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Author(s): David Dubois, Derek D. Rucker, Adam D. Galinsky

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Super Size Me: Product Size as a Signal of Status

DAVID DUBOIS
DEREK D. RUCKER
ADAM D. GALINSKY

This research proposes that consumers' preference for supersized food and drinks may have roots in the status-signaling value of larger options. An initial experiment found that consumers view larger-sized options within a set as having greater status. Because low-power consumers desire status, we manipulated power to test our core propositions. Whether induced in the lab or in the field, states of powerlessness led individuals to disproportionately choose larger food options from an assortment. Furthermore, this preference for larger-sized options was enhanced when consumption was public, reversed when the size-to-status relationship was negative (i.e., smaller was equated with greater status), and mediated by consumers' need for status. This research demonstrates that choosing a product on the basis of its relative size allows consumers to signal status, illustrates the consequences of such a choice for consumers' food consumption, and highlights the central role of a product category's size-to-status relationship in driving consumer choice.

One of the most alarming statistics of food consumption is the 32% rate of obesity within the United States. And obesity is expected to continue its precipitous increase so that by 2015, 41% of U.S. adults will be obese, with an astonishing 75% overweight (Wang and Beydoun 2007). These figures are all the more problematic in that the rise in obesity rates has mostly affected vulnerable populations, such as lower socioeconomic status individuals (McLaren 2007; Puhl, Heuer, and Brownell 2010). Although there are likely multiple contributing culprits to this disturbing phe-

nomenon, the food industry has been singled out for the expansion of its food and beverage assortments to include increasingly larger, "supersized" options (Spurlock 2004). In fact, the past 20 years have seen portion sizes increase by 52% for soft drinks, 27% for Mexican food, and 23% for hamburgers (Nielsen and Popkin 2003).

Given the societal consequences of the interplay between package size and food consumption (Brownell 2005), a growing number of studies have aimed at better understanding the role of size in food consumption (e.g., Chandon and Wansink 2007; Wansink 1996). Research efforts have focused on the impact of products' size on perceived quantity (Raghubir and Krishna 1999) and actual consumption (Wansink 1996). More recent investigations have examined how the nature of changes in package size (Chandon and Ordabayeva 2009) or assortment size (Sharpe, Staelin, and Huber 2008) shape consumers' preference for specific types of products.

In this article, we seek to understand why consumers choose to trade up to larger-sized options. In doing so, we put forth a novel hypothesis: an option's size within a set can serve as a marker of social status. That is, the act of choosing a specific size within a set of hierarchically arranged options is one avenue by which individuals signal to others their relative rank in a social hierarchy. As a consequence, larger options would be selected by consumers, not merely out of a functional need for hunger but due to

David Dubois (dubois@hec.fr) is assistant professor of marketing, HEC Paris, 1 rue de la Libération, 78351 Jouy-en-Josas cedex, France. Derek D. Rucker (d-rucker@kellogg.northwestern.edu) is associate professor of marketing, Kellogg School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60208. Adam D. Galinsky (agalinsky@kellogg.northwestern.edu) is the Morris and Alice Kaplan Professor of Ethics and Decision in Management, Kellogg School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60208. The authors are grateful to the editor, the associate editor, and the *JCR* reviewers for their many valuable comments and suggestions. In addition, the authors thank participants in seminars at Northwestern University and the Ohio State University for their input. Support from the Kellogg School of Management, Northwestern University, is gratefully acknowledged.

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a desire to signal status. For example, given that a state of low power leads consumers to desire and acquire status to compensate for their lack of power (Dubois, Rucker, and Galinsky 2010; Rucker and Galinsky 2008, 2009), consumers in a state of low power should prefer larger options.

We first review past theoretical accounts and empirical evidence on the importance of status and delineate why a product's size relative to other options in a set might serve as a signal for status. Subsequently, we explain why momentary shifts in power provide an ideal testing ground for empirically examining our proposition regarding the link between efforts to signal status and consumers' size preference within a set of options.

THE NEED FOR STATUS

The desire to acquire and express status has been argued to be a central motivation in human behavior (e.g., Argyle 1994; Berger, Rosenholtz, and Zelditch 1980; Bourdieu 1984). A need for status typically refers to either an individual or a group motive to attain respect or admiration by others (e.g., Magee and Galinsky 2008; Ridgeway and Correll 2006; see also Hyman 1942). One reason people engage in status-signaling activities is that having, relative to lacking, status leads to greater social and individual benefits (Dubois and Laurent 1996; Han, Nunes, and Drèze 2010). These benefits manifest themselves in preferential treatment and financial rewards (Fennis 2008; Nelissen and Meijers, forthcoming). For instance, in a series of experiments, Nelissen and Meijers (forthcoming) had participants wear a polo shirt that either had a logo associated with a high-status brand or had no logo. Participants who wore the branded shirt obtained significantly greater compliance from others when they asked for assistance and received more money when they requested charitable donations. Elsewhere, research has found that individuals occupying a higher position in society are even less likely to be affected by traditional coronary risk factors, controlling for items such as education or wealth (Kuper and Marmot 2003; Marmot 2004). Similarly, research on animal behavior has found that higher status in a group leads to greater access to food (Barton, Byrne, and Whiten 1996) and reproductive success (D'Amato 1988).

In consumer settings, the need for status affects consumers' preferences in multiple ways (e.g., Drèze and Nunes 2009; Mandel, Petrova, and Cialdini 2006; Ordabayeva and Chandon 2011). A need for status has been shown to be positively correlated with increases in consumers' preference for conspicuous consumption (e.g., Charles, Hurst, and Roussanov 2009) and luxury products (e.g., Han et al. 2010). As a result, status brands have moved down market to take advantage of new social targets by tapping into their heightened need for status. Indeed, despite the world's recent economic recession, the world's luxury market continues to grow and stands at over \$210 billion (Bain 2010).

Prior research has focused on underlying factors that drive consumers' use of products explicitly associated with status, such as luxury goods (Berger and Ward 2010; Han et al.

2010; Mandel et al. 2006; Rucker and Galinsky 2008, 2009). For example, Ordabayeva and Chandon (2011) suggested that low-income consumers' preference for conspicuous products is a joint function of consumers' perceived equality with others as well as their own concerns for status. They reasoned that an increase in equality accentuates the need for status-enhancing consumption because such consumption provides consumers with the opportunity to outshine the other consumers clustered in the middle tiers. Consequently, consumers' preference for status products is greater under a high level of equality than a low level of equality when status is important to consumers. In contrast, increased equality reduced low-income consumers' preference for status products when status was not important to consumers.

In this article, we propose that even products typically dissociated from status or conspicuousness (e.g., a coffee or a smoothie) can be used to signal status. Specifically, when a choice set emphasizes the hierarchical relationship among the options, we suggest that the relative size of the options within this set can serve as a status-signaling device. Consumers presented with a set of several options arranged from smallest to largest might associate the size of the option with the status of the option, subsequently affecting their final choice.

SUPERSIZING AS A SIGNAL OF STATUS

Research has found that features of a product, such as size, can influence behavior by serving as cognitive shortcuts (e.g., Chandon and Ordabayeva 2009; Wansink and Van Ittersum 2003). For example, at a perceptual level, people believe taller glasses contain more liquid than shorter glasses (Raghubir and Krishna 1999). At a behavioral level, larger packages of familiar and branded products encourage more use than smaller packages, without consumers being aware that package size is affecting their consumption levels (Granger and Billson 1972; Wansink 1996). Elsewhere, Prelec, Wernerfelt, and Zettelmeyer (1997) found that contrary to a normative account predicting that individuals would choose a poncho's size on the basis of their height, merely varying the relative size of the options within an assortment of three ponchos (e.g., 32, 34, and 36 inches or 38, 40, and 42 inches) dramatically shifted consumer choices (leading consumers to pick smaller or larger ponchos, respectively). And Sharpe et al. (2008) showed that removing the smallest option or adding a larger option from an initial set (e.g., a choice of three sizes of soft drinks: 32, 21, and 16 ounces) caused consumers to choose larger sizes.

