = .023$) or control participants (5.5%, $\chi^2 = 4.58, p = .032$), whereas their likelihood of choosing the unique glasses for the costume party (34.0%) did not significantly differ from that of powerless (29.2%, $\chi^2 = .261, p = .609$) and control participants (25.0%, $\chi^2 = 1.01, p = .314$).

---Insert Table 5 about here---

**Discussion**

The generally greater preference for the unique sunglasses in the costume party conditions is not surprising. People are expected to dress dramatically at such parties and participants undoubtedly chose the unique glasses for this reason and not because the glasses were eye-catching per se. To this extent, the difference in the likelihood of choosing the unique glasses for the formal party suggests that incidental jealousy activates a general attention-seeking goal that increases individuals’ preference for wearing eye-catching products even when this behavior is likely to elicit negative reactions. In contrast, people who feel powerless, and are motivated to increase their social status, were resistant to choosing glasses that others might consider to be socially inappropriate. These data further confirm the different effects of jealousy and powerlessness observed in Experiment 3.

**Experiment 5**

Experiment 5 investigated a conceptually important contingency in the effects of jealousy on product preferences. If the effect of jealousy on preference for attention-seeking items is driven by people’s desire to gain attention from others, this effect should not be evident when the products are used privately and thus are unlikely to be scrutinized by others. This possibility was examined.

**Method**
Two hundred fifty-one participants (145 males; $M_{age} = 39.12$ years, $SD = 12.67$) were recruited on Amazon’s Mechanical Turk for payment of US$0.50. Participants were randomly assigned to conditions of a 2 (emotion: jealousy vs. control) × 2 (context: private vs. public) between-subjects design.

**Procedure.** As in previous experiments, participants first completed a “Daily Experience Survey,” in which they either wrote about a past event in which they felt jealous of another person or wrote about a typical day. They then indicated how involved/interested/engaged they were in the writing task along a scale from 1 (not at all) to 9 (very). Responses were averaged to provide an index of involvement ($\alpha = .81$).

Participants then proceeded to an ostensibly unrelated “Product Preference Survey” in which they were asked to imagine that they were considering the purchase of a lamp. They were given pictures of two lamps, one of which was gold in color and the other of which was grey (see the MDA for the stimuli). In *public* context conditions, participants were told to imagine using the lamp in their office. In *private* context conditions, they were told to imagine using the lamp in their bedroom. Then they were asked to indicate their relative preference for the lamps along a scale from 1 (I would definitely choose the gold-colored desk lamp) to 9 (I would definitely choose the grey-colored desk lamp). Responses were subsequently reversed scored so higher scores indicated greater preference for the attention-grabbing lamp.

Finally, participants recorded their jealousy and happy feeling along a scale from 1 (not at all) to 9 (very much).

**Pretest.** To confirm the difference between the two lamps, 63 participants (29 males; $M_{age} = 38.57$ years, $SD = 11.89$) judged each lamp along scales from 1 (very dull
Jealousy and Product Preference

/not eye-catching at all/not attention-grabbing at all) to 9 (very bright/eye-catching
attention-grabbing). Responses along the scales were averaged (αs ≥ .85). The gold-
colored desk lamp (M = 6.74, SD = 1.50) was indeed perceived as more conspicuous than
the grey-colored one (M = 5.49, SD = 1.62, F(1, 62) = 18.10, p < .001, η² = .23).

Results

Manipulation checks. As expected, participants felt more jealous (M = 6.29, SD
= 2.52) after recalling a jealousy-evoking past event than those who described their
typical day experience (M = 1.46, SD = 1.16; F(1, 249) = 385.74, p < .001, η² = .61).
Moreover, participants in the jealousy condition (M = 3.20, SD = 2.34) also felt less
happy than those in the control condition (M = 5.64, SD = 2.47; F(1, 249) = 64.55, p
< .001, η² = .21). In addition, participants in the two conditions did not differ in their
involvement in the writing task (F < 1).

