

Shivering for Status:  
When Cold Temperatures Increase Product Evaluation

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While anecdotal evidence suggests that consumers maintain an association between high status products and cold temperature, no research has empirically examined this linkage. We propose and demonstrate that physical cold can indeed increase consumers' perceptions of a product's status-signaling and luxuriousness. We demonstrate this consequence can stem from tactile or visually-induced temperatures and ultimately increase consumers' overall evaluations of products. Finally, we highlight boundary conditions for when the effect is likely to manifest. Our findings offer theoretical contributions along with several practical implications for retailing, product design, brand management, and marketing communications.

*Keywords:* temperature, luxury, status-seeking, sensory marketing

From the high-end malls of Hong Kong to the ritzy department stores of Manhattan, luxury retailers around the world all seem to agree: cold temperatures signal status. Store temperatures are systematically lower in more expensive stores (Salkin, 2005), with some retail experts proclaiming that cold is “chic, it’s luxury, it’s a sign of wealth,” (Rambourg, 2014). Luxury products themselves, from icy steel Swiss watches to cool silk scarves, often feel cold to the touch. Such linkages even manifest idiomatically: diamonds are “icy” bling and money itself is often described as “cold hard cash.”

Despite the anecdotal relationships above and the seemingly pervasive cold-status link, no research has actually examined whether consumers do associate cold temperatures with status and luxury. We propose and empirically demonstrate that physical cold can indeed increase consumers’ perceptions of a product’s status-signaling and luxuriousness. We demonstrate this consequence can stem from tactile or visually-induced temperatures and ultimately increase consumers’ overall evaluations of products. Finally, we highlight boundary conditions for when the effect is likely to manifest.

## The Effects of Temperature on Consumer Responses

Research has documented the often-profound effect sensations can have on consumer responses (see Krishna & Schwarz, 2014 for a review). One sensory dimension that has received particular academic attention is temperature. Some studies have shown that ambient temperature can influence a variety of consumer outcomes, ranging from task performance (Cheema & Patrick, 2012), to risk-taking propensity (Huang, Zhang, Hui, & Wyer, 2014), to affective decision-making (Hadi & Block, 2019). For example, Cheema and Patrick (2012) demonstrate that moderately cool (versus warm) ambient temperatures can increase system 2 processing and improve consumer performance on complex cognitive tasks.

While the aforementioned research stream examined how ambient temperature exposure can influence the way people make decisions, another body of work has focused on how temperature variations influence individuals' evaluations of specific targets. A large proportion of this research relies on grounded cognition theory, which posits that individuals often develop an understanding of highly abstract concepts through bodily experiences that are metaphorically linked to those concepts (Landau, Meier & Keefer, 2010; Williams, Huang, & Bargh, 2009; for a review, see Barsalou, 2008). In the context of temperature in particular, this paradigm suggests that because physical warmth is often tied to interpersonal proximity and intimacy (e.g., maternal affection is often communicated via physical warmth by holding a child closely; Hall, 1966; Lakoff & Johnson, 1980), the mere experience of physical warmth can evoke concepts related to spatial proximity and emotional warmth. Conversely, physical cold has been linked to increased social distance and exclusion (Bargh & Shalev; 2012; IJzerman & Semin, 2009; Zhong & Leonardelli, 2008).

Building on this paradigm, a series of studies have shown that warm temperatures, by increasing feelings of emotional warmth and/or shortening spatial distance perceptions, can positively influence individuals' evaluations of various target stimuli. Indeed, emotional warmth is generally considered to be a positive trait in interpersonal (Fiske, Cuddy, & Glick, 2007), firm (Aaker, Vohs, & Mogilner, 2010), and brand (Aaker, 1997) assessments; and desired objects are often perceived to be physically near (as per the "wishful seeing" phenomenon, Balcetis & Dunnin, 2010). In the interpersonal domain, for example, studies demonstrated that a target person was judged as more generous and friendly by participants who had briefly held a cup of hot coffee rather than a cup of iced coffee (Williams & Bargh, 2008). In terms of product evaluations, Zwebner and colleagues (2014) showed that exposure to warm (versus cold) packs elicited higher product evaluations in various categories (e.g., coffee, bath gel, pens).

