

Orth, Ulrich R.; Machiels, Casparus J. A.; Rose, Gregory M.

**Article — Published Version**

## The reverse Napoleon effect: The brand appreciation of looking up by tall people

Psychology & Marketing

**Provided in Cooperation with:**

John Wiley & Sons

*Suggested Citation:* Orth, Ulrich R.; Machiels, Casparus J. A.; Rose, Gregory M. (2020) : The reverse Napoleon effect: The brand appreciation of looking up by tall people, Psychology & Marketing, ISSN 1520-6793, Wiley, Hoboken, NJ, Vol. 37, Iss. 9, pp. 1194-1211, <https://doi.org/10.1002/mar.21352>

This Version is available at:

<https://hdl.handle.net/10419/230065>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



<http://creativecommons.org/licenses/by/4.0/>

# The reverse Napoleon effect: The brand appreciation of looking up by tall people

Ulrich R. Orth<sup>1</sup>  | Casparus J. A. Machiels<sup>1</sup> | Gregory M. Rose<sup>2</sup>

<sup>1</sup>A&F Marketing - Consumer Psychology, Christian-Albrechts-University Kiel, Kiel, Germany

<sup>2</sup>Department of Marketing, Milgard School of Business, University of Washington, Tacoma

## Correspondence

Ulrich R. Orth, A&F Marketing - Consumer Psychology, Christian-Albrechts-University Kiel, Germany.

Email: [uorth@ae.uni-kiel.de](mailto:uorth@ae.uni-kiel.de)

## Abstract

Integrating the embodied cognition framework with research on the self, this study shows that head canting (the vertical tilt of the head to look up vs. down) interacts with a viewer's physical height to influence perceived brand power and behavioral intentions. Three studies use a variety of brand cues in both laboratory and field contexts to test the effect of head canting on brand power evaluations, the role of a person's physical height as a moderator and boundary condition, and the mediating role of consumer–brand identification. Study 1, an experiment, showed that tall, but not short individuals, evaluate a brand as more powerful when looking up (rather than down) at a brand story from a standing position, with differences in brand power impacting brand attitudes and choice. Study 2 replicates these findings with 30 brands, consumers positioned in a seated position, and brand logos. Both studies rule out the construal level as a process mediator. Study 3 further examines the process and demonstrates that the interaction of head canting with a person's height impacts consumer–brand identification, which mediates brand evaluations. These findings add a brand management and physical-self perspective to previous embodiment research by specifically examining the effects of sensorimotor experiences.

## KEYWORDS

brand power, construal level, embodiment, physical height, sensorimotor experience

## 1 | INTRODUCTION

This paper examines how the sensorimotor experience of canting one's head up versus down impacts evaluations of brand power, brand attitudes and choice, and contingent upon a person's physical height. Head canting captures a sagittal tilt of the head relative to the upright posture, that is, tilting the head back and forward as associated with looking up versus down (Singla, Veqar, & Hussain, 2017). We label the effect that tall, but not short people perceive a brand as more powerful when looking up, rather than down, the *Reverse Napoleon Effect*, in juxtaposition to the popularly known *Napoleon Complex*, where people of short stature supposedly compensate for

feelings of inferiority by their evaluations and behaviors (Knapen, Blaker, & Van Vugt, 2018).

In the marketplace, consumers frequently look at brand cues including names, logos, stories, packages, and mascots across a variety of settings, ranging from store shelves, computer screens, and smartphones to billboards, movie theaters, and in-flight entertainment. In many, if not most, cases looking at a brand requires adopting a head position that involves at least some degree of looking up or looking down (head canting). Understanding whether and how head canting impacts viewer perceptions of brand power is important for marketing management for a number of reasons. Head canting may impact consumer evaluation of brand power, which is a key

This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2020 The Authors. *Psychology & Marketing* published by Wiley Periodicals LLC

component of brand equity (Keller, 1993). Power captures the ability of a brand to succeed in a market and encapsulates consumers' overall perceptions of the superiority or weakness of that brand when compared with others (Lassar, Mittal, & Sharma, 1995). Consumers, furthermore, use brand power heuristically to simplify decisions (Bong Na, Marshall, & Keller, 1999), and exhibit greater preference (Page & Herr, 2002) and attachment to strong brands (Prosch, Orth, & Bethge, 2013). Thus, brand power both facilitates and encapsulates brand success (Völckner & Sattler, 2006).

At least two theoretical accounts support our predicted effects of head canting on perceptions of brand power: embodied cognition (Barsalou, 1999) and conceptual metaphor theory (Lakoff & Johnson, 1980, 1999). According to embodied cognition theory, bodily movements can evoke specific cognitions (see Niedenthal, Barsalou, Winkielman, Krauth-Gruber, & Ric, 2005, for a review), including power (Schubert, 2004). Similarly, metaphors, constructed based on experiential correlations (Slepian, Masicampo, & Ambady, 2015), link past experiences associated with bodily movements to abstract constructs, including power (see Cian, 2017, for a review).

Consumer research has drawn from embodied cognition to link a person's head canting to marketing-relevant outcomes such as purchase intention (Ardelet, 2018: head level vs. canted down) and the choice of feasible versus desirable products (Van Kerckhove, Geuens, & Vermeir, 2015: looking up vs. down). Several scholars have also drawn from conceptual metaphor theory to examine the effects of design verticality on taste evaluation and intention (Van Rompay, van Hoof, Rorink, & Folsche, 2019); camera angle and background orientation on price expectation and intention (Van Rompay, De Vries, Bontekoe, & Tanja-Dijkstra, 2012); logo verticality (Guido, Pichierri, Natarajan, & Pino, 2016) and visual horizons in advertising images (Roose, Vermeir, Geuens, & Van Kerckhove, 2019) on attitudes; the vertical position of a logo on consumption preferences (Sundar & Noseworthy, 2014), and verticality in labels and shelves on perceived product quality (Machiels & Orth, 2017).

Perhaps the most comprehensive body of research exists in social psychology, where researchers have applied both embodiment (e.g., Schubert & Semin, 2009) and conceptual metaphor theory to study perceived power effects (e.g., Giessner & Schubert, 2007; Lakens, Semin, & Feroni, 2011; Meier & Dionne, 2009), and close correlates of power such as strength (Schubert, 2005), dominance (Burgoon & Dunbar, 2006), charisma (Hamstra, 2014), and divinity (Meier, Hauser, Robinson, Friesen, & Schjeldahl, 2007). Power is thus at least partially conceptualized and understood in terms of sensorimotor experiences and conceptual metaphors created based on attributions related to those experiences. Physiological sensations may heuristically be applied to substantiate evaluations of verticality, which cue power associations that are linked to sensorimotor processing (Zanolie et al., 2012). Previous research, however, has not focused on perceptions of power in a brand context related to head canting, while accounting for the possible influence of a viewer's physical characteristics, such as height; nor comprehensively examined the interaction between the sensorimotor experience of canting one's head with perceptions of power and related outcomes.

Important to transferring findings from social psychology to brand management, people attribute human characteristics to brands (Aaker, 1997; Bennett & Hill, 2012). They view brands as relationship partners (Fournier & Alvarez, 2012), anthropomorphize them, evaluate and appropriate attributes, including power (Bosnjak, Bochmann, & Hufschmidt, 2007; Crosno, Freling, & Skinner, 2009), and adopt and utilize brands for their symbolic meanings (Aaker, Garbinsky, & Vohs, 2012).

Given the importance of a brand's power, it is important for marketing management to clarify how and when sensorimotor experiences, such as head canting, influence brand power perceptions, and other outcomes of practical relevance. Is the attribution of power to brands higher when people cant their head up rather than down (i.e., is looking up = powerful, a universal phenomenon), or is this effect moderated by individual characteristics (i.e., a person's height)? Moreover, what processes mediate the association between head canting and brand power, and what are the consequences of brand power on brand attitudes and choice?