In this research, we propose a novel means by which consumers may use product size: an option's *relative size* within a set of options can signal status. That is, when presented with a set of options arranged in a hierarchical fashion (e.g., multiple sizes of a beverage, from smallest to largest), we expect consumers to naturally equate larger options with greater status. Although their assertion is empirically untested, several theoreticians have argued that larger sizes are often associated with greater status than smaller sizes in Western societies (see Baudrillard 1998, 2005). In

addition, individuals have been shown to naturally associate status with greater length (Schubert, Waldzus, and Giessner 2009) and height (Dannenmaier and Thumin 1964; Wilson 1968). And individuals low in socioeconomic status draw monetary objects as bigger, consistent with the notion of a general positive relationship between value and size (Bruner and Goodman 1947). These findings are also consistent with an evolutionary perspective suggesting that larger sizes are equated with higher rank and dominance among primates (Rivers and Josephs 2010). As a consequence, even products that have no inherent status connotations in and of themselves (e.g., a soft drink) may be viewed as having status when their large size becomes salient, relative to other options. More formally:

H1: Selecting larger sizes from a set of options, relative to smaller sizes, will be associated with greater status.

Next, we delineate why power provides a useful and interesting context to study whether a need for status affects consumers' preferences for larger-sized options within a set.

POWER, STATUS SEEKING, AND PREFERENCE FOR SIZE

Power and the Need for Status

Defined as asymmetric control over valued resources in social relations (Magee and Galinsky 2008; for a review, see Rucker, Galinsky, and Dubois, forthcoming), power is a foundational basis of social hierarchy (Sidanius and Pratto 1999) that affects psychological processes related to how people think (e.g., Briñol et al. 2007; Galinsky et al. 2008; Smith and Trope 2006), feel (e.g., Anderson and Galinsky 2006; Guinote 2007), and behave (e.g., Galinsky et al. 2006; Keltner and Robinson 1997). Power, in comparison to other sources of control, is primarily tied to social contexts, as it involves a relationship between at least two people (Emerson 1962; French and Raven 1959; Inesi et al., forthcoming; Ng 1980).

Although power and status are both bases of hierarchical differentiation (Fiske and Berdahl 2007; Magee and Galinsky 2008), they are conceptually distinct. Power relates to one's relative control over valued resources, whereas status relates to the respect one has in the eyes of others (Hyman 1942; Magee and Galinsky 2008; Marmot 2004). Despite these conceptual differences, evidence suggests that power and status can compensate and substitute for each other. Indeed, prior work has shown that when one's power is threatened, individuals appear to place a greater value on products explicitly linked to status (Rucker and Galinsky 2008; Wong and Shavitt 2010), think about products in terms of the status they convey (e.g., Rucker and Galinsky 2009), and place greater value on monetary wealth (Dubois et al. 2010).

Power and Preference for Larger-Sized Food Options

If our first hypothesis that larger sizes of options signal greater status is correct, we predict that the powerless, who have an increased desire for status, should choose larger-sized food options within a set, compared to powerful and power-neutral individuals. Thus, power provides an ideal means to test whether a need for status increases consumers' preference for supersized food.

H2: States of powerlessness will increase preference for larger-sized food options within a set, compared to states of power and baseline conditions.

On the basis of our proposed mechanism, two hypotheses of moderation can be further derived. First, because status is primarily measured "in the eyes of others" (Ridgeway and Correll 2006) and expressions of status are sensitive to the social context (Rucker and Galinsky 2009), the preference for larger sizes by the powerless should be greater when consumption is socially visible to others. Such a view is consistent with research suggesting that states of powerlessness increase one's sensitivity to others (Galinsky et al. 2008; Rucker, Dubois, and Galinsky 2011) and with findings that individuals from groups historically associated with low power, such as women and African Americans, spend more in contexts in which consumption is social (e.g., at the dealership) compared to more private contexts (e.g., online purchase at home; see Charles et al. 2009; Morton, Zettelmeyer, and Silva-Risso 2003).

H3: A preference for specific sizes by the powerless will be more prevalent in social/public consumption settings compared to nonsocial/private settings.

Second, even though our main hypothesis recognizes the prevalence of positive size-to-status relationships, consistent with an evolutionary account equating larger with greater status, it is also possible that societal constructions of value might sometimes equate smaller with greater status. That is, when people come to agree on smaller sizes as having greater value, negative size to status might prevail, whereby the smallest option in a set is associated with more status because it is viewed as more valuable (e.g., being slim, having easy-to-carry electronic goods). Recognizing that small options can sometimes signal greater status also has implications for how power will affect consumers' decisions. Specifically, when the size-to-status relationship is negative, we propose that the powerless will choose smaller options. For instance, if being slim is highly valued in a social system (Puhl et al. 2010), choosing the smallest snack among three options should be viewed as affording the highest status.

H4: When the size-to-status relationship among a set of food options is negative (i.e., smaller is equated with greater status), states of powerlessness will increase consumers' preference for smaller options within the set, compared to states of power and neutral power states.

TABLE 1
AVERAGE STATUS AND NONSTATUS PERCEPTIONS, EXPERIMENT 1 (ON A 1–7 SCALE)

	Status-related dimensions		Status-unrelated dimensions		
	High status	Respected	Honest	Nice	Attractive
Coffee:					
Small	3.05 (1.05)	2.94 (.97)	4.55 (1.51)	4.23 (1.20)	4.36 (1.35)
Medium	3.72 (1.14)	3.91 (1.26)	4.33 (1.15)	3.51 (1.12)	4.25 (1.20)
Large	5.05 (1.50)	5.06 (1.43)	4.71 (1.33)	3.90 (1.12)	4.30 (1.16)
Pizza:					
Small	3.24 (1.05)	2.88 (1.04)	4.56 (1.15)	4.22 (1.09)	4.76 (1.39)
Medium	3.79 (1.25)	3.71 (1.18)	4.50 (1.40)	4.17 (1.23)	4.02 (1.14)
Large	4.92 (1.35)	5.00 (1.44)	4.11 (1.27)	4.34 (1.53)	4.19 (1.24)
Smoothie:					
Small	3.06 (1.15)	3.01 (1.04)	4.62 (1.40)	4.31 (1.30)	4.54 (1.44)
Medium	3.91 (1.24)	3.70 (1.30)	4.16 (1.32)	4.28 (1.25)	4.11 (1.19)
Large	5.01 (1.41)	4.86 (1.32)	4.61 (1.48)	4.21 (1.12)	4.14 (1.26)

NOTE.—Standard deviations are in parentheses.

Summary and Overview of Experiments

Six experiments tested our hypotheses that the size of food options selected by consumers can both signal status and be used to compensate for a need for status. The first experiment illustrates that larger-sized choices within a set of food options are associated with greater status. Given that size can convey status, experiments 2 and 3 establish that those known to be in pursuit of status—the powerless—choose larger-sized food options from a set. Experiment 4 tests the role of status signaling by demonstrating that the powerlessness-induced preference for larger-sized options is enhanced when consumption is publicly visible as opposed to private. Experiments 5 and 6 demonstrate that the preference for larger sizes by the powerless is reversed when the size-to-status relationship of the product category is negative and is mediated by an expressed need for status. Across experiments, we used five different manipulations of power and used both field and laboratory settings to establish a robust relationship between lacking power and our novel hypothesis that consumers' preference for an option's relative size can be used as a means to signal status and thus affect food consumption.