## Social Distance, Status, and Luxury

Various studies have found that physical warmth, by shortening psychological and spatial distance perceptions, can increase evaluations of people and products. However, research has also documented instances in which spatial and emotional *distance* are more desirable than proximity. Namely, psychological and spatial distance tend to be associated with greater feelings of power and social status (Lammers, Galinsky, Gordijn, & Otten, 2012; Magee & Smith, 2013; Smith & Trope, 2006). Social status can be defined as agentic feelings of being advantaged and superior relative to others (Locke, 2003), and status-seeking individuals desire to distance themselves (both socially and spatially) from groups that cannot afford status (Fuchs, Prandelli, Schreier, & Dahl, 2013; Rucker, Galinsky, & Dubois, 2012). This distance in turn allows consumers of status-signaling products to make downward comparisons to others, and accordingly feel confident, advantaged, superior, and worthy (Locke, 2003).

Notably, status-signaling is closely tied to a product's perceived luxuriousness (Fuchs et al., 2013; Han, Nunes, & Drèze, 2010). While alternative conceptualizations of luxury exist (e.g., the "promise of pleasure" and sensory gratification expected from consumption; Hagtvedt & Patrick, 2009), the ability to help consumers signal (to themselves and others) that they have high status in society is considered a core component of a product's perceived luxuriousness (Fuchs et al., 2013; Han et al., 2010; Weidmann, Hennigs, & Siebels, 2007). Since luxury products are often expensive and positioned as being high-class, owning such possessions can aptly serve a status-signaling function (Belk et al., 1982; Han et al., 2010). Thus, while luxury perceptions can be measured as a distinct set of associations people hold, status-signaling and luxuriousness are very much interconnected constructs (Fuchs et al., 2013; Vigneron & Johnson, 2004).

Given that physical cold is associated with greater social distance (Fay & Maner, 2012; IJzerman et al., 2012; Zhong & Leonardelli, 2008) and social distance is considered as a core component of status-signaling and luxury (Fuchs et al., 2013; Kapferer & Bastien, 2009), there is theoretical support for the notion that consumers maintain a cold-status association. In fact, some scholars have insinuated that colder temperatures may indeed be preferable for luxury products trying to portray social status and limited accessibility (Landau, Zhong, & Swanson, 2018). Yet despite both theoretical and anecdotal linkages, no research has empirically documented this relationship.

#### The Current Research: When Cold is an Asset to Product Evaluations

In the current research, we posit that cold (versus neutral or warm) temperature should indeed increase consumers' perceptions of a product's status and luxuriousness. In general, status-signaling and luxuriousness have been shown to improve overall product evaluations (Childs & Jin, 2016). However, when consumers are explicitly concerned with the utilitarian functionality of a product, the benefits of status-signaling and luxuriousness are attenuated (Madzharov, Block & Morrin, 2015; Rucker & Galinsky, 2009). Accordingly, any evaluative benefits stemming from cold temperature should be assuaged if consumers are specifically focused on the performance-based utility of a product.

We tested our theorizing via three experiments spanning various product categories. Study 1 demonstrates that a cold (versus neutral) product surface temperature increases perceptions of status-signaling and luxuriousness, which mediates a positive effect on subsequent product evaluation. Study 2 demonstrates that this process additionally manifests in response to visual temperature manipulations. Finally, study 3 demonstrates that the positive effect of cold temperature on product evaluation holds when consumers are focused

on conveying status but is attenuated if they are focused on a product's utilitarian performance.

## STUDY 1

The purpose of study 1 was to examine the basic effect of cold temperature on the evaluation of a product (a decorative vase). More specifically, we examined whether a cold (versus neutral) product surface temperature would increase perceived status-signaling and luxuriousness, and positively influence product evaluations accordingly.

### Method

One hundred and four undergraduate students ( $M_{\text{age}}=20.4$ ;  $SD=1.19$ ; 49% female) participated in this two-level (Product temperature: cold versus control) between-subjects study in exchange for course credit during the Fall (November). The target product was a small decorative vase (see Appendix A for a picture). This product (as those in the remainder of our studies) was devoid of any brand markings (e.g., logos, etc.) ensuring participants would not rely on prior brand knowledge when making assessments. In the cold condition, the vases were placed in a refrigerator (in a separate room hidden from participants' view) for at least 15 minutes before being given to participants, resulting in a surface temperature of approximately 50.9 °F. In the control condition, the vases were kept at room temperature and the surface temperature was approximately 69.8 °F.