Product preferences. An analysis of participants’ preference for the gold lamp as
a function of emotion and context conditions yielded a main effect of emotion conditions
(F(1, 247) = 5.39, p = .02, η² = .02). This effect remained significant (F(1, 246) = 4.21, p
= .04, η² = .02) after controlling for participants’ happiness. The interaction of emotion
conditions and context was not significant (F(1, 247) = 1.68, p = .197). However, as
shown in Table 6, planned comparisons indicate that although jealous participants were
more likely to choose the gold lamp for public use (M = 3.48) than control participants
were (M = 2.37; F(1,247) = 6.48, p = .01), their choice of the lamp for private use (M =
3.36) did not differ from that of control participants (M = 3.04; F < 1). Note that control
participants appeared to prefer conspicuous products more in a private context than in a
public context. We have no explanation for this difference. However, the difference was not statistically significant and perhaps should not be taken seriously pending replication.

---Insert Table 6 about here---

**General Discussion**

Five experiments converge on the conclusion that feelings of jealousy increase people’s desire for attention-grabbing products. The effect is specific to jealousy, and does not generalize to other negative emotional experiences such as envy or feelings of powerlessness. On the other hand, the effect of jealousy on people’s desire for attention-grabbing products is contingent on the extent to which the products would actually attract attention. When there is little chance for others to observe the eye-catching products, as in Experiment 5, the effect of jealousy on the desire for these products disappears. When the product is used publically, however, jealousy increases the preference for attention-grabbing products even when the use of these products is likely to be considered socially inappropriate (see Experiment 4). These results suggest that the effect we observed reflects the activation of a generalized motivation to get attention that is induced by feeling jealous and is manifested in a general disposition to choose eye-catching products as an end in itself. This disposition might occur without awareness of the conditions that gave rise to it (for evidence of this lack of awareness in other domains, see Wyer, Xu, & Shen, 2012).

Other interpretations of our findings were called into question. For example, although jealousy and envy are positively correlated (Experiment 2), only feelings of jealousy influence attraction to attention-getting products. Feelings of powerlessness also cannot account for our findings. That is, individuals whose relationship partner is paying
undue attention to someone else might feel relatively powerless and might seek attention from others in order to alleviate these feelings. However, people who feel powerless only prefer attention-grabbing products that signal high social status to others (Experiment 3), whereas jealous participants’ desire for attention-grabbing products does not depend on the products’ prestige value. Moreover, although people who feel powerless have little desire for attention-grabbing products when their use could elicit social disapproval (Experiment 4), jealous individuals prefer to use eye-catching products even if the attention they elicit is likely to hurt their social image rather than enhancing it.

Our conceptualization of the processes that underlie these effects was based on previous research on the generalization of goal systems. That is, the pursuit of a goal in one situation can activate a more general goal concept that, once accessible in memory, influences individuals’ behavior in later situations independently of the conditions that gave rise to its activation (Aarts et al., 2007; Custers & Aarts, 2007). Thus, if jealousy activates a goal to seek attention from one’s relationship partner, this goal may activate a more general attention-seeking goal that influences people’s behavior in situations that are unrelated to the conditions that elicited their jealousy. Moreover, these effects could occur without awareness (Custers & Aarts, 2007).

A somewhat different conceptualization of these effects might also be viable, however. That is, jealousy may activate thoughts about seeking attention that activate behavior-related concepts that induce a behavioral mindset (Wyer & Xu, 2010; Wyer et al., 2012), influencing behavioral decisions in a later situation independently of the goal to which the behavior is relevant. In other words, the effects might not be governed by the generalization of goal concepts but rather, the generalization of behavior concepts
that influence the strategy used to make behavioral decisions. The present research does not unequivocally distinguish between these interpretations. However, the evidence that the effects of jealousy are eliminated when individuals expect to use products privately rather than publicly is more consistent with a goal-generalization conceptualization.

Further Considerations

A possible limitation of our research results from the fact that jealousy was not induced directly but was activated by recalling a past experience. However, this could mean that our conclusions are conservative. If recalling an experience can induce feelings of jealousy that influence consumer behavior, actual experiences, which are likely to induce more extreme emotional reactions, should have even greater effects than those we observed. Nonetheless, the immediate and long-term consequences of actually inducing jealousy are worth exploring.

A further consideration surrounds the ambiguity of jealousy-inducing situations. Witnessing a partner having lunch with a member of the opposite sex would undoubtedly elicit less jealousy than witnessing the partner embracing and kissing another. Yet, the motive to seek attention-grabbing products might be greater in the former case, as the likelihood of remedying the situation would be higher.