EXPERIMENT 1: SIZE AS STATUS; EVIDENCE FROM THE EYE OF THE BEHOLDER

Experiment 1 tested our first hypothesis that selecting larger sizes in a set of options conveys greater status. Participants were asked to judge another consumer on several attributes, including status, after this consumer selected the largest option within a set, compared to a medium or a small one. In addition, to rule against the possibility that status was derived purely from the perceived amount of money the consumer spent, we either did not mention the cost to the consumer or held the cost constant across scenarios (i.e., we made the product free). We predicted that consumers who selected the larger size would be seen as having greater

status but that size selection would not affect dimensions unrelated to status.

Method

Undergraduates ($N = 183$; 74 males) were randomly assigned to a 3 (size of observed choice: small, medium, large) \times 3 (scenario: coffee, pizza, smoothie) \times 2 (dimension: status, nonstatus) mixed model design, with dimension serving as a within-participant factor.

Participants were presented with one of nine scenarios in which a consumer chose one of three options (small, medium, large) from a set of three hierarchically arranged options in one of three situations (coffee, pizza, and smoothie; see app. A for a sample scenario). The scenario featured a target consumer either selecting an option within a set where price was not made salient (pizza, smoothie) or choosing a free sample (coffee). Next, participants were asked to make snap judgments of the target consumer on two dimensions wedded to status (this person has high status, is respected; $\alpha = .93$) and three dimensions divorced from status (this person is honest, nice, attractive; $\alpha = .84$). Dimensions were counterbalanced to avoid an order effect.

Results and Discussion

Preliminary analyses revealed no interactions among the different scenarios used, and thus we collapsed across the scenarios in our analyses, unless otherwise specified. We conducted a 3 (size of observed choice: small, medium, large) \times 2 (dimension: status, nonstatus) mixed model ANOVA with repeated measures on the last factor. A significant interaction between size of choice and dimension emerged ($F(1, 177) = 4.06, p = .03, \eta_p^2 = .05$; see table 1).

For status dimensions, there was an effect of size of observed choice ($F(1, 177) = 10.22, p = .001, \eta_p^2 = .10$). Perceived status of the consumer in the scenario increased as a function of the size of the chosen option, from small

($M = 3.03$, $SD = 1.19$) to medium ($M = 3.79$, $SD = 1.25$) to large ($M = 4.98$, $SD = 1.41$). Planned contrasts further revealed that the consumer's perceived status was significantly higher in the large condition than in the small ($t(182) = 4.66$, $p = .001$, $d = 1.10$) and medium ($t(182) = 2.95$, $p = .01$, $d = .65$) conditions. In addition, perceived status was significantly higher in the medium than in the small condition ($t(182) = 2.27$, $p = .05$, $d = .46$). Importantly, this effect did not depend on whether the price was unknown (pizza, smoothie) or identical (i.e., the free coffee; $p > .5$). For nonstatus dimensions, there was no effect of choice, scenario, and gender or their interaction on perceptions of an individual's honesty, niceness, and attractiveness ($F < 1$).

Overall, these results provide support for hypothesis 1, as participants judged other consumers as having more status when they selected the largest product within a set compared to the medium or the small one. These results suggest that an option's size relative to other options in a set can serve as a signal for status. Importantly, these results illustrate how even mundane products (i.e., a smoothie, pizza, coffee) can bestow status when they are embedded in a set of hierarchically sized options. In addition, this experiment allowed us to separate the effects of size from a simple price explanation. That is, although price certainly might contribute to consumers' general association of "larger" with greater status, choosing a larger option was seen as a marker of status even when the option was given for free (coffee). Finally, this experiment found that the effects of choosing larger products within a set were unique to perceived status and did not affect social judgments on dimensions unrelated to status.

EXPERIMENT 2: POWERLESSNESS AS A CATALYST FOR A DESIRE FOR STATUS

On the basis of past research finding that powerlessness increases one's desire to acquire status (Dubois et al. 2010; Rucker and Galinsky 2008, 2009), experiment 2 tested our second hypothesis that low-power individuals will select larger-sized options more so than high-power or power-neutral individuals.

Method

One hundred and forty-two undergraduates from an online subject pool were randomly assigned to a three-cell design: high power, low power, and baseline.

Power Manipulation. Power was manipulated via an episodic prime adapted from Galinsky, Gruenfeld, and Magee (2003). In the high-power condition, participants read: "Please recall a particular incident in which you had power over another individual or individuals. By power, we mean a situation in which you controlled the ability of another person or persons to get something they wanted, or were in a position to evaluate those individuals. Please describe this situation in which you had power—what happened, how

you felt, etc." In the low-power condition, participants read: "Please recall a particular incident in which someone else had power over you. By power, we mean a situation in which someone had control over your ability to get something you wanted, or was in a position to evaluate you. Please describe this situation in which you did not have power—what happened, how you felt, etc." In the baseline condition, participants were asked to recall the last time they went to the grocery store (Galinsky et al. 2003). At the end of the experiment, a manipulation check was included that asked participants to rate the extent to which the recall task made them feel powerful on a 7-point scale (1 = not powerful; 7 = powerful).

Preference for Size in Assortment. In an ostensibly different task, participants were presented with one assortment of three smoothies and asked which one they would choose to purchase from the assortment. Specifically, they were told: "Please consider the following assortment of smoothies. If such an assortment was available at the University Student Center, and you were considering purchasing a smoothie now, which one would you be most likely to buy?" The assortment displayed three pictures of a cup the smoothie was served in. In order to clearly indicate the size hierarchy among options, we varied the pictures' size to reflect the relative size of each option. In addition, we labeled the three options "small," "medium," and "large" to emphasize their relative sizes. Although calories vary depending on the flavor, the options presented at the University Student Center, identical to the ones used in the experiment, typically range from 200 calories (small option) to 310 calories (medium option) to 410 calories (large option). Thus, the size chosen is consequential in this paradigm in that it likely determines the amount individuals will consume and thus has potential health-related ramifications. The dependent variable was participants' choice of smoothie.

Results and Discussion

Manipulation Checks. Participants reported feeling significantly less powerful in the low-power condition ($M = 3.03$, $SD = 1.65$) than in both the baseline condition ($M = 4.10$, $SD = 1.75$; $t(141) = 2.77$, $p = .02$, $d = .76$) and the high-power condition ($M = 5.10$, $SD = 1.82$; $t(141) = 5.97$, $p < .001$, $d = 1.27$), suggesting the manipulation was successful.

Preference for Size. Size was coded as -1 (small option), 0 (medium option), or 1 (large option). Data were analyzed using ANOVAs, t -tests, and chi-square when appropriate. There was a significant main effect of power ($F(1, 135) = 10.54$, $p < .01$, $\eta_p^2 = .09$), such that low-power participants were significantly more likely to choose larger smoothies ($M_{\text{low}} = .32$, $SD_{\text{low}} = .72$) than both baseline ($M_{\text{base}} = .03$, $SD_{\text{base}} = .79$; $t(141) = 2.21$, $p = .03$, $d = .43$) and high-power participants ($M_{\text{high}} = -.04$, $SD_{\text{high}} = .82$; $t(141) = 2.29$, $p = .02$, $d = .47$). There was no effect of gender on size ($F(1, 135) = 1.05$, $p = .46$, $\eta_p^2 = .01$),

nor was there a gender \times status manipulation interaction ($F < 1$).