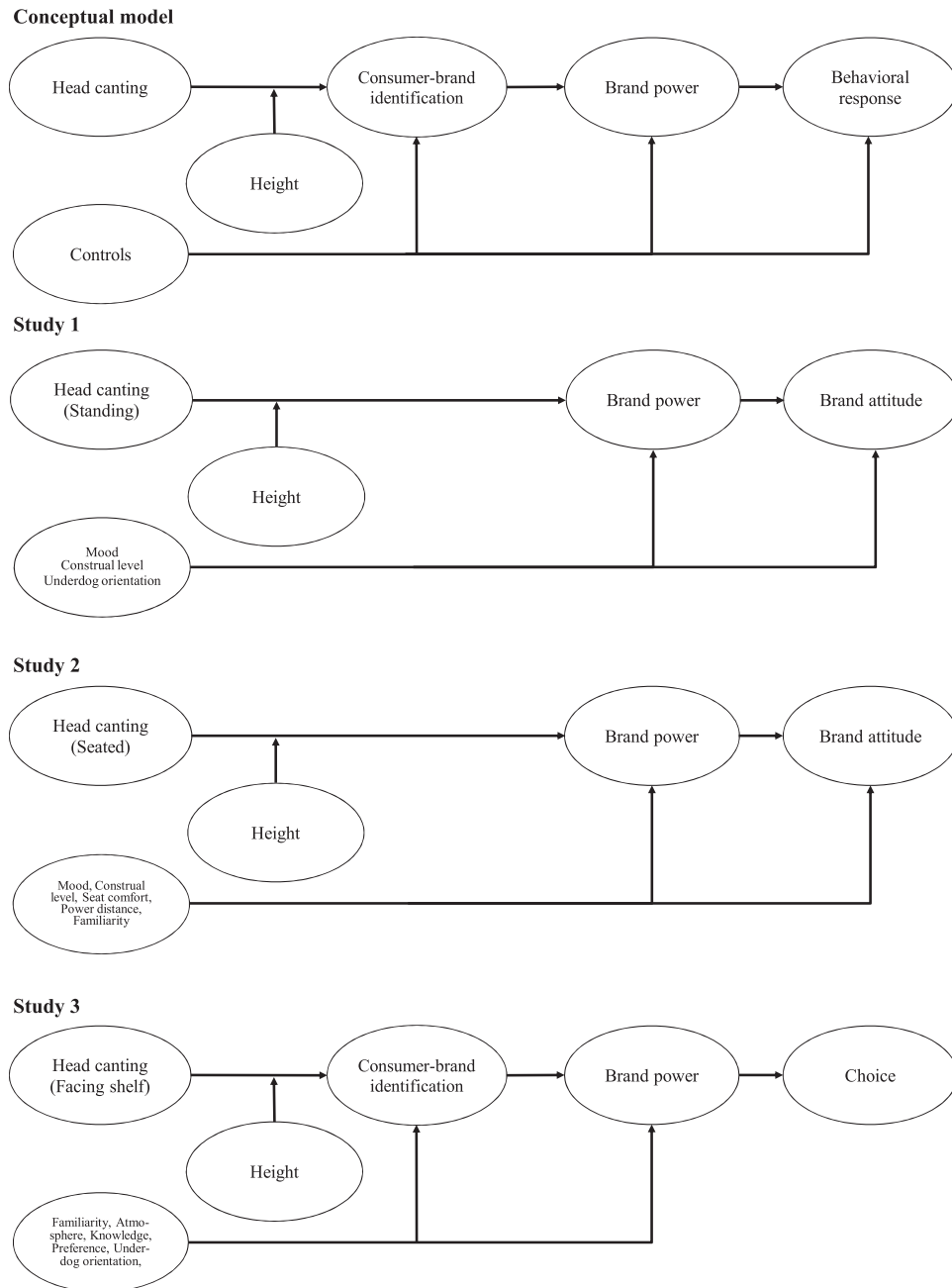
To address these questions, the present study builds on the embodied cognition framework by integrating and extending previous research on the importance of physical characteristics to a person's self-concept (McGuire & Padawer-Singer, 1976; Mittal, 2006), with research on consumer-brand identification (CBI; Chernev, Hamilton, & Gal, 2011; Escalas & Bettman, 2003, Lam, Ahearne, Hu, & Schillewaert, 2010) and self-similarity (Stokburger-Sauer, Ratneshwar, & Sen, 2012). The base proposition is that associations between the sensorimotor experience of canting one's head up versus down and evaluations of power may not be universal in the context of brands; rather, power perceptions should be contingent upon a person's physical height due to self-similarity. Our research demonstrates that tall people evaluate brands as more powerful when looking up at them, because they identify more with those brands. Short people, in contrast, identify more with brands they look down upon.

By examining these effects, this study contributes to the literature in several important ways. First, we examine sensorimotor effects on brand power, an outcome variable that has received little attention in embodied cognition research (e.g., Ardelet, 2018; Van Kerckhove et al., 2015). Doing so also adds a commercial perspective to social psychology studies that focus on power perception in the context of people (e.g., Schubert, 2004). Second, by identifying physical height as a boundary condition, we extend research on embodied cognition, which has almost exclusively examined direct associations between bodily behavior and individual response (Meier, Schnall, Schwarz, & Bargh, 2012), and has only recently begun to explore boundary conditions (Cian, 2017). Third, and in contrast to studies that utilize construal level as a process mediator (e.g., Van Kerckhove et al., 2015), we examine CBI as an intervening variable. Adopting a self-referencing perspective (Burnkrant & Unnava, 1995) and the view that body image is an important facet of the self (Mittal, 2006), our study goes beyond the traditional personality aspects of the self (Aaker, 1997; Grubb & Grathwohl, 1967; Sirgy, 1982) to show how physical characteristics, such as height, can affect identification with a brand and consequently behavioral intentions. Last, our work enhances generalizability by

accounting for individual and situational difference variables as possible influencers of sensorimotoric head canting effects, specifically, construal level, underdog orientation, power distance, and mood.

Three studies (two in a laboratory context and one in a field setting) examine the impact of head canting and viewer physical height on brand power and behavioral intention, using different brand stimuli and different contexts (see Figure 1). The first study establishes the effect of head canting—conditional upon a person's height—on brand power and attitude toward an unknown brand, with consumers in a standing position. The second study aims to replicate

these findings using 30 brand logos with consumers in a seated position. Both studies rule out the construal level as a process mediator. The third study employs a field experiment with brand packages positioned higher versus lower on a store shelf. It provides further evidence for the conditional head-canting-physical-height effect and suggests that this effect is driven by CBI. Together, these studies support the moderating role of a person's height on the effects of verticality and provide marketing managers with a better understanding of how to effectively display brand cues to audiences varying in stature and viewing perspective.



**FIGURE 1** Conceptual model and its operationalization in the empirical studies

## 2 | CONCEPTUAL FRAMEWORK AND DEVELOPMENT OF HYPOTHESES

### 2.1 | Embodied cognition

To answer the question of how canting one's head can influence the evaluation of brand power, we draw from embodied cognition literature (Barsalou, 1999). A substantial amount of research shows that cognition is in many ways embodied, that is, bodily behavior and cognition are closely related (for reviews see Neumann, Förster, & Strack, 2003; Niedenthal et al., 2005; Pecher, 2018). Through embodiment, sensorimotor experiences such as movements of the head provide input to cognitions, evaluative judgments, and choice (e.g., Van Kerckhove et al., 2015). Important to our study, researchers have identified three mechanisms linking sensorimotor experiences to evaluative outcomes, including sensorimotor simulation, modal priming, and direct state induction (Körner, Topolinski, & Strack, 2015).

In sensorimotor simulation, bodily manipulations evoke cognitions directly by making concepts normally associated and congruent with that bodily movement more readily available. For example, moving the head to look down at a computer screen evokes the simulation of a bird's eye perspective on a product displayed on that screen (Ardelet, 2018). Accordingly, abstract concepts (mental representations), such as power, are simulations of sensorimotor experiences which share processing mechanism with perception and action (Barsalou, 1999). An important aspect of this view is that, although higher-level association areas exist, these by themselves do not represent meaning. Rather, the lower level sensorimotor systems provide the content for mental representations (Barsalou, Simmons, Barbey, & Wilson-Mendenhall, 2003). Cognitions, thereby, become close correlates of previous sensorimotor experiences (Pecher & Winkelman, 2013).

In modal priming, sensorimotor states activate (often abstract) concepts (Körner et al., 2015). Operating similar to priming in general, modal priming through bodily behavior increases the accessibility of associated concepts, making them more likely to be used in subsequent tasks. Modal priming effects have received much attention through research linking bodily states with abstract concepts via conceptual metaphors (Landau, Meier, & Keefer, 2010; see Pecher, 2018, for a review). Metaphors serve the purpose of making abstract concepts more concrete (Lakoff & Johnson, 1999). Important to the present context, verticality, a higher versus lower position on a vertical axis, has been consistently linked to power both in social cognition (e.g., Giessner, Ryan, Schubert, & van Quaquebeke, 2011; Meier & Dionne, 2009) and within marketing contexts (e.g., Guido et al., 2016; Machiels & Orth, 2017; Sundar & Noseworthy, 2014; Van Rompay et al., 2012).

The third embodiment process, direct state induction, involves processing styles that influence cognitive functions across domains (Körner et al., 2015), rather than sensorimotor activation that impacts distinct concepts and evaluations (such as in modal priming). Prominent among the processing styles linked with the embodiment in direct state induction is a person's construal level (e.g., Slepian et al., 2015). People can construe objects, actions, and events at concrete or abstract levels (Lieberman, Trope, & Wakslak, 2007). For example, some

consumers may construe power in relatively concrete terms by thinking of lifting a heavy weight or getting someone to fetch coffee. Others might construe that same concept more abstractly as having executive power as a manager or charisma as a politician. Descriptions of brands might likewise vary (Sundar & Noseworthy, 2014) and prime abstract or more concrete processing. The inference from embodiment research as a whole is that—regardless of the specific mechanism, or mix of mechanisms at work (Körner et al., 2015)—the body in the sense of sensory and motor properties plays a role in forming cognitions and evaluative judgments including power.

### 2.2 | Head canting and brand power

Only a few studies have examined the effects of head canting, as a sensorimotor experience, on consumer response. For example, Ardelet (2018) reported that canting the head downward (rather than keeping it level) to look at a tablet computer led to higher purchase intention for a product advertised online. Mental simulation mediated this effect. Van Kerckhove et al. (2015) found that consumers choose more feasible (desirable) products when looking down (up). Their process explanation centered on construal level, specifically, a more concrete processing style evoked by looking down, and a more abstract processing style when looking up. While these studies provide evidence for the capacity of head canting to induce embodied cognition and influence consumer behavior, they do not link the sensorimotor experience to the concept of power, specifically, in a brand context. (As an aside, they also do not account for individual differences in physical characteristics.) We thus turn to the literature on metaphor processing, which has solidly grounded the concept of power in verticality.

A substantial body of research on personality and social cognition suggests that observers link someone's physical height to assessments of power (e.g., Blaker & van Vugt, 2014), dominance (e.g., Sharoni, 2006), and success (Judge & Cable, 2004). Similarly, research in marketing and consumer behavior has linked perceptions of power to a vertical position, employing theories of both metaphor (Lakoff & Johnson, 1980) and embodiment (Barsalou, 2008).