A final question deserves attention. Although the acquisition of these produces might be expected to alleviate the feelings of jealousy that gave rise to it (Chartrand, Huber, Shiv, & Tanner, 2008), this might not always be the case. In some instances, for example, the causal relation between feelings of jealousy and the preference for attention-grabbing products might be reversed. That is, individuals who wear attention-getting
clothing might expect to receive more attention and thus might have more extreme reactions to a partner’s failure to provide it. This possibility is worth investigating.

Be that as it may, our findings broaden our understanding of the mechanisms by which incidental jealousy can influence behavior. Previous research has generally focused on how jealousy influences reactions to the individuals who provoke it (e.g., Arnocky et al., 2014; DeSteno, Valdesolo, & Bartlett, 2006; Slotter et al., 2013). For example, people’s feelings of jealousy affect their behavior toward both their partners and their rivals (e.g., Arnocky et al., 2014; DeSteno et al., 2006; Slotter et al., 2013). In contrast, the present research provides evidence that incidental jealousy can affect behavior in situations that are unrelated to those in which the jealousy is induced. Consumer judgments and decisions could be among these behaviors. Research on the motivational determinants of conspicuous consumption has focused on status signaling (Bagwell & Bernheim, 1996; Corneo & Jeanne, 1997), the need to belong (Lee & Shrum, 2012), the need for prestige (Amaldoss & Jain, 2005), and romantic desire (Griskevicius et al., 2007; Sundie et al., 2011; Wang & Griskevicius, 2014). As our findings suggest, feelings of jealousy can also increase consumers’ desires for products that capture others’ attention.

To this extent, our research might have marketing implications. Jealousy is a common emotion and can be elicited vicariously by exposure to situations in which one is not personally involved. If print advertisements and in-store displays portray scenes with jealousy-eliciting situations are associated, they could have a positive effect on the selection of products that are likely to capture attention. Television commercials that promote attention-grabbing products might do particularly well in the context of sit-
comes in which jealousy is a dominant theme. These and other implications of our findings for marketing practice are perhaps worth considering.
References


Jealousy and Product Preference


Figure 1. The Mediating Role of Motivation to Get Attention – Experiment 1

Note: ** $p < .01$, * $p < .05$
Table 1. Effects of Emotion Conditions – Experiment 2

<table>
<thead>
<tr>
<th></th>
<th>Jealous Condition</th>
<th>Envious Condition</th>
<th>Control Condition</th>
<th>$F(2,127)$</th>
<th>$p$-value</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jealous</td>
<td>6.17(3.00)$^a$</td>
<td>4.96(2.01)$^b$</td>
<td>1.76(1.45)$^c$</td>
<td>43.65</td>
<td>&lt; .001</td>
<td>.41</td>
</tr>
<tr>
<td>Envy</td>
<td>5.64(3.03)$^a$</td>
<td>6.78(2.22)$^b$</td>
<td>1.88(1.53)$^c$</td>
<td>52.01</td>
<td>&lt; .001</td>
<td>.45</td>
</tr>
<tr>
<td>Happy</td>
<td>2.48(2.11)$^a$</td>
<td>2.72(1.81)$^a$</td>
<td>4.79(2.47)$^b$</td>
<td>15.01</td>
<td>&lt; .001</td>
<td>.19</td>
</tr>
<tr>
<td>Involvement</td>
<td>8.39(1.77)$^a$</td>
<td>8.51(1.81)$^a$</td>
<td>8.17(1.52)$^a$</td>
<td>.45</td>
<td>&gt; .250</td>
<td>.01</td>
</tr>
<tr>
<td>Choice Likelihood of the Bright-colored Option</td>
<td>57.1%$^a$</td>
<td>34.8%$^b$</td>
<td>23.8%$^b$</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

*Note: cells with different superscripts in each row differ at $p < .05$.***
Table 2. Effects of Event Recall Conditions – Experiment 3