Consistent with our general perspective that size can signal status, individuals known to desire status (i.e., the powerless) shifted their preferences toward larger-sized options in a set. In fact, participants who received the low-power prompt picked the largest option almost twice as often as high-power and baseline participants (25 vs. 15 and 14, respectively), resulting in a dramatic change in the options' market share ($\chi^2(4) = 10.98, p = .03$; see fig. 1).

EXPERIMENT 3: A MATTER OF PRICE?

Although experiment 2 provides evidence for the link between powerlessness and preference for larger sizes, a limitation is that participants might think that size reflects the presumed price of the option. As past research has shown that low-power individuals are sensitive to money (Dubois et al. 2010), one could hypothesize that participants decide to choose larger sizes because they are presumed to be more expensive. Although experiment 1 showed that choosing a larger size conveyed status regardless of the options' price, one could still hypothesize that the choice of the powerless stems not from an option's size but from its cost: they desired larger smoothies to signal status via cost. Experiment 3 was designed to rule out the possibility that the observed effect was tied to perceived cost.

Experiment 3 also aimed to increase the ecological validity of our findings. Whereas nearly all prior manipulations of power have been confined to controlled lab settings (Fast et al. 2009; Galinsky et al. 2003; Guinote 2007; Magee and Galinsky 2008; Rucker and Galinsky 2008, 2009; Smith and Trope 2006; Weick and Guinote 2008), experiment 3 manipulated power in the field.

Method

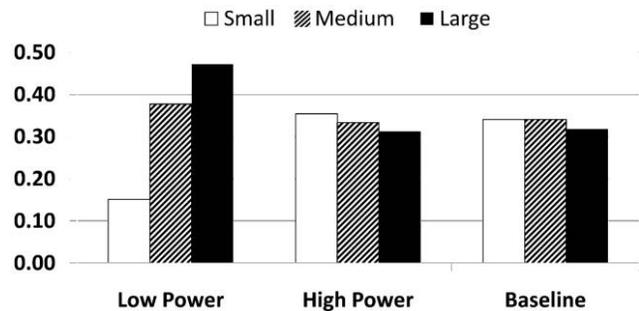
Eighty-nine participants took part in this experiment. Participants were residents of a high-rise building in a metropolitan area, and the experiment took place in three distinct lobbies of this building.

Power Manipulation. Small tables (one per lobby) were set up on people's way out of the building between the elevator and one of the exits (a path that all residents have to take to exit the building). A large, highly visible banner (about 4.5 \times 3.5 feet) advertising House of Bagels, a supposedly new bagel chain in the area, was displayed behind each table. Key to the experiment, the content of this banner differed from one lobby to another. In one of the lobbies (low-power condition), the banner read: "We all feel powerless in the morning: Treat yourself to free bagels." In a second lobby (high-power condition), the banner read: "We all feel powerful in the morning: Treat yourself to free bagels." In the third lobby (baseline condition), the banner read "It's morning: Treat yourself to free bagels" (see app. B).

A pretest of these banners among a student sample ($N =$

FIGURE 1

CHOICE OF SMOOTHIE AS A FUNCTION OF POWER AND RELATIVE SIZE, EXPERIMENT 2



46) indicated that they successfully triggered different states of power. Specifically, participants of this pretest completed a short questionnaire during morning lab sessions while one of the three banners was posted on the wall of the lab. This questionnaire was identical in all conditions and included a question asking participants to report the extent that they felt powerful, on a 9-point scale anchored at 1 = not powerful and 9 = powerful. Participants exposed to the low-power banner felt significantly less powerful ($M = 3.54, SD = 1.12$) than both participants exposed to the baseline banner ($M = 4.56, SD = 1.46; t(45) = 2.19, p = .03$) and those exposed to the high-power banner ($M = 5.93, SD = 1.83; t(45) = 4.32, p = .005$); in addition, participants exposed to the high-power banner felt significantly more powerful than participants exposed to the baseline banner ($t(45) = 2.31, p = .03$).

Preference for Size in Assortment. Three experimenters blind to the hypotheses were recruited for this setting. People who approached the table were greeted by an experimenter (one per lobby) and informed that the bagel company was interested in consumers' perception of different bagels. All experimenters followed the same script for interacting with participants. Individuals were completely free to agree to participate or decline. All participants who approached the table subsequently took one or more bagel pieces.

On each table, two large plates were full of bagel pieces. Importantly, one plate contained small pieces (approximately 1.5 \times 1.5 \times 1.5 centimeters); the other plate contained large pieces (approximately 2.5 \times 2.5 \times 2.5 centimeters). Participants were invited to take as many pieces as they wanted, as long as they ate them on site. Participants were subsequently asked to complete a short questionnaire in which they indicated how much they enjoyed the bagel on a 7-point Likert scale anchored at "not at all" and "very much," whether they already had breakfast (binary response), their age, and their gender. The dependent variable was the number of bagel pieces taken and eaten (number of small pieces, number of large pieces, and total number of pieces).

Results and Discussion

There was no main effect of power on the total number of pieces taken ($F < 1$). However, there was a significant power \times size interaction ($F(1, 83) = 3.01, p = .03, \eta_p^2 = .03$), such that low-power participants took more large pieces ($M = 1.93, SD = 1.11$) than both baseline ($M = 1.22, SD = 1.18$) and high-power ($M = 1.24, SD = 1.21$) participants ($F(1, 83) = 3.79, p = .02, \eta_p^2 = .08$). In contrast, the number of small pieces taken did not vary across low-power ($M = 1.21, SD = 1.19$), baseline ($M = 1.44, SD = 1.28$), and high-power ($M = 1.38, SD = 1.26$) participants ($F < 1$).

Next, we conducted a regression on the number of large pieces including the variables collected in the short questionnaire administered right after participants ate the bagels (i.e., reported enjoyment of the bagels, whether participants had breakfast before the experiment, their age and gender). Results indicated that the only significant predictor was the power condition ($\beta = -.28, t(88) = 2.61, p = .01$). None of the other variables predicted the number of large pieces taken ($p > .18$).

Even when presented with free small and large food samples, powerless individuals took and consumed more large food samples but not more small food samples than both baseline and high-power individuals, consistent with our hypothesis that a state of powerlessness increases one's preference for larger sizes. Viewed from another perspective, 33.4% of low-power participants in our sample took four or more large bagel pieces, as opposed to 14.8% of baseline participants and 17.2% of high-power participants ($\chi^2(2) = 9.39, p < .01$).

These differences in choice also had consequences for participants' total caloric intake. For an estimated average of 10 calories per small piece and 45 calories per large piece, low-power participants' caloric intake was significantly greater ($M = 100.61, SD = 48.5$) than that of both baseline participants ($M = 70.92, SD = 45.48$) and high-power participants ($M = 71.03, SD = 48.59; F(1, 83) = 4.01, p = .02, \eta_p^2 = .08$). A final feature of this experiment is that it offers an illustration that power states can be activated in the real world.

EXPERIMENT 4: THE MODERATING ROLE OF SOCIAL VISIBILITY

Experiment 4 had several goals. First, we wanted to gain insight into the process by which power increases preference for larger sizes. On the basis of our first hypothesis that size signals status, we have suggested that, like a moth drawn to a flame, the powerless are drawn to larger sizes because of their association with status. According to this *signaling* perspective, low-power participants are not interested in consuming more, but rather they are more sensitive to whether consumption episodes and products can signal being higher up in the hierarchy.