Drawing from Lakoff and Johnson's (1980) metaphorical perspective, research on the vertical theory of dominance-submission has reported the positive effects of vertical position on power for a diverse range of evaluative outcomes (Robinson, Zabelina, Ode, & Moeller, 2008). For example, powerless and disadvantaged people are thought to have "low" status, whereas the powerful and influential are thought to have "high" status (Lakoff & Johnson, 1999), a view similarly reflected in the concept of "upper" versus "lower" class. Anecdotally, people move "up" or "climb" the career ladder to gain power, whereas others "head for a fall" or get 'demoted. In competition, "top" dogs, as opposed to "under" dogs have more power and are slated to win. Social cognition research finds the power to be positively correlated to vertical posture (Tracy & Robins, 2004), with higher vertical positions representing more powerful entities (Meier et al., 2007). Similarly, when taking a self-portrait for display in a dating app, individuals intuitively manipulate the vertical camera

angle to embody how they want to be perceived by the opposite sex, specifically, to provide cues of physical height and impressions of power to the viewer (Sedgewick, Flath, & Elias, 2017). Adding an implicit perspective, Schubert (2005) showed that dominant stimuli were judged faster when presented higher on a computer screen, whereas less powerful cues were evaluated faster when presented lower on a screen. Embodiment research also indicates that human head canting is homologous to animal dominance displays: When a head is bowed, the person is perceived as submissive, displaying inferiority; and a head canted back is perceived as more dominant, displaying superiority (Mignault & Chaudhuri, 2003).

Research in marketing and consumer behavior offers additional evidence for the positive association between verticality and power. Consumers judged products placed at the bottom (vs. the top) of a shelf to be less expensive and of lower quality (Valenzuela & Raghurir, 2015). For advertisements, Goodrich (2010) finds that lower page placement significantly lowers brand attitudes, compared with higher page placement. In retailing, consumers believe that retailers place expensive (dominant) brands on top shelves, while affordable (less dominant) brands are displayed on the bottom shelves (Valenzuela, Raghurir, & Mitakakis, 2013). Although previous studies have examined verticality in a marketing context, no study has examined the impact of sensorimotor verticality on evaluations of brand power or the dependence of these evaluations on consumers' physical characteristics.

Integrating and extending the insights obtained from research on embodiment and metaphors, it can be hypothesized that the sensorimotor experience of canting one's head will impact the evaluation of a brand's power. More specifically, behavior that is compatible with power should facilitate evaluating a brand as more powerful, whereas sensorimotor experiences that are incompatible with power should facilitate evaluating a brand as less powerful. This prediction is additionally supported by Förster and Strack (1996) and Förster and Stepper's (2000) findings that performing bodily behaviors (such as nodding one's head) facilitates the cognitive processing of compatible (positive rather than negative) stimuli. Greater compatibility between motor behavior and cognition facilitates processing by freeing mental capacity, while lower compatibility between motor behavior and cognition generates a mental load. In sum, bodily actions can facilitate compatible mental processing, including perhaps compatible evaluations. As discussed previously, looking up is compatible with power, whereas looking down is not. Consequently, it can be expected that looking up will cue associations of powerfulness. Extending these findings to a brand context, we expect:

H1. *Canting the head to look up (down) will be associated with evaluating a brand as more (less) powerful.*

### 2.3 | Self-referencing and the effect of physical height

While we expect that head canting should influence brand power in general, this effect might be qualified by individual characteristics.

Specifically, we expect that the effect will depend on a person's physical height due to self-referencing.

Consumers' self-concepts influence consumption (Belk, 1988; Sirgy, 1982) in myriad ways, including by influencing brand evaluations (Swaminathan, Page, & Gürhan-Canli, 2007). Salient aspects of the self include personality traits and body characteristics (Mittal, 2006), such as a person's height (McGuire & Padawer-Singer, 1976; Valtonen, 2013). Brand cues, moreover, can activate physical aspects of the self, such as ethnicity (Kipnis et al., 2013), body shape (Venkatesh et al., 2010), and verticality (Van Rompay et al., 2012).

In attempting to maintain a clear and functional sense of who they are (Baumeister, 2010) and a stable and consistent sense of self, people reflexively assess the similarity between their self-perceptions and their sense of the brands they encounter (Escalas & Bettman, 2003; Kleine, Kleine, & Kernan, 1993). This self-referencing process captures the projective mental representation of oneself in an event, including imagining oneself utilizing a product or brand (Escalas, 2004), expressing self-identity in usage simulation, and developing vivid imaginative pictures of the self during the simulation process (Escalas, 2007). As such, self-referencing impacts the persuasive functioning of brand cues and ultimately consumer-brand relationships (Burnkrant & Unnava, 1995).

Grounded in self-referencing is the "underdog" (vs. "top dog") effect (Paharia, Keinan, Avery, & Schor, 2011), a phenomenon where consumers react positively when they see underdog aspects of their own life (i.e., being at a disadvantage) being reflected in brands. Key to the underdog-top dog distinction is the concept of power (Jin & Huang, 2019). Extending beyond mere economic characteristics, types of disadvantages can include personality traits, and additionally physical and body characteristics (Kim et al., 2008). Brands positioned as underdogs against large competitors ("top dogs") can favorably influence consumer perceptions (Goldschmied, McDaniel, & Ramirez, 2017) and compensate for perceived shortcomings in other aspects (Kirmani, Hamilton, Thompson, & Lantzy, 2017; McGinnis & Gentry, 2009). Through self-referencing, consumers place themselves in the position of the underdog; they describe themselves as having been or as currently being an underdog in some contexts and recall times when they too felt "less than" (McGinnis & Gentry, 2009).

Integrating a self-referencing perspective with the previously posited effect of head canting, we expect that a person's height will interact with their sensorimotor experience when viewing a stimulus to influence brand power perceptions. Assuming that short and tall people hold similarly positive views of themselves and do not vary in their self-attributed power (e.g., Duguid & Goncalo, 2012; Knapen et al., 2018), we expect that shorter consumers will project their own perceived power and strength to brands requiring a downward cant of the head to look upon. Conversely, consumers of tall stature should attribute greater power to brands that require upward head canting, because their taller stature predisposes them to see themselves in a similar position. Summarizing the above discussion leads to our supposition that the power consumers attribute to brands positioned high (upward head canting) versus low (downward head canting) depends on their physical height. Hence, modifying and qualifying our initial expectation (H1), we posit that:



H2. *A person's physical height will moderate the effect of head canting on brand power such that taller (shorter) consumers will evaluate a brand as more (less) powerful when looking up as compared with when looking down.*

## 2.4 | Consumer-brand identification

Critical for self-referencing and the underdog effect is the contention that consumers strongly identify with underdogs, especially those with characteristics matching and mirroring their own disadvantages and struggles (Kim et al., 2008). Consumers identify with “underdog” brands for a variety of reasons, including counter-conformity, the desire for uniqueness (McGinnis, Gao, Jun, & Gentry, 2017), keeping the top dog brand(s) at bay (Folger & Kass, 2000), and self-similarity (McGinnis & Gentry, 2009).

Brands generally establish and confirm a consumer's self-concept and identity through their ability to embody, inform, and communicate desirable identities (Escalas & Bettman, 2005; Fournier, 2009; Lam et al., 2010). A key concept for understanding how, when, and why brands help consumers articulate their identities is CBI (e.g., Chernev et al., 2011; Lam, Ahearne, Mullins, Hayati, & Schillewaert, 2013; Lam et al., 2010), which has been conceptualized and tested using many diverse perspectives (see Stokburger-Sauer et al., 2012, for an overview), including self-similarity (Lam et al., 2013). While CBI research has emphasized the important role of the perceived similarity between a brand and the self in terms of personalities (Lam et al., 2013), the previously discussed self-referencing literature suggests that the same principle may also apply to physical characteristics such as a person's height.

People are generally motivated to maintain a positive view of their self/identity (Baumeister, 2010). Specific identity motives include distinctiveness, self-continuity, and self-congruity (Vignoles, Chrysoschoou, & Breakwell, 2000). Important to our context, the self-continuity motive suggests that people strive to maintain a sense of continuity in self over time (Roccas & Amit, 2011). In addition, the congruity principle suggests that consumers should identify with brands that match their self-perceptions, with taller people identifying with brands positioned for people to look up to and shorter people identifying with brands requiring people to look down. Self-congruity research shows that making a specific aspect of the self accessible leads to brand intentions and behaviors consistent with that aspect of the self (Lam et al., 2013). Integrating the CBI literature with research on embodiment and self-referencing we expect that:

H3. *The moderating effect of a viewer's personal height on the head canting-brand power relationship will be mediated by CBI.*

## 2.5 | Controls

A number of additional factors may influence how head canting, conditional on viewer height, influences brand power, through CBI. Important among those factors is the previously reviewed

mechanism (modal priming) involving changes in the construal level. Underdog orientation, power distance, mood, category knowledge, and brand familiarity may also play a role. Thus, we discuss and empirically examine these variables as possible influencers to enhance the robustness of our framework.

Some studies in the previously discussed literature on embodiment effects and consumer evaluations have posited that these effects may occur due to changes in viewers' *construal level* (e.g., Aggarwal & Zhao, 2015; Slepian et al., 2015). To rule out the possibility that a subconscious link between physical height and processing style exists, our study should account for the *construal level*. Similarly, our review of the literature on the “*underdog*” effect (Kim et al., 2008; Paharia et al., 2011) suggests that a consumer's underdog orientation should be examined.

Additional research finds that high-power (tall) individuals tend to experience and express more positive and fewer negative emotions than low-power (short) individuals (Schoel, Eck, & Greifeneder, 2014). Moreover, high-power individuals differ from low-power individuals in their baseline emotions, exhibiting fewer negative emotional reactions and physiological stress responses (Van Kleef et al., 2008). The sensorimotor experience of canting one's head may also impact mood, facilitating its application in cases of clinical depression (Gjelsvik, Lovric, & Williams, 2018). Thus, our study accounts for an individual's mood to minimize the possible distorting effects of *mood* state on the effects of head canting.

Perceptual content is an input to the representations of concepts in memory (Schubert, 2005). From an embodied cognition perspective, fresh perceptual content activates mental representations stored in memory (Higgins, 1996), which influence cognitive processes, such as perception, categorization, and judgment (Barsalou, 1999). Categorization theory (Sujan, 1985) suggests that a consumer's prior category *knowledge* affects their information processing. In brand contexts, more (rather than less) knowledgeable consumers process brand cues more easily, resulting in more favorable evaluations and more favorable behavioral responses (Hong & Sternthal, 2010). Similarly, a person's *familiarity* with a specific brand can facilitate processing, as those who are familiar with a brand are more likely to extract meaning (such as power) by activating their prior knowledge structures. As familiarity with a brand increases, evaluations of power should thus be based more on existing knowledge structures than on external cues, including head canting. Our study will thus account for the possible effects of knowledge and familiarity.