After being randomly assigned to a temperature condition, participants were asked to hold and inspect the vase for 10 seconds, assess its status-signaling and luxuriousness, and evaluate the product. Status-signaling was measured on scale from Truong, Simmons, McColl, & Kitchen, 2008 (using three 7-point Likert items: "To what extent can this product

indicate a person's social status?" "To what extent is this product a symbol of achievement?" and "To what extent is this product a symbol of wealth?";  $\alpha=.92$ ). Luxuriousness was measured based on the Vigneron and Johnson (2004) luxury perception scale (all 7-point items anchored by very low–very high: uniqueness, exclusiveness, expensiveness, sophistication, luxury;  $\alpha=.84$ ). Product evaluation was measured on six 7-point bipolar items adapted from Hagtvedt and Patrick, 2014 (like–dislike, positive–negative, favorable–unfavorable, pleasant–unpleasant, good–bad, desirable–undesirable;  $\alpha=.93$ ). Then, as a manipulation check, participants reported the perceived temperature of the vase (on a 7-point bipolar item anchored by very warm–very cold). Finally, participants indicated the pleasantness of the room temperature (on a 7-point bipolar item anchored by very unpleasant–very pleasant), their gender and age.

## Results and discussion

*Manipulation check.* ANOVA results revealed that the perceived temperature of the vase in the cold condition was significantly colder than that in the control condition ( $M_{\text{cold}}=6.40$ ,  $SD=.50$  versus  $M_{\text{control}}=3.87$ ,  $SD=1.60$ ;  $F(1,102)=119.86$ ,  $p<.001$ ,  $\eta_p^2=.54$ ), confirming the manipulation of product temperature was successful.

*Status-signaling and Luxuriousness.* Unsurprisingly given the theoretical links between the two constructs (Fuchs et al., 2013; Vigneron & Johnson, 2004), the status-signaling and luxuriousness constructs were highly correlated ( $r=.74$ ;  $p<.001$ ), and a factor analysis demonstrated that all items from the two scales loaded onto the same factor (the only factor with an Eigenvalue greater than 1, accounting for 61% of the variation). Accordingly, we combined all eight items into one aggregate scale ( $\alpha = .91$ ), and report results using the subscales in the Methodological Details Appendix (MDA) as a robustness check. ANOVA results revealed that participants in the cold condition judged the vase to convey more



status/luxury than participants in the control condition ( $M_{\text{cold}}=3.33$ ,  $SD=1.09$  versus  $M_{\text{control}}=2.53$ ,  $SD=.95$ ;  $F(1,102)=15.65$ ,  $p<.001$ ,  $\eta_p^2=.13$ ).

*Product Evaluation.* A separate ANOVA replicated the positive effect of cold temperature on participants' general product evaluation ( $M_{\text{cold}}=4.40$ ,  $SD=.98$  versus  $M_{\text{control}}=3.75$ ,  $SD=1.32$ ;  $F(1,102)=8.32$ ,  $p<.01$ ,  $\eta_p^2=.08$ ). To determine the extent to which status/luxury perceptions mediated the effect of temperature on product evaluation, we applied a bootstrapping procedure (Model 4; Hayes, 2013), specifying a confidence interval of 95% with 10,000 resamples. The analysis confirmed the indirect effect with a confidence interval excluding zero (indirect effect=.5552; CI[.2918, .8930]).

*Ancillary Analyses.* To assess whether participants' evaluation of the room temperature might explain responses, we reran the analyses above controlling for participants' assessment of room temperature pleasantness, and all effects continue to hold (full results reported in the web appendix). We also examined whether the results differed according to participants' gender. We found no differences across genders in this study or any remaining studies, and all results continue to hold while controlling for gender (full results of these analyses are in the web appendix).

## STUDY 2

Study 1 provided initial evidence that physical coldness can have a positive effect on a product's perceived status-signaling, luxuriousness and overall evaluation accordingly. In study 2, we sought to extend our investigation by exploring a visual manipulation of coldness. Studies have shown that processing visual imagery can lead to neural activation of corresponding regions of the brain. For example, images of chocolate chip cookies can activate participants' taste cortices (Rolls, 2005; Simmons, Martin, & Barsalou, 2005) and visual advertisements can lead viewers to mentally simulate using a product (Elder &

Krishna, 2012). In the domain of temperature specifically, Cooper and colleagues (2014) demonstrated that watching a video of hands being immersed in cold water actually decreased the temperature of participants' own hands. Accordingly, we expected that a depiction of cold visual imagery (e.g., winter scenery) should operate similarly to the physical cold temperature manipulation, leading to increased perceived status-signaling, luxuriousness, and product evaluations.