However, a remaining alternative exists. A *resource view* of power might suggest that a lack of power makes indi-

viduals feel as if they lack resources and that they need to acquire more physical resources or sustenance. According to such a view, powerlessness might drive consumption of larger food options in an assortment, not out of a desire to signal status but because individuals feel as if they need to consume more physical resources. If this were true, it would suggest a very different mechanism at play than our proposed status account.

To test these competing hypotheses, experiment 4 kept the amount of drink and food selected constant and only varied the size of the container (cup, plate) in which participants would like their food to be served. If the shift in choice stems from individuals' desire to signal status, participants should prefer larger sizes of cups or plates to smaller ones. In contrast, if larger options are only selected because they provide more physical resources, then there should be no difference in consumers' preferences as a function of power when the quantity to be consumed is held constant.

Another goal was to test the hypothesis, based on a status account, that the effect of power on preference for larger sizes is moderated by the social visibility of consumption. This hypothesis is consistent with literature on signaling suggesting that the meaning or use of consumption goods highly depends on whether consumption is public or private (e.g., Richins 1994; Wang and Wallendorf 2006). Thus, if the size of a chosen object provides an opportunity to express or signal status, the effect of lacking power on size selection should be enhanced when consumption takes place in social contexts (i.e., consumed in the presence of others) and reduced in private contexts.

Third, we included measures of mood to examine whether preferences for larger sizes stemmed from a state of powerlessness as opposed to more global mood effects. Empirical tests have found that temporary states of power have no effect on immediate mood (e.g., Galinsky et al. 2003; Rucker and Galinsky 2008; Smith et al. 2008) and have further suggested this is not due to the insensitivity of mood measures (e.g., Rucker et al. 2011). Nonetheless, measures of mood were included to offer a formal test of this possibility in this article.

Method

Two hundred and sixty-nine participants (121 males; $M_{\text{age}} = 30.51, SD_{\text{age}} = 10.29$) were recruited from a national online pool and randomly assigned to a 2 (power: high, low) \times 3 (consumption scenario: private, public, social) \times 2 (product: drink, food) between-participants design, with product serving as a within-participant factor.

After power was manipulated, participants were told that they would take part in a marketing study interested in consumer preferences. Participants were randomly assigned to one of three consumption scenarios. Each scenario entailed choosing between different sizes of a container (e.g., cup, plate) while keeping the amount of drink or food purchased constant. Key to our hypothesis, we varied the social visibility of consumption. Consumption took place at home

alone (privately), by oneself in public at the restaurant (publicly), or at home with friends (socially). In each scenario, participants had to buy a drink (Jamba juice smoothie) or a meal (Giordano's cheese pizza) that was explicitly for their own consumption (i.e., they would not be sharing), and they had to choose the size of the container (cup, plate).

Power Manipulation. Power was manipulated through an imagination task adapted from Dubois et al. (2010). In the high/low power condition, participants were told: "We would like to imagine you are a boss/employee at a company. Read about the role below and try to vividly imagine what it would be like to be in this role (i.e., how you would feel, think, and act)."

Participants in the high-power condition then read: "As a boss, you are in charge of directing your subordinates in creating different products and managing work teams. You decide how to structure the process of creating products and the standards by which the work done by your employees is to be evaluated. As the boss, you have complete control over the instructions you give your employees. In addition, you also evaluate the employees at the end of each month in a private questionnaire—that is, the employees never see your evaluation. The employees have no opportunity to evaluate you." In contrast, participants in the low-power condition read: "As an employee, you are responsible for carrying out the orders of the boss in creating different products. The boss decides how to structure the process of creating these products and the standards by which your work is to be evaluated. As the employee, you must follow the instructions of the boss. In addition, you are evaluated by the boss each month, and this evaluation will be private, that is, you will not see your boss's evaluation of you. This evaluation will help determine the bonus reward you get. You have no opportunity to evaluate your boss."

Social Visibility Manipulation and Preference for Size. In an ostensibly different task interested in consumer preferences, participants were assigned to one of six consumption scenarios in which they had to imagine that they were about to order a Jamba juice smoothie (Giordano's cheese pizza) that would be delivered in a cup (square plate) of one of three sizes: small, medium, or large. In the *private condition*, participants were told to imagine that they were "alone at home and about to order a smoothie/pizza" for themselves. In the *public condition*, participants were told to imagine that they were "alone at the restaurant and about to order a smoothie/pizza" for themselves. In the *social condition*, participants were told to imagine that they were "at home with friends and about to order a smoothie/pizza" for themselves (pizza consumed in the presence of close others).

A pretest among a different sample of the same population ($N = 45$) revealed that participants judged their gestures and choices would be more visible to others in the social condition ($M = 5.69$, $SD = 1.32$) than in the public condition ($M = 4.51$, $SD = 1.11$) and the least visible in the private condition ($M = 1.97$, $SD = .98$; all measured on

7-point semantic scales; $F(1, 43) = 49.10$, $p < .001$). Instructions specifically highlighted that the smoothie/pizza was for their own consumption. Finally, participants were presented with an assortment of three sizes for the container—small, medium, or large—and a representative picture of each was provided. The dependent variable was participants' choice of container.

Additional Measures. At the end of the experiment, manipulation checks assessed power and mood. Specifically, one question, anchored at 1 = not powerful and 7 = powerful, assessed power: "The role playing task at the beginning of the experiment made me feel . . ." We also included one measure of mood ("The role playing task at the beginning of the experiment made me feel . . .") on a 7-point scale, where 1 = extremely unhappy/discontent and 7 = extremely happy/content.

Results and Discussion

Manipulation Check. Participants reported feeling significantly less powerful in the low-power condition ($M = 3.54$, $SD = 1.51$) than in the high-power condition ($M = 4.58$, $SD = 1.42$; $t(268) = 4.61$, $p < .001$, $d = .59$). There were, however, no differences in mood between high-power participants ($M = 4.15$, $SD = 1.54$) and low-power participants ($M = 4.32$, $SD = 1.38$; $p > .1$). Thus, the manipulation successfully and specifically affected power rather than mood generally.

Preference for Size. Size was coded as -1 (small), 0 (medium), or 1 (large). Data were analyzed using an ANOVA and t -tests, when appropriate. As product type did not interact with power, we collapsed means across scenarios (smoothie, pizza).

There was a significant effect of power ($F(1, 263) = 10.45$, $p = .003$, $\eta_p^2 = .05$), such that participants in the low-power condition significantly chose larger containers ($M = .19$, $SD = .79$) compared to high-power participants ($M = -.13$, $SD = .82$). More important, there was a significant power \times social visibility interaction ($F(1, 263) = 3.91$, $p = .03$, $\eta_p^2 = .03$), such that low-power participants chose larger containers as the social visibility of consumption increased, whereas high-power participants' preference for size did not differ across consumption conditions. Further analyses revealed that within the low-power condition, there was a significant effect of social visibility on size ($F(1, 263) = 6.45$, $p = .01$, $\eta_p^2 = .08$); planned contrasts revealed that low-power participants' preference for larger sizes significantly increased when going from private ($M = -.15$, $SD = .82$) to public consumption ($M = .19$, $SD = .74$; $t(99) = 2.08$, $p = .038$, $d = .44$) and to social consumption ($M = .44$, $SD = .76$; $t(99) = 3.45$, $p < .001$, $d = .71$). In contrast, within the high-power condition, the effect of choice on size was not significant ($p > .7$), and none of the consumption conditions differed from one another ($p > .2$; private consumption: $M_{\text{high}} = -.12$, $SD_{\text{high}} = .85$; public consumption: $M_{\text{high}} = -.11$, $SD_{\text{high}} = .87$; social con-

sumption: $M_{\text{high}} = -.20$, $SD_{\text{high}} = .76$). Finally, gender did not affect preference for size or interact with the power manipulation ($F < 1$). However, there was a significant gender \times social visibility interaction on preference for size ($F(1, 263) = 3.35$, $p = .05$, $\eta_p^2 = .02$), with male participants' tendency to prefer larger sizes as a function of social visibility being more pronounced than that of women (private: $M_{\text{male}} = -.19$, $SD = .72$; $M_{\text{female}} = -.10$, $SD = .91$; public: $M_{\text{male}} = .22$, $SD = .71$; $M_{\text{female}} = .18$, $SD = .78$; social: $M_{\text{male}} = .50$, $SD = .73$; $M_{\text{female}} = -.41$, $SD = .81$). This tendency is consistent with existing work (Pliner and Chaiken 1990) that suggests that males and females might differently signal their place in social and private contexts through food consumption, with males eating more but females consuming less in public than in private.