Finally, the concept of distance plays an important role in how people relate to brands (Huang, Li, & Zhang, 2013). Discriminating not only among cultures, but additionally among individuals (Yoo, Donthu, & Lenartowicz, 2011), *power distance* captures the extent to which a person accepts inequality. Specifically, individuals who are high (rather than low) in power distance tend to emphasize power in shaping boundaries and vertical relationships (Hofstede, 1984). Given that individual power distance can affect brand evaluations (Foscht, Maloles, Swoboda, Morschett, & Sinha, 2008), this concept is also accounted for in our research.

### 3 | EMPIRICAL STUDIES

Three studies tested the effects of head canting and a viewer's physical height on brand power and behavioral intentions with diverse groups of consumers and in a variety of contexts. The first study examines the main and interactive effects of height and head canting with a student sample in the context of a text description of an unknown craft beer brand. The second study employs a consumer sample viewing computer-screen projections of a variety of brand logos. It attempts to replicate the findings and test the robustness of the effects found in Study 1, while accounting for a number of theoretically important control variables. The third study further replicates these effects in a field setting, while evaluating the mediating role of CBI as an explanatory mechanism.

#### 3.1 | Study 1

Study 1 employed a 2 (head canting: up vs. down)  $\times$  2 (physical height: short vs. tall) between-subjects experimental design. Prescreening ascertained that 111 participants (71% females, age:  $M = 24.9$  years, standard deviation [ $SD$ ] = 6.88 years) with normal or corrected-to-normal vision fit the categories of either "short" (females:  $<160$  cm, males:  $<172$  cm) or "tall" ( $\geq 160$  cm, and  $\geq 172$  cm, respectively), in accordance with the gender-specific average physical height of the German general population (Statistisches Bundesamt, 2017). Physical height (without shoes) was measured using a wall-mounted full-length stadiometer. A short text (155-words) introduced *And Union*<sup>™</sup>, a little known<sup>1</sup> craft beer brand, as a stimulus. Beyond testing for the effects of head canting and height, the study probes downstream effects on attitude towards the brand and controls for construal level, a person's mood, and underdog orientation.

##### 3.1.1 | Method

Following Van Kerckhove et al. (2015), participants stood on a cross (taped on the floor) to face a height-adjustable screen holder, positioned exactly 100 cm from their eye level. Participants fixated on a cross projected on a 20 in. computer screen with a level gaze. Accounting for a person's height, the vertical position of the screen was adjusted so that participants were either looking up or down (depending on the experimental group) at a 30° angle.

Before assuming the position in front of the screen, participants indicated their mood state on a 7-point 4-item scale adopted from Peterson and Sauber (1983). Having assumed the head up/down position, participants viewed the text on *And Union*<sup>™</sup> displayed on the screen. With the text still on display, they evaluated the brand's power (This brand is strong/dominant/luxurious/successful/attractive) and their attitude towards the brand (good, favorable, and

likable) without changing position. Seated slightly behind and to the side of the participant, an experimenter logged the scores in a data sheet. After evaluating the brand, participants submitted scores on the behavioral identification form (BIF), an indicator of construal level (Vallacher & Wegner, 1989). Except for construal level, all measures were assessed on 7-point Likert type scales. Table 1 holds scale items and key statistics.

##### 3.1.2 | Analyses and results

To test the influence of head canting on brand power (H1), including the moderating role of a person's height (H2), we conducted moderated mediation analyses (Hayes, 2013, PROCESS Model 7, number of bootstrap samples = 5,000). Head canting (dummy coded 0 = looking down, 1 = looking up) was the independent variable; brand power the mediator, height the moderator, with brand attitude as the dependent variable. Mood, construal level, and underdog orientation (two dimensions: passion and determination and external disadvantages) were included as covariates. All continuous variables were mean-centered (Hayes, 2013). See Table 2 for the results.

The results indicated that the head canting  $\times$  height interaction term significantly influenced brand power ( $B = 0.97$ ,  $SE = 0.36$ ,  $p = .009$ ). In turn, brand power ( $B = 0.94$ ,  $SE = .09$ ,  $p = .001$ ) and (marginally) head canting ( $B = 0.34$ ,  $SE = .17$ ,  $p = .053$ ) influenced brand attitude. No other effects were significant.<sup>2</sup> These findings support H2, but not H1. Importantly, the direct effect of head canting on brand attitude was marginal ( $B_{\text{direct}} = 0.34$ ,  $SE = 0.17$ , 95% confidence interval [CI] [-0.01, 0.69]), whereas the indirect effects were significant and negative with short people (Bootstrap [5,000];  $B_{\text{indirect}} = -0.54$ ,  $SE = 0.25$ , 95% CI [-1.08, -0.10]), and significant but positive with tall people (Bootstrap [5,000];  $B_{\text{indirect}} = 0.37$ ,  $SE = 0.31$ , 95% CI [.20, 1.01]).<sup>3</sup>

When discovering a significant interaction of a measured variable X (here: height) with a manipulated variable Z (here: head canting) researchers commonly examine the simple effects of Z at different levels of X. To overcome shortcomings of these "spotlight" tests, Spiller, Fitzsimons, Lynch, and McClelland (2013) recommend reporting ranges of significance using a version of Johnson and Neyman's test, termed "floodlight" analysis. Results of such a more detailed floodlight analysis over the full range of physical height scores illustrates that looking up (vs. down) has a negative effect on brand power at very low levels (i.e., with short people), whereas the effect becomes first nonsignificant (when height exceeds 157 cm) and then strong and positive (when height exceeds 180 cm) as physical

<sup>2</sup>Testing an alternative model where construal level mediated the moderated effects of head canting and height on brand power yielded nonsignificant ( $p > .10$ ) indirect and direct effects of construal level.

<sup>3</sup>Accounting for possible weaknesses of our 5-item measure of brand power, we repeated analyses with a 3-item measure (strong, dominant, and successful;  $\alpha = .80$ ). Consistent with the strong correlation between the short and the original measure ( $r = .94$ ), results of the conditional process model did not change substantially (i.e., effect of head canting  $\times$  height on power:  $B = 0.94$ ,  $SE = 0.35$ ,  $p = .010$ ).

<sup>1</sup>The brand was originally launched in 2007 but remained largely unknown until the year 2019. No mention was made of power.



**TABLE 1** Scale items and summary statistics for multi-item construct measures

Model constructs	Cronbach's alpha mean (SD) variance extracted IFC>		
	Study 1	Study 2	Study 3
<b>Brand power<sup>a</sup></b> (Machiels & Orth, 2017)	.84	.82	.75
This is a ... brand	4.70 (0.96)	4.54 (1.18)	3.92 (1.09)
• Strong	58%	65%	69%
• Dominant	.57	.73	.63
• Successful			
• Luxurious			
• Attractive			
<b>Brand attitude</b> (Ajzen & Fishbein, 1980)	.95	.94	.94
This brand is ...	4.49(1.26)	4.23 (1.63)	3.13 (1.72)
• ... favorable/unfavorable	90%	78%	90%
• ... good/bad	.94	.71	.92
• ... positive/negative			
<b>Mood</b> (Peterson & Sauber, 1983)	.94	.88	-
Right now, I am ...	5.21 (1.10)	5.60 (0.88)	
• ...sad/happy	85%	75%	
• ...in a bad mood/good mood	.91	.84	
• ...depressed/cheerful			
<b>Construal level</b> (Vallacher & Wegner, 1989)	NA	NA	-
10 Items Behavioral Identification Form	.80 (0.33)	.50 (0.23)	
<b>Underdog orientation</b> (Paharia et al., 2011)	-	-	.83
<i>External disadvantages</i>			2.78 (1.18)
• I started from a disadvantaged position in meeting my goals compared with my peers			41%
• There are more obstacles in the way of me succeeding compared with others			.65
• I've had to struggle more than others to get to where I am in my life			
• It was harder for me to get where I am today compared with others in my position			
• I've often felt like I'm a minority trying to break in			
• I feel like the odds are against me in pursuing my goals compared with my peers			
• I often feel I have to compete with others who have more resources than me			
• I often feel I have to fight against more discrimination compared with others			
• Some people are jealous of me because of my privileged background			
<i>Passion and determination</i>			.86
• I always stay determined even when I lose			5.10 (1.16)
• I show more resilience than others in the face of adversity			24%
• Compared with others I am more passionate about my goals			.51
• When others expect me to fail I do not quit			
• Compared with others I do not give up easily			
• Even when I've failed I have not lost my hope			
• Compare to others my dream is more important to the meaning of my life			
• I fight harder compared to others to succeed when there are obstacles in my way			
• When I encounter obstacles I usually quit			
<b>Individual power distance</b> (Yoo et al., 2011)	-	.75	.76
• People in higher positions should make most decisions without consulting people in lower positions		2.02 (0.77)	2.05 (1.05)
• People in higher positions should not ask the opinions of people in lower positions too frequently		61%	68%
• People in higher positions should avoid social interaction with people in lower positions		.67	.67
• People in lower positions should not disagree with decisions by people in higher positions			
• People in higher positions should not delegate important tasks to people in lower positions			
<b>Store atmosphere</b> (after Grewal et al., 2003)	-	-	.79
• This department has a pleasant atmosphere			4.04 (0.83)

(Continues)

TABLE 1 (Continued)

Model constructs	Cronbach's alpha mean (SD) variance extracted IFC <sup>a</sup>		
	Study 1	Study 2	Study 3
<ul style="list-style-type: none"> <li>• The noise level in this store is very high (r)</li> <li>• Right now there are many people in this store</li> <li>• The ambient scent in this environment is pleasant</li> </ul>			55%
			.68
<i>Category knowledge</i> (Flynn & Goldsmith, 1999)	–	–	.80
<ul style="list-style-type: none"> <li>• I know pretty much about wine</li> <li>• Among my circle of friends, I'm one of the “experts” on wine</li> </ul>			3.47 (1.45)
			73%
			.79
Compared to most other people, I know less about wine (r)			
<i>Wine preference</i> (after Loose & Szolnoki, 2012)	–	–	.72
<ul style="list-style-type: none"> <li>• My preference for red wine is very high</li> <li>• My preference for wine from Italy is very high</li> <li>• My preference for this wine type (varietals) is very high</li> <li>• My preference for this wine making method is very high</li> </ul>			3.98 (1.55)
			69%
			.79
<i>Consumer–brand identification</i> (Stokburger-Sauer et al., 2012)	–	–	.93
<ul style="list-style-type: none"> <li>• I feel a strong sense of belonging to this brand</li> <li>• I identify strongly with this brand</li> <li>• This brand embodies what I believe in</li> <li>• This brand is like a part of me</li> <li>• This brand has a great deal of personal meaning for me</li> </ul>			2.06 (1.27)
			80%
			.85

Note: “r” refers to reverse-coded items.