## Method

Two hundred and two adults ( $M_{\text{age}}=35.01$ ,  $SD=9.99$ ; 39% female) from Amazon Mechanical Turk participated in exchange for monetary compensation (in the month of September). The study had a two-level (Background temperature: cold versus warm) between-subjects design. After indicating their gender, participants were shown an advertisement for a fragrance. For female participants, the ad copy read, "A New Fragrance for Women" while for male participants it read, "A New Fragrance for Men." In the cold temperature condition, the advertisement background featured winter scenery, whereas in the warm temperature condition, the background featured spring scenery (see Appendix B and C for the images and examples of the advertising stimuli). A pretest ensured these images differed in perceived temperature but not in attractiveness, likeability, novelty, or familiarity (see Web Appendix for details). After viewing the advertisement, participants assessed the status-signaling, luxuriousness, and overall product evaluation of the fragrance (as in study 1;  $\alpha=.97$ ,  $\alpha=.94$ , and  $\alpha=.95$  respectively). Lastly, as a manipulation check, participants indicated how cold/warm the advertisement background was, then indicated their gender and age.

## Results and discussion

*Manipulation check.* Nine participants (4.5%) failed an attention check question, leaving 193 subjects available for analysis. Consistent with the pretest, an ANOVA showed that participants estimated the scenery temperature as being significantly colder for the winter image than for the spring image ( $M_{\text{cold}}=2.41$ ,  $SD=1.94$  versus  $M_{\text{warm}}=5.13$ ,  $SD=1.25$ ;  $F(1,191)=132.96$ ,  $p<.001$ ,  $\eta_p^2=.41$ ), indicating the manipulation of visual temperature was successful.

*Status-signaling and Luxuriousness.* As in study 1, the status-signaling and luxuriousness constructs were highly correlated ( $r=.71$ ;  $p<.001$ ) and all items loaded onto the same factor (accounting for 73% of the variation). Accordingly, we again combined all items into one scale ( $\alpha = .95$ ), and report results using the subscales in the MDA. ANOVA results revealed that as in study 1, participants in the cold temperature condition evaluated the fragrance as higher in status/luxury than participants in the warm condition ( $M_{\text{cold}}=4.09$ ,  $SD=1.44$  versus  $M_{\text{warm}}=3.23$ ,  $SD=1.47$ ;  $F(1,191)=16.70$ ,  $p<.001$ ,  $\eta_p^2=.08$ ).

*Product Evaluation.* ANOVA results also revealed that participants in the cold temperature condition evaluated the fragrance more positively than participants in the warm condition ( $M_{\text{cold}}=4.91$ ,  $SD=1.29$  versus  $M_{\text{warm}}=4.50$ ,  $SD=1.36$ ;  $F(1,191)=4.71$ ,  $p=.03$ ,  $\eta_p^2=.02$ ), again replicating effects from study 1. As in study 1, to determine the extent to which status/luxury perceptions mediated the effect of temperature on product evaluation, we applied a bootstrapping procedure (Model 4; Hayes, 2013), specifying a confidence interval of 95% with 10,000 resamples. The analysis again confirmed the indirect effect with a confidence interval excluding zero (indirect effect=.4969; CI[.2590, .7785]).

### STUDY 3

Studies 1 and 2 demonstrated that cold temperature can have a positive effect on product evaluations, and that increased status-signaling and luxury perceptions can

empirically explain this effect. In study 3, in addition to manipulating visual temperature, we also manipulated the shopping focus of participants. In doing so, we are able to establish an important boundary condition for our effects. Namely, research suggests that while a product's status-signaling and luxuriousness are valuable if consumers are status-motivated, the value of each of these perceptions is attenuated when consumers are explicitly focused on a product's performance (Madzharov, Block & Morrin, 2015; Rucker & Galinsky, 2009). Accordingly, we would expect the evaluative benefits of cold temperature to be attenuated when consumers are strictly focused on a product's performance. Further, while studies 1 and 2 involved product categories with little scope for performance or functional benefits (decorative ceramics and fragrance), this study employed a product that could provide either status and luxury-related benefits or performance benefits (luggage).