Overall, these results are consistent with a status-signaling explanation for the powerlessness-induced preference for larger sizes, as opposed to a resource view. Even when divorced from a specific increase in resources, low-power participants preferred larger-sized containers. Furthermore, as the social visibility of consumption increased in our experiment, from private to public to social, low-power participants exhibited a greater tendency to prefer larger containers.

EXPERIMENT 5: WHAT IF SMALLER IS EQUATED WITH GREATER STATUS?

The previous experiments found that powerless individuals systematically chose larger options in a set consistent with a prevalent norm in Western cultures associating "larger" with "better" or "greater value" (Baudrillard 1998, 2005) and, thus, greater status. Although this is consistent with the idea that larger is naturally associated with greater dominance, culture and context can create situations in which smaller is of greater value and therefore higher status. For instance, in today's Western society, being slim or possessing small electronic goods is often associated with having higher status. In these situations, we expect the preference for size to reverse, with a greater need for status leading to greater preference for smaller, not larger, options. Experiment 5 provided a test of the reversal by directly manipulating the direction of the size-to-status relationship. After power was manipulated, participants were exposed to news excerpts that led them to think about either being overweight as a sign of status (positive size-to-status relationship) or being slim and fit as a sign of status (negative size-to-status relationship). Subsequently, participants were told that they would receive a snack for their participation and were asked to make a selection from a set of five options that varied in size (from small to large). In addition, to generalize our results, we used an actual hierarchical role manipulation, wherein participants were assigned to the role of boss (high power) or employee (low power) in an experimental task.

Method

One hundred and thirty-four undergraduate participants (76 males) were randomly assigned to a 2 (power: high,

low) \times 2 (size-to-status relationship: positive, negative) between-participants design. They were told that they would participate in several independent tasks for different departments/researchers.

Power Manipulation. Participants first completed a leadership questionnaire and were told that they would be assigned to a role as part of a group task, on the basis of their answers to the questionnaire as well as the experimenter's observation of their nonverbal behavior. Participants were then assigned to the role of an *employee* (i.e., low power) or a *boss* (i.e., high power) and received instructions with regard to their role for the group task, adapted from prior research (for detailed instructions, see Anderson and Berdahl 2002; Galinsky et al. 2003). It was made clear to participants that employees would follow the directions of the boss (i.e., bosses had power over employees). Importantly, the feedback did not tell participants whether they performed well or poorly, and this manipulation of power has been shown not to affect mood (e.g., Galinsky et al. 2003; Rucker et al. 2011). Subsequently, participants were told that before taking part in this group task, they would participate in several short tasks for an experimenter in another department.

Size-to-Status Manipulation. As part of a short task ostensibly on reading comprehension, participants read a brief newspaper article covering recent research investigating the link between social status and physical appearance. Key to our manipulation, the article argued social status was positively or negatively correlated to physical appearance. Specifically, in the *negative size-to-status condition*, the article stated: "If you want to be successful and recognized later, be fit, say researchers from Northwestern and Harvard in new research reporting the results of a survey corroborated with recent facts. This survey found that 63% of the 1000 most influential Americans are fit." The remainder of the article explained the benefits of being fit for mental processes and well-being and its positive influence on future social success and acquisition of high-status positions. In contrast, in the *positive size-to-status condition*, the article stated: "If you want to be successful and recognized later, be overweight, say researchers from Northwestern and Harvard in new research reporting the results of a survey corroborated with recent facts. This survey found that 63% of the 1000 most influential Americans are overweight." The remainder of the article explained the benefits of being overweight for mental processes and well-being and its positive influence on future social success and acquisition of high-status positions. Participants subsequently answered a few questions to ensure their comprehension of the text (e.g., What is the percent of influential fit/overweight Americans?)

Preference for Size in Assortment. Finally, participants took part in a short survey for the marketing department, at the end of which they indicated their choice of size of snacks among a set of five options (from small to large) that they would receive at the end of the experiment in compensation for their participation. Importantly, all options were different sizes of the same product from a well-known

brand of snack (Toblerone) and had the exact same nutritional composition and visual appearance, except for their size. The size chosen served as our primary dependent variable.

Results and Discussion

Manipulation Check. At the end of the experiment, participants were asked the extent to which the task made them feel powerful on a 7-point scale (1 = not powerful; 7 = powerful). As expected, participants reported feeling significantly less powerful in the low-power condition ($M = 3.20$, $SD = 1.41$) than in the high-power condition ($M = 5.41$, $SD = 1.36$; $F(1, 129) = 12.45$, $p < .001$, $\eta_p^2 = .15$), suggesting our manipulation of power was successful.

Preference for Size of Snacks. Size was coded as -2 , -1 , 0 , 1 , and 2 . Data were analyzed using an ANOVA and t -tests, when appropriate. A two-way ANOVA revealed a significant main effect of size to status ($F(1, 129) = 11.30$, $p < .001$, $\eta_p^2 = .08$), such that participants in the positive size-to-status condition indicated preferring larger-sized snacks ($M = .45$, $SD = 1.16$) than participants in the negative size-to-status condition ($M = -.19$, $SD = 1.11$). There was no main effect of power on participants' preference for size ($F < 1$).

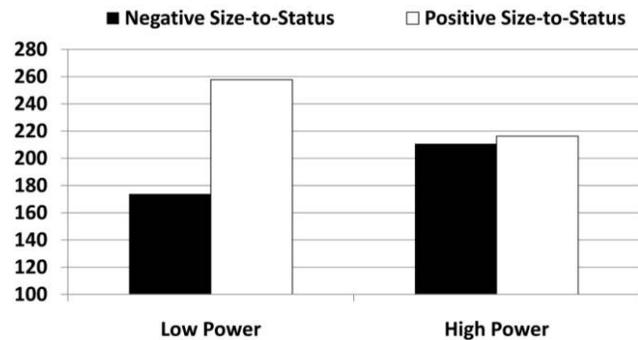
Of greatest importance, there was a significant power \times size-to-status interaction ($F(1, 129) = 8.67$, $p < .01$, $\eta_p^2 = .06$). When the size-to-status relationship was positive, low-power participants preferred significantly larger-sized snacks ($M = .73$, $SD = 1.21$) than high-power participants ($M = .13$, $SD = 1.04$; $t(133) = 3.11$, $p = .01$, $d = .61$). However, when the size-to-status relationship was negative, low-power participants preferred significantly smaller-sized snacks ($M = -.48$, $SD = 1.14$) than high-power participants ($M = -.05$, $SD = 1.06$; $t(133) = 2.65$, $p = .02$, $d = .43$). The effect of gender on the preference for size was not significant ($F(1, 133) = 1.34$, $p = .32$, $\eta_p^2 = .01$), nor did it interact with the size-to-status manipulation ($F < 1$).