Abbreviations: IFC, item-to-factor correlations; SD, standard deviation.

<sup>a</sup>Additional analyses employed a 3-item measure of brand power (strong, dominant, and successful). See the results sections for Studies 1, 2, and 3.

height increases (Figure 2). Specifically, when very short people (height = 149 cm) cant their head up to look at the brand, they evaluate it as having significantly lower power (2.8) than when they cant their head down (power = 4.1). Conversely, very tall people (height = 203 cm) evaluate the brand as significantly more powerful when looking up (power = 4.6) versus down (power = 3.5).

### 3.1.3 | Discussion of study 1 findings

Taken together, study 1 findings support the claim that tall, but not short people evaluate brands as more powerful when looking up. Those differences in evaluative outcomes extend to brand attitude. Short people exhibit a more favorable attitude towards the brand when looking down versus up, whereas tall people show a more favorable brand attitude when looking up at the brand. While those results are noteworthy and in line with expectations, at least three aspects need further investigating: First, across participants, head canting had no effect on brand power, providing no evidence in support of H1. Second, the study 1 findings were obtained with a textual stimulus of a single unknown brand, thereby lacking evidence of robustness and generalizability. Third, the study had participants evaluate the brand from a standing position, leaving open the question as to whether the effects of head canting and verticality are similar when subjects are in a seated position. These possible limitations motivated the second study.

## 3.2 | Study 2

Study 2 had a 2 (head canting: up vs. down) × 2 (height: short vs. tall) × 30 (brand logos) mixed factorial design. The stimuli consisted of high-resolution images of brand logos from 15 categories (automobiles, beer, body care, bottled water, breakfast cereals, chocolates, coffee, consumer electronics, dairy products, frozen foods, fruit juices, sweet and salty snacks, spreads, and tissues). The study employed a student sample ( $N = 121$ , 79.1% females, age:  $M = 24.7$  years,  $SD = 4.23$  years; height:  $M = 172.3$  cm,  $SD = 7.89$  cm) to retest the effect of head canting on brand power (H1) and the assertion that head canting and physical height interact to influence perceptions of brand power (H2) and brand attitude. This study further controls for several individual difference variables, including construal level, brand familiarity, individual-level power distance, and mood.

### 3.2.1 | Method

An extensive pilot ( $N = 40$ ) preceded the main experiment to calibrate equipment and procedures. Specifications included using a height-adjustable chair with headrest to make sure that head canting (looking up vs. down) and distance to the brand display were equal across participants. Closely following Van Kerckhove et al. (2015), participants were seated in an office chair with a seat back angle of

**TABLE 2** Testing for moderated mediation (Study 1)

Predictors	B	SE	t	p
<b>Outcome: Brand power (<math>R^2 = .30</math>)</b>				
Head canting	-0.12	0.19	-0.65	.520
Height	-0.27	0.19	-1.42	.158
Head canting $\times$ height	<b>0.97</b>	0.36	2.67	.009
Mood	0.15	0.09	1.69	.095
Construal level	0.03	0.29	0.09	.929
Underdog orientation - XD	0.02	0.08	0.19	.852
Underdog orientation - PD	-0.02	0.12	-0.17	.869
<b>Outcome: Brand attitude (<math>R^2 = .53</math>)</b>				
Brand power	<b>0.94</b>	0.09	10.57	.001
Head canting	0.34	0.17	1.96	.053
Mood	-0.03	0.08	-0.40	.692
Construal level	0.04	0.27	0.15	.878
Underdog orientation - XD	-0.03	0.08	-0.38	.704
Underdog orientation - PD	0.10	0.11	0.89	.375
<b>Direct effect of head canting on brand attitude</b>				
B = 0.34, SE = 0.17, t = 1.96, p = .053, 95% CI [-0.01, 0.69]				
<b>Conditional indirect effect at values of moderator</b>				
Low height: B = -0.54, SE = 0.25, 95% CI [-1.08, -0.10]				
High height: B = .37, SE = 0.31, 95% CI [.20, 1.01]				

Note:  $N = 111$ . Bootstrap sample = 5,000. Significant ( $p < .05$ ) coefficients in bold.

Abbreviations: CI, confidence interval; SE, standard error.

90°, arm rests and a head restraint. Depending on the condition, participants had the head restraint adjusted to either a 30° up or 30° down angle so that their heads were in a position where a straight gaze pointed either up or down. On the wall opposite the chair (in a distance of exactly 115 cm) was a 20 in. computer screen. Participants were instructed to fixate on a cross projected on the screen with a level gaze. Importantly, the fixation distance (from the eyes to the cross) was maintained at a constant 180 cm.

At the beginning of the main study, before being seated, participants indicated their mood state on a 7-point 4-item scale adopted from Peterson and Sauber (1983). When properly seated, participants viewed eight randomly selected brand logos, displayed in a random sequence on the screen. For each brand, they evaluated its power (This brand is strong/dominant/luxurious/successful/attractive) and their attitude towards the brand (good, favorable, and likable), without changing the position. Seated slightly behind and to the side of the participant, an experimenter logged the scores in a data sheet. After evaluating the brands, participants indicated how comfortable they felt sitting in the chair (Van Kerckhove et al., 2015), and responded to the BIF (Vallacher & Wegner, 1989). Then, participants moved to another room where they completed measures of familiarity of the brand they had viewed (7 = very familiar to 1 = not at all familiar;  $M = 6.44$ ,  $SD = 1.50$ ), individual power distance (Yoo et al., 2011), and personal information including gender. As with Study 1, physical height was measured using a full-length stadiometer

( $M = 1.72$ ,  $SD = 7.89$ ). Scale items and key statistics are listed in Table 1.

### 3.2.2 | Analyses and results

As with Study 1, the effects of head canting and height were tested by moderated mediation analysis (Hayes, 2013, PROCESS Model 7). Head canting (dummy coded 0 = looking down, 1 = looking up) was the independent variable; brand power the mediator, height the moderator, and brand attitude the dependent variable. Mood, construal level, individual power distance, and brand familiarity were included as covariates. All continuous variables were mean-centered (Hayes, 2013). Table 3 summarizes the results.

Brand power was significantly influenced by the head canting  $\times$  height interaction term ( $B = 0.30$ ,  $SE = 0.08$ ,  $p = .001$ ), as well as by a person's mood state ( $B = 0.16$ ,  $SE = 0.04$ ,  $p = .001$ ) and power distance ( $B = 0.12$ ,  $SE = 0.05$ ,  $p = 0.012$ ). Brand attitude, in turn, was influenced by brand power ( $B = 0.60$ ,  $SE = 0.04$ ,  $p = .001$ ), mood ( $B = -0.12$ ,  $SE = 0.05$ ,  $p = .035$ ), and seat comfort ( $B = 0.10$ ,  $SE = 0.04$ ,  $p = .013$ ). No other effects were significant.<sup>4</sup> These findings, again, support H2, but not H1. Importantly, the direct effect of head canting on brand attitude was nonsignificant (95% CI [-0.30, 0.10]), whereas the indirect effects were significant and negative with short people (Bootstrap [5,000];  $B_{\text{indirect}} = -0.16$ ,  $SE = 0.06$ , 95% CI [-0.29, -0.04]), and significant but positive with tall people (Bootstrap [5,000];  $B_{\text{indirect}} = 0.20$ ,  $SE = 0.07$ , 95% CI [0.06, 0.34]).<sup>5</sup>

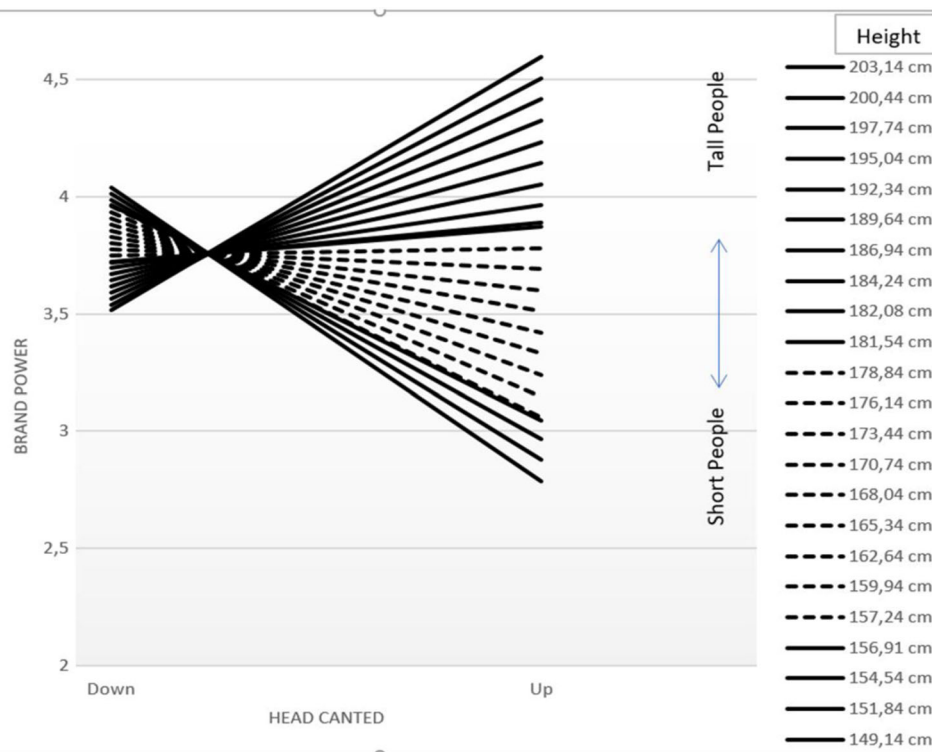
"Floodlight" analysis (Spiller et al., 2013) illustrated that looking up (vs. down) had no significant effect on perceived brand power with shorter people (height < 181 cm), while the effect became significant and positive for taller individuals (see Figure 3). Specifically, with people measuring 182 cm in height a brand's power was evaluated as lower (power = 3.4) when they canted their head down and was evaluated as higher (power = 3.7) with their head canted up, a significant ( $p > .05$ ) difference. Even greater (and significant) were the differences between head canted down (power = 3.4) and head canted up (power = 4.0) with very tall people (height = 198 cm).