## Method

Four hundred and twenty-four adults ( $M_{\text{age}}=38.68$ ,  $SD=11.67$ ; 48% female) from Amazon Mechanical Turk participated in this 2(Background temperature: cold versus neutral)  $\times$  2(Shopping focus: status versus performance) study in exchange for monetary compensation (in the months of December and January). Participants were first asked to read and imagine themselves in a situation where they needed to buy luggage for an upcoming business trip. We manipulated shopping focus (status versus performance) using wording from Rucker and Galinsky (2009). Specifically, in the status condition, participants were told they were searching for luggage that, “*is designed to impress and command respect from others*. In other words, you want to buy a luggage that will *signal high status to all those around you*.” Participants in the performance condition were instead told they were searching for luggage that, “*is designed for quality and provides consistency and function*. In other words, you want to buy a luggage that will *be an instrument of performance whenever you*

*need it,*” (see Appendix D for full wording). Participants then viewed an image for a leather rolling luggage, featured on either a neutral or cold background. To increase the robustness of our examination, we selected two different visual images than in study 2 (see Appendix E and F for the images and stimuli). Pretests demonstrated that the estimated temperatures in the cold and neutral conditions were indeed perceived to be cold and neutral respectively, and that the two images did not differ in attractiveness, likeability, novelty, or familiarity (see Web Appendix for details).

After viewing the advertisement, participants evaluated the product (as measured in studies 1 and 2;  $\alpha=.97$ ). As a manipulation check for the shopping focus, participants were asked to indicate the degree to which they focused on the product’s status (“How much it would impress others,” “How much it would command respect from others” and “How much it would signal high status,”  $\alpha=.97$ ) and the product’s performance (“How much it was designed for quality,” “How much it would provide consistency and functionality” and “How well it would perform,”  $\alpha=.90$ ) when making their assessments (all on 7-point scales anchored by 1=not at all and 7=very much so). As a manipulation check for temperature, participants indicated how cold/warm the advertisement background was (as measured in the pretest). Lastly, participants were asked to indicate how well-suited the background was for the product (“The background of the advertisement suits this luggage” on a 7-point Likert scale), their seasonal preferences (“I tend to prefer cold weather” and “I tend to prefer warm weather”; both on 7-point Likert scales), their gender and age.

## Results and discussion

*Manipulation checks.* Twenty-nine participants (6.8%) failed an attention check question, leaving 395 subjects available for analysis. Participants in the status condition reported focusing more on status-related attributes than those in the performance condition

( $M_{\text{status}}=5.27$ ,  $SD=1.71$  versus  $M_{\text{performance}}=3.38$ ,  $SD=1.95$ ;  $F(1,391)=103.95$ ,  $p<.001$ ,  $\eta_p^2=.21$ ); while the reverse was true for the performance-related attributes ( $M_{\text{status}}=4.99$ ,  $SD=1.59$  versus  $M_{\text{performance}}=5.58$ ,  $SD=1.45$ ;  $F(1,391)=14.62$ ,  $p<.001$ ,  $\eta_p^2=.04$ ). Neither the main effect of temperature nor the temperature x status goal interactions were significant for either dependent variable. Further, an ANOVA showed that participants estimated the background temperature as being significantly colder for the winter image than for the spring image ( $M_{\text{cold}}=1.86$ ,  $SD=1.39$  versus  $M_{\text{neutral}}=4.82$ ,  $SD=1.25$ ;  $F(1, 391)=489.09$ ,  $p<.001$ ,  $\eta_p^2=.56$ ). ). Neither the main effect of status goal nor the temperature x status goal interactions were significant. Thus, both manipulations were successful.