<table>
<thead>
<tr>
<th>Condition</th>
<th>Jealous Condition</th>
<th>Powerless Condition</th>
<th>Control Condition</th>
<th>$F(2, 376)$</th>
<th>p-value</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jealousy</td>
<td>6.58(2.35)$^a$</td>
<td>2.13(1.87)$^b$</td>
<td>1.75(1.56)$^c$</td>
<td>237.45</td>
<td>&lt; .001</td>
<td>.56</td>
</tr>
<tr>
<td>Powerlessness</td>
<td>7.14(2.16)$^a$</td>
<td>7.79(2.12)$^b$</td>
<td>6.73(2.33)$^a$</td>
<td>7.45</td>
<td>= .001</td>
<td>.04</td>
</tr>
<tr>
<td>Happiness</td>
<td>2.97(2.20)$^a$</td>
<td>2.94(2.48)$^a$</td>
<td>5.34(2.63)$^b$</td>
<td>40.79</td>
<td>&lt; .001</td>
<td>.18</td>
</tr>
<tr>
<td>Involvement</td>
<td>7.58(1.42)$^a$</td>
<td>7.55(1.50)$^a$</td>
<td>7.27(1.62)$^a$</td>
<td>1.68</td>
<td>= .187</td>
<td>.01</td>
</tr>
</tbody>
</table>

Note: cells with different superscripts in each row differ at $p < .05$. 

Jealousy and Product Preference 38
Table 3. Preference for Conspicuous Logo Design as a Function of Emotion Conditions and Product Status – Experiment 3

<table>
<thead>
<tr>
<th></th>
<th>Jealous Condition</th>
<th>Powerless Condition</th>
<th>Control Condition</th>
</tr>
</thead>
</table>
| High End Clothing| 3.46(2.16)
                   | 3.31(2.15)
                   | 2.48(1.79)          |
| Low End Clothing | 3.17(2.20)
                   | 2.41(1.89)
                   | 3.21(2.24)          |

*Note:* cells with different superscripts differ at $p < .05$. 

Table 4. Effects of Event Recall Conditions – Experiment 4

<table>
<thead>
<tr>
<th></th>
<th>Jealous Condition</th>
<th>Powerless Condition</th>
<th>Control Condition</th>
<th>$F(2, 298)$</th>
<th>$p$-value</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jealousy</td>
<td>5.13(2.90)$^a$</td>
<td>2.07(1.92)$^b$</td>
<td>1.47(1.06)$^c$</td>
<td>90.03</td>
<td>&lt; .001</td>
<td>.38</td>
</tr>
<tr>
<td>Powerlessness</td>
<td>6.94(2.40)$^a$</td>
<td>7.76(2.08)$^b$</td>
<td>6.26(2.49)$^c$</td>
<td>10.60</td>
<td>&lt; .001</td>
<td>.07</td>
</tr>
<tr>
<td>Happiness</td>
<td>3.96(2.45)$^a$</td>
<td>3.47(2.50)$^a$</td>
<td>5.55(2.49)$^b$</td>
<td>20.16</td>
<td>&lt; .001</td>
<td>.12</td>
</tr>
<tr>
<td>Involvement</td>
<td>7.59(1.59)$^a$</td>
<td>7.65(1.51)$^a$</td>
<td>7.26(1.74)$^a$</td>
<td>1.77</td>
<td>.173</td>
<td>.01</td>
</tr>
</tbody>
</table>

*Note: cells with different superscripts in each row differ at $p < .05$. 
Table 5. % of Participants Choosing the Unique Glasses as a Function of Emotion Conditions and Party Type – Experiment 4

<table>
<thead>
<tr>
<th></th>
<th>Jealous Condition</th>
<th>Powerless Condition</th>
<th>Control Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal Party</td>
<td>19.2%\textsuperscript{a}</td>
<td>4.2%\textsuperscript{b}</td>
<td>5.5%\textsuperscript{b}</td>
</tr>
<tr>
<td>Costume Party</td>
<td>34.0%\textsuperscript{a}</td>
<td>29.2%\textsuperscript{a}</td>
<td>25.0%\textsuperscript{a}</td>
</tr>
</tbody>
</table>

*Note:* cells with different superscripts differ at $p < .05$. 
Table 6. Preference for Conspicuous Lamp as a Function of Emotion Conditions and Consumption Context – Experiment 5

<table>
<thead>
<tr>
<th></th>
<th>Jealous Condition</th>
<th>Control Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Context</td>
<td>3.48(2.77)\textsuperscript{a}</td>
<td>2.37(1.72)\textsuperscript{b}</td>
</tr>
<tr>
<td>Private Context</td>
<td>3.36(2.47)\textsuperscript{a}</td>
<td>3.04(2.49)\textsuperscript{a,b}</td>
</tr>
</tbody>
</table>

\textit{Note:} cells with different superscripts differ at $p < .05$. 