### 3.2.3 | Discussion of study 2 findings

Taken as a whole, the findings of study 2 provide further evidence supporting the claim that taller (but not shorter) people evaluate brands as more powerful and evaluate those brands more positively when looking up at the brand. Short people, in contrast, do not

<sup>4</sup>Testing an alternative model including construal level as a process mediator yielded nonsignificant ( $p > .10$ ) direct and indirect effects of the variable on brand power.

<sup>5</sup>As with Study 1, we repeated analyses with a 3-item measure (strong, dominant, and successful;  $\alpha = .79$ ). Consistent with the strong correlation between the short and the original measure ( $r = .96$ ), results of the conditional process model did not change substantially (i.e., effect of head canting  $\times$  height on power:  $B = 0.30$ ,  $SE = 0.08$ ,  $p = .001$ ).



**FIGURE 2** Results of Study 1 floodlight analysis [Color figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]

evaluate brands as more powerful or exhibit more positive attitudes when looking up.

The process underlying these effects, however, needs further investigation. Given our replicated finding of nonsignificance for the effects of construal level in studies one and two, we examined the potential mediating impact of CBI in study three. In addition, differences in brand power evaluations (due to head position and height) in our laboratory experiments may not extend to field settings. These limitations motivated Study 3, which seeks to further replicate the findings found in Studies 1 and 2, examines the potential role of CBI as the suspected mechanism underlying short versus tall people's differential responses to looking up (the "Reverse Napoleon" Effect), and attempts to extend these findings to a field setting.

### 3.3 | Study 3

Study 3 had a one-factorial (head canting: up vs. down) between-subjects experimental design. Participants were 100 shoppers to the wine section of a large supermarket (48% females, age:  $M = 49.2$  years,  $SD = 17.1$  years; height:  $M = 175.1$  cm,  $SD = 8.78$  cm) who evaluated a brand positioned either high (inducing looking up) or low (looking down) on a shelf. The field study aimed at re-testing the assertion that head canting and physical height interact to influence brand power (H2), while also assessing the role CBI (H3) as a possible mediator of the interactive effects on brand power, and its subsequent impact on brand attitudes and choice. The study further

controls for several individual and situational difference variables including a person's familiarity with the brand, wine preference, store atmosphere, category knowledge, and underdog orientation.

#### 3.3.1 | Method

Study participants were recruited from shoppers to the wine section of a hypermarket in a large German city over a period of 8 days during various days of the week and at various times of the day.<sup>6</sup> A wine brand from Italy (Valpolicella Ripasso) served as a stimulus in line with the organization of the store's wine section along geographical origins. To ascertain angles of head canting (looking up vs. down) similar to the previous studies, the wine was presented either at the top or the bottom shelf with a cross taped on the floor at a distance of 112 cm from the front of the shelf for participants to position themselves.

Every tenth shopper to the wine section was intercepted and invited to participate in exchange for a 10€ coupon valid in the store. Upon agreement, participants positioned themselves on the mark in front of the shelf; the experimenter pointed to the brand and recorded their responses to questions that assessed brand power (Machiels & Orth, 2017), CBI (Stokburger-Sauer et al., 2012), brand attitude (Ajzen & Fishbein, 1980), and wine preference. Before stepping away from the floor mark, participants indicated their

<sup>6</sup>The authors gratefully acknowledge cooperation and nonfinancial support provided by CITT Markets GmbH & Co. KG, especially Daniel Kurz.

**TABLE 3** Testing for moderated mediation (Study 2)

Predictors	B	SE	t	p
<b>Outcome: Brand power (<math>R^2 = .21</math>)</b>				
Head canting	0.03	0.08	0.32	.746
Height	0.04	0.04	1.15	.252
Head canting $\times$ height	<b>0.30</b>	0.08	3.87	.001
Mood	<b>0.16</b>	0.04	3.78	.001
Construal level	-0.08	0.17	-0.45	.653
Seat comfort	0.01	0.03	0.34	.731
Power distance	<b>0.12</b>	0.05	2.52	.012
Brand familiarity	0.05	0.07	1.05	.271
<b>Outcome: Brand attitude (<math>R^2 = 0.46</math>)</b>				
Brand power	<b>0.60</b>	0.04	14.87	.001
Head canting	0.10	0.10	0.97	.330
Mood	<b>-0.12</b>	0.05	-2.11	.035
Construal level	-0.25	0.21	-1.17	.241
Seat comfort	<b>0.10</b>	0.04	2.49	.013
Power distance	0.10	0.06	1.64	.101
Brand familiarity	0.10	0.05	1.67	.099
<b>Direct effect of head canting on brand attitude</b>				
B = 0.10, SE = 0.10, 95% CI [-0.10, 0.30]				
<b>Conditional indirect effect at values of moderator</b>				
Low height: B = <b>-0.16</b> , SE = 0.06, 95% CI [-0.29, -0.04]				
High height: B = <b>0.20</b> , SE = 0.07, 95% CI [0.06, 0.34]				

Note:  $N = 968$ . Bootstrap sample = 5,000. Significant ( $p < .05$ ) coefficients in bold.

Abbreviations: CI, confidence interval; SE, standard error.

choice ("I chose this wine instead of the coupon," coded 0 = No and 1 = Yes). Consumers then moved over to a small table to complete measures of individual and situational difference variables, including category knowledge (Flynn & Goldsmith, 1999), store atmosphere (Grewal, Baker, Levy, & Voss, 2003), wine preference (Loose & Szolnoki, 2012), underdog orientation (external disadvantage, passion, and determination; Paharia et al., 2011), individual power distance (Yoo et al., 2011), and personal information including height, gender, and age. Table 1 holds scale items and key statistics.

### 3.3.2 | Analyses and results

A manipulation check yielded a significant effect of the manipulated stimulus position on mean-centered perceived head canting ( $F[1, 99] = 4.54, p = .036$ ), with the stimulus positioned high scoring higher ( $M = +0.22$ ) than the stimulus positioned low ( $M = -0.22$ ). As an initial test of our core proposition, additional analysis of variance results indicate a marginal effect of head canting on brand power ( $F[1, 97] = 2.82, p = .096$ ) with scores higher for the brand in the "looking up" rather than the "looking down" position ( $M = 4.10$  vs. 3.69).

We conducted moderated mediation analyses to test the mediating role of CBI, between the influence of head canting, conditional upon a person's height and brand power (Hayes, 2013, PROCESS Model 7, number of bootstrap samples = 5,000). More specifically,

head canting (dummy coded 0 = looking down 1 = looking up) was the independent variable; CBI was the mediator, individual height the moderator, and brand power the dependent variable. Brand familiarity, store atmosphere, category knowledge, wine preference, individual power distance, and the two dimensions of underdog orientation were included as covariates. All continuous variables were mean-centered (Hayes, 2013). The results are summarized in Table 4.