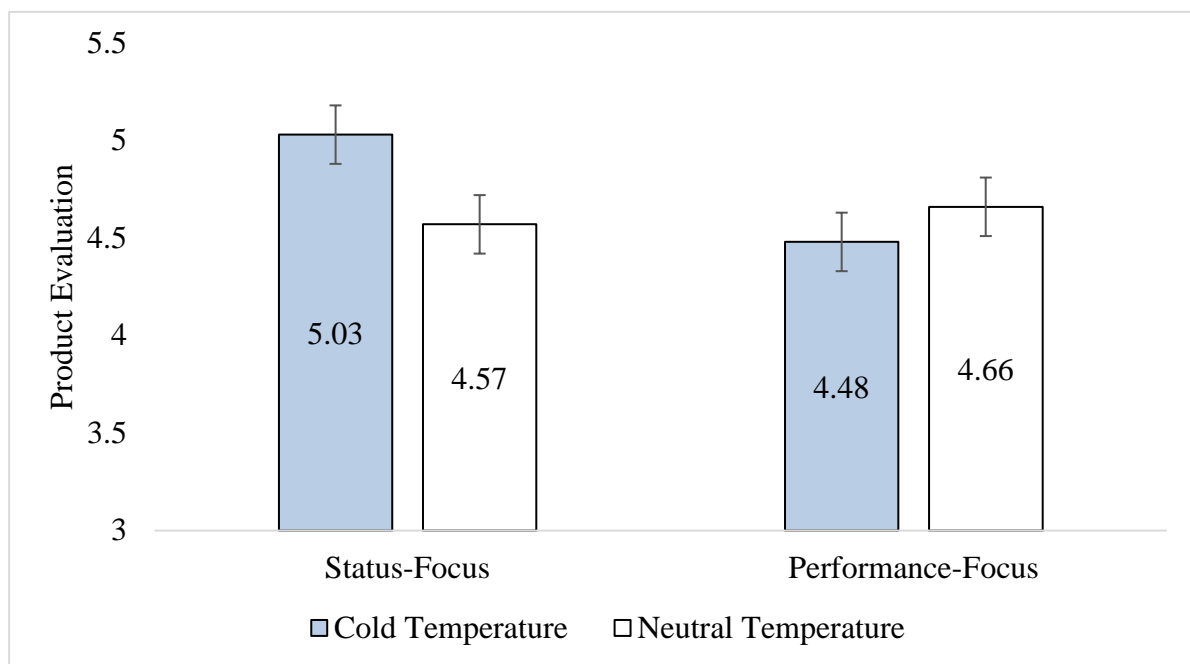
*Product Evaluation.* ANOVA results revealed a significant temperature  $\times$  shopping focus interaction on participants' evaluation of the luggage ( $F(1,391)=4.08$ ,  $p=.04$ ,  $\eta_p^2=.01$ ). Neither main effect was significant (both  $p$ 's  $>.14$ ). An analysis of contrasts revealed that in the status condition, as expected and as in studies 1 and 2, participants evaluated the product more favorably in the cold (versus neutral) condition ( $M_{\text{cold}}=5.03$ ,  $SD=1.44$  versus  $M_{\text{neutral}}=4.57$ ,  $SD=1.56$ ;  $F(1,391)=4.09$ ,  $p=.04$ ,  $\eta_p^2=.01$ ). However, for participants in the performance condition, there was no significant difference across temperature conditions ( $M_{\text{cold}}=4.48$ ,  $SD=1.56$  versus  $M_{\text{neutral}}=4.66$ ,  $SD=1.66$ ;  $F(1,391)=.66$ ,  $p>.41$ ,  $\eta_p^2<.01$ ; see Figure 1). In further support of our theorizing, in the cold temperature condition, product evaluation was higher for those participants in the status (versus performance) condition ( $M_{\text{status}}=5.03$ ,  $SD=1.44$  versus  $M_{\text{performance}}=4.48$ ,  $SD=1.56$ ;  $F(1,391)=6.01$ ,  $p=.02$ ,  $\eta_p^2=.02$ ). In the neutral temperature condition, there was no difference across the two shopping focus conditions ( $M_{\text{status}}=4.57$ ,  $SD=1.56$  versus  $M_{\text{performance}}=4.66$ ,  $SD=1.66$ ;  $F(1,391)=.17$ ,  $p=.68$ ,  $\eta_p^2<.01$ ).

*Ancillary Analyses.* We reran the ANOVA above holding both seasonal preference items as covariates, and the results continue to hold (reported in the web appendix). In addition, to test whether evaluative differences might be explained by a greater "fit" between the cold

background and the luggage category, we ran an ANOVA with temperature and shopping focus as independent variables and background suitability as a dependent variable. Neither the interactive effect nor main effects were significant (reported in the web appendix).

Figure 1:

The Effect of Temperature and Shopping Focus on Product Evaluation



## GENERAL DISCUSSION

In this research, we built upon the literature on embodied cognition and luxury perceptions to suggest that physical cold increases consumers' perceptions of a product's status-signaling and luxury, which can accordingly improve product evaluations. We demonstrate this consequence can stem from tactile or visually-induced temperatures and highlight boundary conditions for when the effect is likely to manifest.