In short, inducing the powerless to see being overweight as a sign of greater status led them to prefer larger snacks, compared to the powerful. In contrast, inducing the powerless to see being fit as a sign of greater status led them to prefer smaller snacks, compared to the powerful.

The options also varied in their approximate calories and weight: 70 calories for the very small size (15 grams), 138 calories for the small size (30 grams), 207 calories for the medium size (45 grams), 276 calories for the large size (60 grams), and 345 calories for the very large size (75 grams). Thus, the powerless ($M = 257.79$, $SD = 83.61$) consumed on average 41.52 more calories than the powerful ($M = 216.27$, $SD = 74.20$) when the size to status was positive. In contrast, the powerless ($M = 173.76$, $SD = 78.98$) consumed on average 36.92 fewer calories than the powerful ($M = 210.68$, $SD = 71.31$) when the size to status was negative, illustrating a clear effect on choice for food consumption (see fig. 2).

FIGURE 2

AVERAGE NUMBER OF CALORIES CONSUMED AS A FUNCTION OF SIZE TO STATUS AND POWER, EXPERIMENT 5



EXPERIMENT 6: THE UNDERLYING ROLE OF A NEED FOR STATUS

Experiment 6 aimed at providing direct evidence for our purported underlying mechanism: need for status. Specifically, after manipulating power, we invited participants to taste small hors d'oeuvres in one of two rooms. In both rooms, the set of sample hors d'oeuvres was identical and consisted of four options of different sizes, hierarchically arranged. Of central importance, the size to status was positive in one room and negative in another room. In addition, we assessed participants' need for status as part of a short questionnaire assessing their psychographics, either before or after they chose their hors d'oeuvres (counterbalanced to avoid an order effect). All participants subsequently consumed the hors d'oeuvre they chose.

Method

One hundred and four students (47 males) were randomly assigned to a 2 (power: high, low) \times 2 (size to status: positive, negative) between-participants design.

Power Manipulation. As part of a recruiting event, participants had to fill in a motivational questionnaire about their past job experiences and aspirations. On the last page of this questionnaire, participants had to write a short essay in which they described a time during which they either had or lacked power, adapted from the recall task used in experiment 2.

Size-to-Status Manipulation. Next, as part of a hors d'oeuvre sampling event, participants were randomly directed to one of two rooms and invited to sample one hors d'oeuvre among a set of four different sizes displayed on a table. All hors d'oeuvres had been prepared following the same recipe and thus had the same nutritional composition and visual appearance, except for their size. The different sizes were pretested for their attractiveness (on three dimensions: ap-

petizing, inviting, perceived tastiness; $p > .2$). Of central importance, the size-to-status relationship was positive in one room and negative in another room. We manipulated size to status within the oral introduction all participants received, in which the caterer (in reality a research assistant) gave information about the hors d'oeuvres samples. Central to our manipulation, in the positive size-to-status condition room, the research assistant highlighted that larger hors d'oeuvres are generally served at prestigious, high-standing events, such as presidential receptions, while smaller hors d'oeuvres are generally served at common events, such as a local reception. In the negative size-to-status condition room, the research assistant reversed the size-to-status relationship, equating smaller hors d'oeuvres with prestigious, high-standing events.

Preference for Size. The dependent variable was participants' choice of hors d'oeuvre, which all participants subsequently ate.

Need for Status. Participants completed four items assessing a broad motive of desiring additional status within the social hierarchy on a 7-point scale with higher numbers indicating greater desire for status (i.e., I have a desire to increase my position in the social hierarchy; I want to raise my relative position to others; getting to climb the social ladder is a priority for me; I would like to be viewed as being of higher standing than others). These items were averaged to form a need-for-status index ($\alpha = .89$).

Results and Discussion

Preference for Size. Size was coded as $-2, -1, 1,$ and 2 from small to large. Data were analyzed using an ANOVA and t -tests, when appropriate. A two-way ANOVA revealed a significant main effect of size to status ($F(1, 99) = 13.50, p < .001, \eta_p^2 = .11$), such that participants in the positive size-to-status condition indicated preferring larger-sized snacks ($M = .45, SD = .95$) than participants in the negative size-to-status condition ($M = -.17, SD = 1.02$). There was no effect of power on participants' preference for size ($F < 1$). Of greatest importance, there was a significant power \times size-to-status interaction ($F(1, 99) = 5.46, p = .01, \eta_p^2 = .08$). When the size-to-status relationship was positive, low-power participants ($M = .67, SD = .95$) preferred significantly larger-sized hors d'oeuvres than high-power participants ($M = .09, SD = 1.03; t(103) = 2.86, p = .02, d = .59$). When the size-to-status relationship was negative, however, low-power participants ($M = -.41, SD = .87$) preferred significantly smaller-sized hors d'oeuvres than high-power participants ($M = -.04, SD = 1.10; t(103) = 2.40, p = .04, d = .46$). In addition, there was no significant effect of gender on the preference for size ($F(1, 99) = 1.10, p = .40, \eta_p^2 = .01$), nor did it interact with size to status ($F < 1$).

Need for Status. As predicted, there was only a main effect of power on need for status, such that low-power participants expressed a greater desire for status ($M = 5.18,$

$SD = 1.14$) than high-power participants ($M = 3.46, SD = 1.21; F(1, 99) = 9.18, p = .03, \eta_p^2 = .09$).

Mediation via Need for Status. Since our primary interest lies in explaining why low-power individuals tend to be more attracted to larger or smaller products as a function of the size-to-status relationship, we reversed coded participants' choice in the negative size-to-status condition. This allowed us to collapse across the size-to-status manipulation (i.e., larger numbers indicated a preference toward the food options proposed to be associated with status) and examine whether the observed difference in preference was mediated by a need for status. When both power and need for status were entered into the regression, the effect of power was no longer significant ($\beta = -.10, t(101) = -1.28, p = .23$), and need for status predicted preference ($\beta = .35, t(101) = 2.39, p = .02$). We tested the overall significance of the indirect effect (i.e., the path through the mediator) by constructing a 95% confidence interval (CI) as suggested by Shrout and Bolger (2002). Zero did indeed fall outside of the interval (95% CI = .054–.892), providing statistical evidence of successful mediation (see fig. 3).

In short, when the powerless equated larger with high status, they ate on average larger hors d'oeuvres than did the powerful. In contrast, when the powerless equated larger to low status, they ate smaller hors d'oeuvres, compared to the powerful. Merely changing the direction of the size-to-status relationship of the category significantly affected the share of the leading option (smallest option by 45% in the negative size-to-status relationship; largest option by 36% in the positive size-to-status relationship). The options also varied in their approximate calories and weight: 27.3 calories for the smallest size (10 grams), 55 calories for the small size (20 grams), 80 calories for the large size (30 grams), and 110 calories for the largest size (40 grams). The powerless physically consumed on average 32.4 more calories than the powerful when the size-to-status relationship was positive and 24.5 fewer calories than the powerful when the size-to-status relationship was negative.

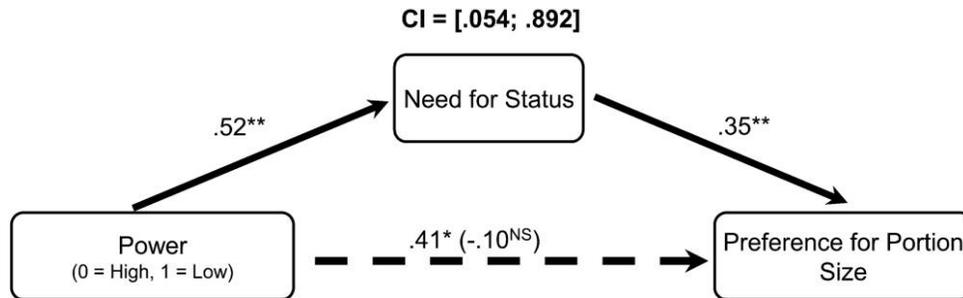
In addition, these differences were mediated by a powerlessness-induced need for status, suggesting that the effect of power on size preference within a set of options is driven by status concerns. Lacking power led people to desire status, and this need drove their food choices.