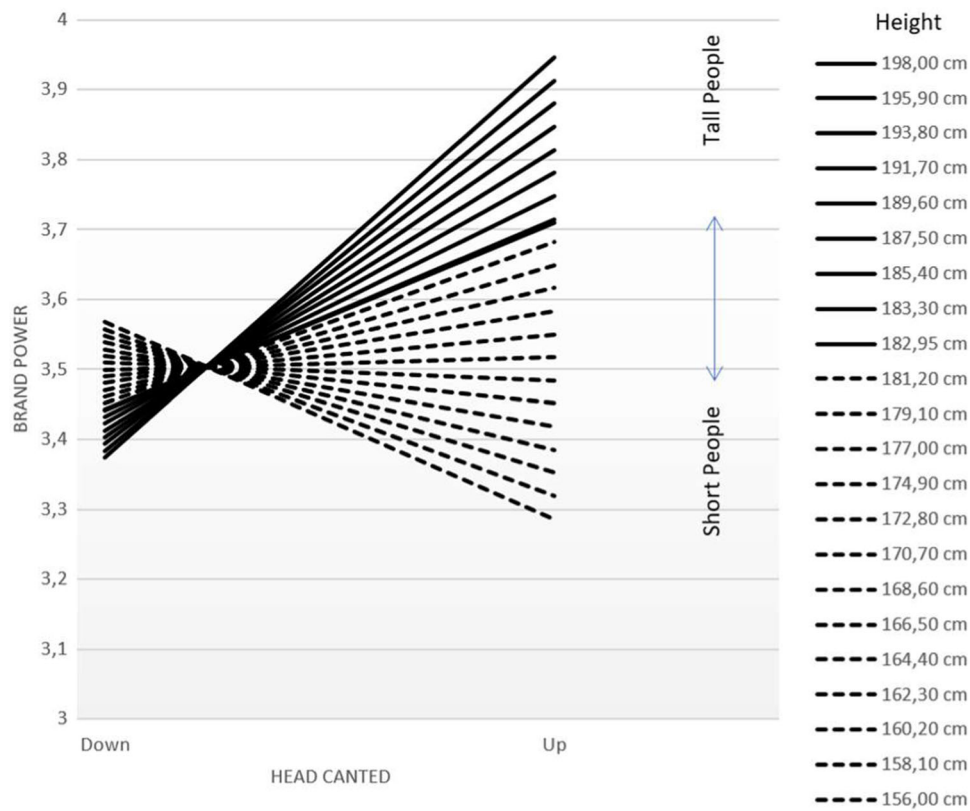
Bootstrap results indicate that the overall effect of head canting on brand power is significant (Index of Moderated Mediation = 0.22,  $SE = 0.15$ , 95% CI [0.01, 0.60]); with a nonsignificant direct effect ( $B = 0.15$ ;  $SE = 0.20$ , 95% CI [-0.24, 0.54]), and a significant indirect effect through CBI for tall people ( $B = 0.22$ ,  $SE = 0.14$ , 95% CI [0.02, 0.55]), but not for short people ( $B = 0.01$ ,  $SE = 0.07$ , 95% CI [-0.15, 0.16]). More specifically, CBI is influenced by a person's wine preference ( $B = 0.79$ ,  $SE = 0.07$ ,  $p = .001$ ), the head canting  $\times$  height interaction term ( $B = 0.64$ ,  $SE = 0.30$ ,  $p = .036$ ), and (marginally) by head canting ( $B = 0.30$ ,  $SE = 0.15$ ,  $p = .059$ ). Brand power, in turn, is influenced by CBI ( $B = 0.35$ ,  $SE = 0.13$ ,  $p = .008$ ), category knowledge ( $B = -0.19$ ,  $SE = 0.06$ ,  $p = 0.003$ ) and (marginally) by external disadvantages ( $B = 0.16$ ,  $SE = 0.08$ ,  $p = .059$ ). All other effects are nonsignificant.<sup>7</sup> Additional regression analysis found that brand power is a significant predictor of choice ( $B = 0.37$ ,  $t = 3.99$ ,  $p = .001$ ,  $R^2_{adj} = .13$ ), further corroborating the important role of our focal concept.

Conducting a floodlight analysis (Spiller et al., 2013) of the conditional indirect effects at different values of personal height (standardized deviations from mean height) further established that the effects of head canting on CBI (and thus on brand power) were significant only for people measuring 1.64 cm or more above the average height (see Figure 4). For example, tall people (height = mean + 21 cm) identified more with the brand when it was positioned high (4.2), and identified less with it when it was positioned low (2.7). No differences in CBI were found for shorter people (height = mean - 1.64 cm).

## 4 | GENERAL DISCUSSION

This study integrates the embodied cognition framework with a self-referencing perspective to show that the sensorimotor experience of canting one's head interacts with a person's physical height to influence brand power evaluation. Empirical evidence is provided in three studies using a variety of brand cues in both laboratory and field contexts. Together, the findings indicate that tall (short) individuals evaluate a brand as more powerful when looking up (down) at a brand. Consumer-brand identification mediates sensorimotor interaction effects as tall people identify with brands they look up to, while short people identify with brands they look down upon.

<sup>7</sup>Repeating analyses with a 3-item measure of brand power ( $\alpha = .78$ ) yielded very similar results. Specifically, the 3-item measure correlated strongly with the 5-item measure ( $r = .98$ ), leaving the significant impact of CBI on brand power essentially unchanged ( $B = 0.35$ ,  $SE = 0.12$ ,  $p = .008$ ).



**FIGURE 3** Results of Study 2 floodlight analysis [Color figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]

#### 4.1 | Implications for research

Our findings contribute to the literature in at least four ways. First, we examine sensorimotor effects on an outcome variable that has received little attention in the context of embodied cognition, but which is highly relevant for scholars and practitioners alike: brand power. By focusing on brand power (including its subsequent effects on attitude and intention), we add a brand management perspective to previous consumer embodiment research, which has focused more broadly on product attitudes, intentions, or choice (e.g., Ardelet, 2018; Van Kerckhove et al., 2015). We also extend social psychology research, which has focused on sensorimotor effects that impact power perceptions in the context of people rather than brands (e.g., Schubert, 2004). Furthermore, our focus on head canting adds a sensorimotor perspective to the many marketing and consumer studies that have examined verticality effects in terms of metaphors rather than actual bodily behavior (e.g., Guido et al., 2016; Machiels & Orth, 2017; Roose et al., 2019; Sundar & Noseworthy, 2014; Van Rompay et al., 2012; Van Rompay et al., 2019).

Second, we offer a novel perspective on when brand power perceptions may diverge. Research on embodied cognition has only recently begun to explore boundary conditions (Cian, 2017; Sundar & Noseworthy, 2014). Extant literature has almost exclusively examined effects in terms of a direct association between bodily behavior and individual response with little attention to possible boundary conditions (Meier et al., 2012). Thus, we break new ground

both in the embodiment literature and in the literature on consumer self by demonstrating that the effects of head canting are contingent on a person's physical height.

Third, except for the construal level (e.g., Van Kerckhove et al., 2015), embodied cognition research, especially in marketing, has shown little interest in specifying intervening variables in the relationship between sensorimotor experiences and perception. Our study begins to provide more detailed process insights by identifying an intervening variable of substantial relevance in a marketing context: CBI. By doing so our work extends previous research to show that CBI mediates the effect of head canting, conditional upon a person's height, on brand power perceptions. Emphasizing the role of CBI adds a consumer-brand relationship perspective to embodiment research and advances a novel explanation for some of the well-established bodily behavior and verticality metaphor effects on perceptions and behaviors.

Along similar lines, our study extends research on consumers' self, especially self-referencing (Burnkrant & Unnava, 1995; Escalas, 2004) and CBI (Stokburger-Sauer et al., 2012) by showing how physical characteristics can affect consumers' identification with a brand and consequently behavioral intentions. Research into drivers of CBI has almost exclusively focused on the personality aspects of the self (Aaker, 1997; Grubb & Grathwohl, 1967; Sirgy, 1982). The present study adopts the view that body image, specifically a person's physical height (McGuire & Padawer-Singer, 1976), is an important facet of the self (Mittal, 2006), and views self-similarity as an



**TABLE 4** Testing for moderated mediation (Study 3)

Predictors	B	SE	t	p
<b>Outcome: Consumer-brand identification (CBI; <math>R^2 = .70</math>)</b>				
Head canting	<b>0.30</b>	0.15	1.91	.059
Height	-0.07	0.16	-0.46	.648
Head canting × height	<b>0.64</b>	0.30	2.14	.036
Brand familiarity	0.11	0.11	1.07	.286
Store atmosphere	0.01	0.01	0.57	.570
Category knowledge	-0.02	0.05	-0.30	.762
Wine preference	<b>0.79</b>	0.07	11.54	.001
Underdog orientation PD	0.07	0.07	0.99	.323
Underdog orientation XD	-0.02	0.07	-0.35	.730
Power distance	0.03	0.09	0.39	.696
<b>Outcome: Brand power (<math>R^2 = .41</math>)</b>				
CBI	<b>0.35</b>	0.13	2.70	.008
Head canting	0.12	0.19	0.65	.518
Brand familiarity	0.01	0.13	0.10	.918
Store atmosphere	0.01	0.01	1.48	.143
Category knowledge	<b>-0.19</b>	0.06	-3.02	.003
Wine preference	0.13	0.13	0.98	.329
Underdog orientation PD	0.07	0.08	0.92	.358
Underdog orientation XD	0.16	0.08	1.91	.059
Power distance	-0.05	0.10	-0.48	.630

**Direct effect of head canting on CBI**

$B = 0.15$ ,  $SE = 0.20$ ,  $t = 0.77$ ,  $p = 0.444$ , 95% CI [-0.24, 0.54]

**Conditional indirect effect at values of moderator**

Low height:  $B = 0.01$ ,  $SE = 0.07$ , 95% CI [-0.15, 0.16]

High height:  $B = 0.22$ ,  $SE = 0.14$ , 95% CI [0.02, 0.55]

Note:  $N = 100$ . Bootstrap sample = 5,000. Significant ( $p < .05$ ) coefficients in bold.

Abbreviations: CI, confidence interval; SE, standard error.

important driver of CBI (Stokburger-Sauer et al., 2012). Previous research is further extended by showing that the level of a consumer's identification with a brand can trace back to similarity in physical attributes, especially height.

Last, our work provides initial evidence for the robustness of the effects of head canting on brand power. Extant research points to four individual and situational difference variables as possible influencers of sensorimotoric head canting effects: underdog orientation (Nariswari & Chen, 2016; Paharia et al., 2011), power distance (Yoo et al., 2011), mood (Adaval, 2003; Schoel et al., 2014; Schubert, 2004; Slepian et al., 2015), and knowledge (Schubert, 2005). By accounting for these variables, we provide further insight into the robustness of the effects of head canting on brand power perceptions in the presence of other possible influencers.

## 4.2 | Managerial implications

The major managerial implication of this study is that higher may not always be better. Although taller individuals infer greater power from brand cues placed higher (rather than lower), shorter individuals do

not consistently exhibit this preference. Apparel marketing provides the most obvious implication. Other implications are related to advances in technology, including behavioral targeting and tracking, in-store beacons, and even facial recognition, which all potentially allow marketers to obtain and cross-reference information on people's height.