The current work makes a number of theoretical contributions. We add to research on luxury products by demonstrating that assessments of status-signaling and luxuriousness can

vary based on temperature cues that either stem from the product itself or that accompany the presentation of a product (via visual advertising cues). While previous research has found that warm product temperature can exert positive effects on consumers' product evaluations (by shortening psychological and spatial distance perceptions), we demonstrate that when it comes to status-signaling and luxuriousness, cold temperatures are in fact more advantageous. Accordingly, we complement previous work and add nuance to research on the effects of temperature on product perceptions.

The current research also makes a number of substantive contributions to the areas of retailing, product design, brand management, and marketing communications. Our work suggests that as alluded to in this paper's introduction, luxury retailers may indeed benefit from lower thermostat settings in stores, given that cold ambient temperatures positively influence status and luxury perceptions. Showrooms for luxury cars and other status-signaling products might similarly find cold ambient temperatures advantageous for both brand perceptions and sales. Further, given our finding that visually cold imagery can also increase status-signaling and luxury perceptions, product designers and advertisers for luxury goods may find it beneficial to incorporate such imagery in product packaging and advertising communications (see a marketplace example in Appendix G). Such visual cues are also relevant in online shopping contexts, when tactile temperature manipulations are not feasible.

Our findings also provide important avenues for future research. First, while we focused on luxury product perceptions, our theorizing would suggest that cold temperature signaling should also prove beneficial in other categories and contexts where social distance is advantageous. For example, sellers of products or services that are meant to appeal to an expert population might wish to communicate that they stand apart from the mainstream and might accordingly benefit from cold temperature cues in advertising or product packaging.

Future research might also explore scenarios in which coldness acts as a positive cue for interpersonal assessments. For example, research suggests that warmth and competence



can sometimes represent conflicting interpersonal dimensions (Wang, Mao, Li, & Liu, 2016), and accordingly, it may be the case that cold temperature and the accompanied social distance is preferable for professional services where competence assessments are more important than warmth assessments (e.g., law or accountancy firms). Uncovering such contingencies would help build a more nuanced understanding of how sensory cues shape interpersonal assessments and would carry practical value for customer-facing professional service firms.

Finally, while our research examined how cold temperatures positively benefit status and luxury perceptions, it might be interesting to examine this relationship in the other direction. For example, research has already shown that exposure to luxury products can make people feel socially excluded (Jiang, Gao, Huang, DeWall, & Zhou, 2014), and social exclusion has been shown to make people feel colder (IJzerman & Semin, 2009; Zhong & Leonardelli, 2008). These two links would suggest that consuming status-signaling luxury goods might indirectly make people feel colder, and it might be worthwhile to explore and identify instances in which such bidirectionality applies. The cold-luxury link might be further probed through an Implicit Association Test (Greenwald, McGhee, & Schwarz, 1998), which could help determine whether the association is also demonstrated at an unconscious level or by assessing if priming the reverse association suppresses the effects. Given the myriad of potential theoretical and practical expansions, we hope the current research invites future explorations of how temperature contingently influences consumers' assessments.

## APPENDIX A

Product used in Study 1: Decorative vase  
(width 6.5 cm  $\times$  height 14 cm; 263 grams)



## APPENDIX B

## Visual temperature images used in Study 2

Cold condition:



Warm condition:



## APPENDIX C

## Advertising stimuli used in Study 2

Cold conditions:Warm conditions:

## APPENDIX D

## Shopping focus manipulations used in Study 3

Status condition:

“Please read the following scenario carefully.

Try your best to **really imagine** that you are in the situation being described:

Imagine that you have a business trip coming up and you are looking to buy luggage.

Importantly, you are looking for a piece of luggage that is **designed to impress** and **command respect from others**. In other words, you want to buy a luggage that will **signal high status to all those around you**.

**Keeping this goal in mind**, please evaluate the luggage presented on the next page.”

Performance condition:

“Please read the following scenario carefully.

Try your best to **really imagine** that you are in the situation being described:

Imagine that you have a business trip coming up and you are looking to buy luggage.

Importantly, you are looking for a piece of luggage that is **designed for quality** and **provides consistency and function**. In other words, you want to buy a luggage that will **be an instrument of performance whenever you need it**.

**Keeping this goal in mind**, please evaluate the luggage presented on the next page.”



## APPENDIX E

## Visual temperature images used in Study 3

Cold condition:Neutral condition:

## APPENDIX F

## Advertising stimuli used in Study 3

Cold condition:Neutral condition:



## APPENDIX G

Marketplace example of cold visual imagery for luxury product





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