GENERAL DISCUSSION

Six experiments examined the possibility that the size of products within a set of options can signal status. We first established that choosing larger options within a set is perceived as a general signal of status (experiment 1). Three experiments then demonstrated that a psychological state known to foster a need for status—powerlessness—affected participants' preferences in a strikingly consistent manner. Regardless of the power manipulation (episodic priming, priming in the field, role-imagination manipulation) and the nature of the products (smoothies, bagels, containers), the powerless consistently chose larger options within a set than

FIGURE 3

MEDIATION VIA NEED FOR STATUS, EXPERIMENT 6



NOTE.—* = $p < .05$; ** = $p < .01$.

powerful and baseline individuals, even when size was divorced from money (experiment 3) and resources (experiment 4). This effect was enhanced in settings in which the consumption act was highly visible to others (e.g., public consumption at a restaurant, social consumption with friends; experiment 4) and mediated by people's need for status (experiment 6). Finally, as further proof that this effect was driven by a need for status, when the size-to-status relationship was negative, low-power participants preferred smaller over larger options (experiments 5 and 6).

Theoretical and Managerial Contributions

We believe the current research makes two key theoretical contributions. With respect to status, this work shows that individuals need not seek out products explicitly associated with status (e.g., luxury products) to signal their social standing. Instead, even when purchasing mundane products, consumers can signal status on the basis of the size of their selection within a set. Although we grounded our work in the context of power, this finding has broader implications, as it provides an explanation as to how any status motive, not just those arising from manipulations of power, should affect consumer preferences. For instance, status motives stemming from occupying a chronic low socioeconomic status position in the hierarchy should lead to similar effects as those documented in our research.

Second, this research contributes to the literature on threats and provides one context when a threat might lead to reduced consumption, not increased consumption. Past work has generally documented that, when threatened, consumers compensate through increased consumption (see Rucker 2009). For instance, individuals eat more when their mortality is made salient (Mandel and Smeesters 2008) and pay more for products when they are sad (Lerner, Small, and Loewenstein 2004). These accounts might be seen as consistent with the view that threats provide a sense of actual or perceived depletion of one's resources that triggers in-

creased consumption in order to replenish these resources. In contrast, our research makes the novel proposition that threats can sometimes lead to less consumption. Specifically, when smaller is equated with greater status, power-threatened individuals reduced their overall consumption by choosing smaller options within a choice set.

Our research also bears potentially important managerial insights by highlighting the role of the size-to-status relationship of an assortment of food options in consumer decision making. Although the norms guiding the direction of the size-to-status relationship are often established, policy makers and managers in the food industry alike might be able to influence them through tailoring their positioning efforts and affect subsequent consumption over time. For instance, a company might highlight the prestige of smaller options within a category (e.g., small packs of snacks). Similarly, to reduce consumption of supersized food portions, public initiatives might aim to shift size-to-status norms through advertising for portions that are too large and might provoke negative health consequences for consumers (e.g., large snacks among teenagers). In addition to the role of the size-to-status relationship in regulating food consumption, we suspect it might equally prove consequential in nonfood categories. For instance, by launching the Smart car (1998), Daimler successfully changed the traditionally pervasive mental norm equating larger cars with greater status in the European market and was followed by other car makers (e.g., MINI, 2001; Fiat 500, 2008) in launching small but high-status cars. Similarly, cell phones might be viewed as more valuable as they become smaller and more portable, thus increasing the preference for smaller sizes as a function of one's need for status. In fact, data from two unreported experiments confirmed this prediction; a consumer choosing a cell phone from a set of three sizes (small, medium, large) was perceived as having higher status when purchasing the small one than either the medium or the large one. And, threatening participants' power led them to be more likely to choose small cell phones than either medium or large

ones, compared to nonthreatened participants (Dubois, Rucker, and Galinsky 2011).

As a whole, this research suggests that size can be used as a competitive tool to win market share in specific situations. Knowing the size of competitors' packaging, along with the size-to-status relationship of the product category when designing product packaging, might allow product managers to implicitly associate their products with status and thus nudge consumer choice in the desired direction toward their products.

Limitations and Future Directions

Future research might aim to better understand whether the effects presented here occur at a conscious or unconscious level. That is, one might argue that the preference for size stems from a conscious desire to display status. Although threatened consumers might arguably think through their choices, we think that the powerlessness-induced preference for size is likely to reside mostly outside of conscious awareness. Our view is consistent with a large body of literature suggesting that the effects of being displaced in the hierarchy are profoundly ingrained in individuals (see Marmot 2004) and even permeate into basic perceptual processes (Dubois et al. 2010; Smith and Bargh 2008). Nonetheless, future research should explore how consumers respond when the threat and the means to cope with it reside at conscious versus nonconscious levels.

One might also wonder whether a self-esteem threat could lead to the same shift in preference in sizes within choice hierarchies. Although past research has shown self-esteem threats can lead people to consume more (e.g., Dalton 2008; see also Mandel and Smeesters 2008), we expect that the effect of self-esteem threats on preference for size will depend on whether the threat is specifically rooted in a desire to signal status or not. For instance, when a self-esteem threat stems from a weak performance relative to others, this may increase one's drive for status. Consequently, we expect consumers to shift their preferences toward options in a hierarchy whose size signals status. In contrast, when a self-esteem threat is divorced from any status-seeking motive, it is unclear how the size-to-status relationship in a hierarchically arranged set would be relevant to these con-

sumers. For example, a self-esteem threat stemming from a weak performance relative to one's own prior performance might not trigger greater desire for status products and thus not affect one's preference for size within a choice set. This possibility is an interesting potential direction for future research.

CONCLUSION

Returning to our opening example, our findings hold two potentially new insights for understanding rising rates of obesity among underprivileged individuals. First, they highlight a paradox: although larger options may afford immediate status, underprivileged individuals might actually hinder their long-term place and rank by choosing these options. Our findings suggest that threats that lead consumers to seek status might encourage consumers to turn to larger options within a set of food options, which ultimately jeopardizes their future rank through weight gain and the accompanying stigma of being overweight (e.g., Brownell 2005; Carr and Friedman 2005; Puhl et al. 2010). Second, and perhaps more positive, we suggest that consumer threats might not always trigger increases in food consumption. In fact, we offer promising ground for future interventions: merely changing the size-to-status relationship can lead consumers in need of status to eat less, not more.

APPENDIX A

SAMPLE SCENARIO, EXPERIMENT 1

In this research, we are interested in how individuals make snap judgments about others based on their behavior. You will read several scenarios describing a person performing a behavior, and will be asked to answer some questions about this person.

You're at a local smoothie shop. An individual enters in the smoothie shop, and asks for a smoothie. The cashier explains to him that the smoothies come in three sizes: small (16 oz), medium (24 oz) and large (30 oz), and asks him which size he would like to choose. The individual orders the largest size.

APPENDIX B

FIGURE B1

EXAMPLES OF THE BANNERS USED IN THE POWERFUL, POWERLESS, AND BASELINE CONDITIONS, EXPERIMENT 3



NOTE.—Color version available as an online enhancement.

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