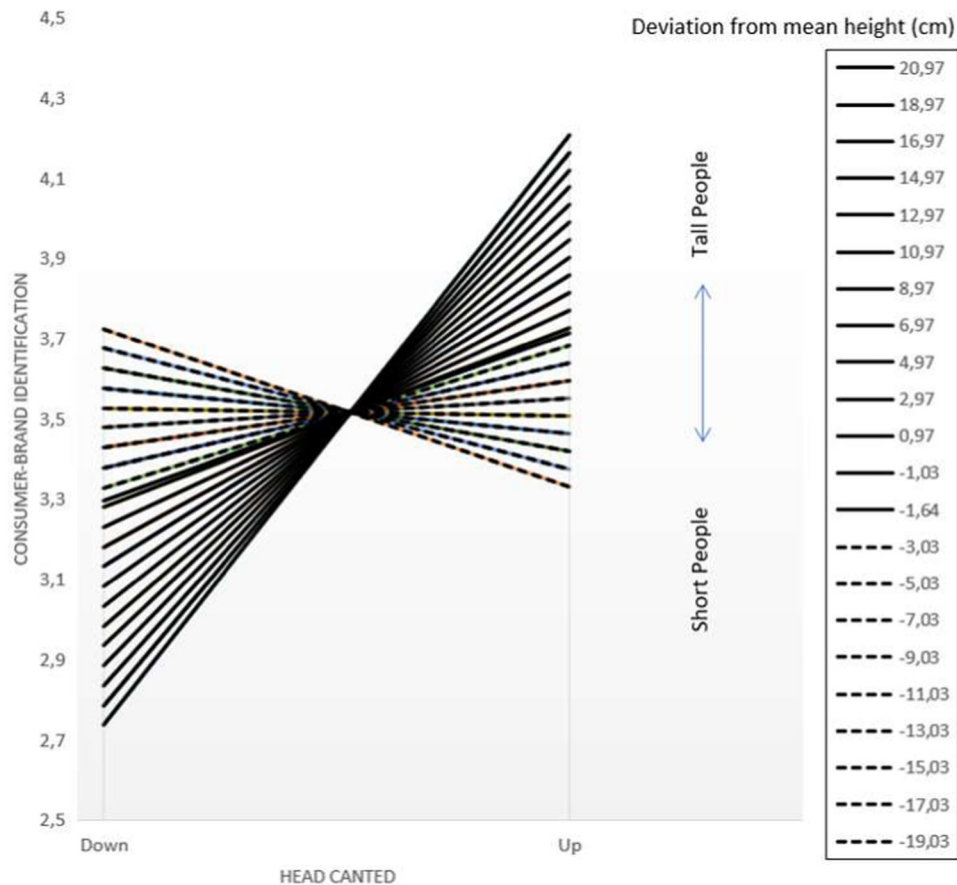
The extent of head canting is also relevant in several marketing communication platforms. Users typically look down when using a tablet computer, viewing a smartphone or reading a magazine, which may make taller individuals less receptive to brand communications. Movie theaters provide another example where viewers generally look down, while individuals generally look up at billboards and transit advertising. The extent of head canting in other mediums, like in-flight entertainment varies by the height of the individual, and marketers could utilize the findings from this study in combination with other factors to predict receptivity to an advertisement.

This study also documents the importance of self-brand similarity in general and of physical factors in specific in influencing consumers. Other physical factors, such as a person's weight and body type may additionally influence their receptivity to different types of packaging and displays.

Finally, combining our results again with Sundar and Noseworthy (2014) provides another interesting area for managerial exploration. Situational variables such as time pressure and perceived control may impact an individual's identification and liking for a brand, similar to the identification found between taller individuals and brands when looking up. In sum, the current study demonstrates the important interaction between a physical individual difference, a person's height, and verticality, and the impact of this interaction on brand attitudes and preferences. Additional research could highlight additional individual differences that drive self-brand connections and related managerial implications and consequences.

## 4.3 | Directions for future research

There are several limitations to our work, opening avenues for future research. First, we focused on a limited set of independent variables, head canting and height. Future research could examine additional variables that interact with height, such as self and body image, as well as the ability of various types of products, brands, and marketing communications to cue self-brand associations. Future research, moreover, could further assess the interaction between category dominance/lack of dominance (Sundar & Noseworthy, 2014), brand personality and verticality. Can marketing communications that cue self-brand identification strengthen the impact of the verticality effects found in this study? Are certain brand personalities, visual images, and types of copy, more (less) conducive to higher versus lower placements? Research could also re-examine many of the verticality effects shown in social psychology in conjunction with the impact of height and head canting, as well as other individual difference variables, such as the need for



**FIGURE 4** Results of Study 3 floodlight analysis [Color figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]

dominance, deference, affiliation, and agreeableness. Further examination of stimulus-related and situational variables appears warranted.

Further noteworthy are the critical values (Johnson–Neyman points) where effects switch from being significant to nonsignificant or vice versa, identified in our three studies. A physical height of 182 cm appears to be a critical value in both Study 1 and Study 2, whereas the corresponding value in Study 3 is ~172 cm. In addition, Study 1 identifies a second inflexion point at 157 cm. We speculate that the values may be context-dependent, especially varying with characteristics of the physical environment (i.e., interior space can make people feel smaller: Bellizzi & Hite, 1992), social presence (standing next to taller/shorter people may impact self-perception: Turley & Milliman, 2000), and culture (e.g., Valtonen, 2013). Thus, additional characteristics of the person-within-a-situation may interact with the sensorimotor experience  $\times$  physical height effect, subsequently impacting brand power, attitudes and behaviors.

#### ACKNOWLEDGMENT

We gratefully acknowledge the excellent research assistance provided by Johanna Kirch, Céline Sohège, and Antonia Grubert.

#### ORCID

Ulrich R. Orth  <http://orcid.org/0000-0003-1134-9892>

#### REFERENCES

- Aaker, J. L. (1997). Dimensions of brand personality. *Journal of Marketing*, 34(3), 347–356. <https://doi.org/10.2139/ssrn.945432>
- Aaker, J. L., Garbinsky, E. N., & Vohs, K. D. (2012). Cultivating admiration in brands: Warmth, competence, and landing in the “golden quadrant”. *Journal of Consumer Psychology*, 22(2), 191–194. <https://doi.org/10.1016/j.jcps.2011.11.012>
- Adaval, R. (2003). How good gets better and bad gets worse: Understanding the impact of affect on evaluations of known brands. *Journal of Consumer Research*, 30(3), 352–367. <https://doi.org/10.1086/378614>
- Aggarwal, P., & Zhao, M. (2015). Seeing the big picture: The effect of height on the level of construal. *Journal of Marketing Research*, 52(1), 120–133. <https://doi.org/10.1509/jmr.12.0067>
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- Ardelet, C. (2018). Mobile advertising: The effect of tablet tilt angle on user's purchase intentions. *Journal of Marketing Communications*, 26(2), 166–185. <https://doi.org/10.1080/13527266.2018.1497679>
- Barsalou, L. W. (1999). Perceptual symbol systems. *Behavioral and Brain Sciences*, 22(4), 577–609. <https://doi.org/10.1017/S0140525X99002149>
- Barsalou, L. W. (2008). Grounded cognition. *Annual Review of Psychology*, 59, 617–645. <https://doi.org/10.1146/annurev.psych.59.103006.093639>
- Barsalou, L. W., Simmons, W. K., Barbey, A. K., & Wilson-Mendenhall, C. D. (2003). Grounding conceptual knowledge in modality-specific systems. *Trends in Cognitive Sciences*, 7, 84–91. [https://doi.org/10.1016/s1364-6613\(02\)00029-3](https://doi.org/10.1016/s1364-6613(02)00029-3)

- Baumeister, R. F. (2010). The self. In R. F. Baumeister & E. J. Finkel (Eds.), *Advanced Social Psychology: The State of Science* (pp. 139–175). Oxford, UK: Oxford University Press.
- Belk, R. W. (1988). Possessions and the extended self. *Journal of Consumer Research*, 15(2), 139–168. <https://doi.org/10.1086/209154>
- Bellizzi, J. A., & Hite, R. E. (1992). Environmental color, consumer feelings, and purchase likelihood. *Psychology & Marketing*, 9(5), 347–363. <https://doi.org/10.1002/mar.4220090502>
- Bennett, A. M., & Hill, R. P. (2012). The universality of warmth and competence: A response to brands as intentional agents. *Journal of Consumer Psychology*, 22(2), 199–204. <https://doi.org/10.1016/j.jcps.2011.10.005>
- Blaker, N. M., & van Vugt, M. (2014). The status-size hypothesis: How cues of physical size and social status influence each other. *The Psychology of Social Status* (pp. 119–137). New York, NY: Springer. [https://doi.org/10.1007/978-1-4939-0867-7\\_6](https://doi.org/10.1007/978-1-4939-0867-7_6)
- Bong Na, W., Marshall, R., & Keller, K. L. (1999). Measuring brand power: Validating a model for optimizing brand equity. *Journal of Product & Brand Management*, 8(3), 170–184. <https://doi.org/10.1108/10610429910272439>
- Bosnjak, M., Bochmann, V., & Hufschmidt, T. (2007). Dimensions of brand personality attributions: A person-centric approach in the German cultural context. *Social Behavior and Personality*, 35(3), 303–316. <https://doi.org/10.2224/sbp.2007.35.3.303>
- Burgoon, J. K., & Dunbar, N. E. (2006). Nonverbal expressions of dominance and power in human relationships. In V. Manusov & M. L. Patterson (Eds.), *The Sage handbook of nonverbal communication* (pp. 279–297). Thousand Oaks, CA: Sage Publications, Inc. <https://doi.org/10.4135/9781412976152.n15>
- Burnkrant, R. E., & Unnava, H. R. (1995). Effects of self-referencing on persuasion. *Journal of Consumer Research*, 22(1), 17–26. <https://doi.org/10.1086/209432>
- Chernev, A., Hamilton, R., & Gal, D. (2011). Competing for consumer identity: Limits to self-expression and the perils of lifestyle branding. *Journal of Marketing*, 75(3), 66–82. <https://doi.org/10.1509/jmkg.75.3.66>
- Cian, L. (2017). Verticality and conceptual metaphors: A systematic review. *Journal of the Association for Consumer Research*, 2(4), 444–459. <https://doi.org/10.1086/694082>
- Crosno, J. L., Freling, T. H., & Skinner, S. J. (2009). Does brand social power mean market might? Exploring the influence of brand social power on brand evaluations. *Psychology & Marketing*, 26(2), 91–121. <https://doi.org/10.1002/mar.20263>
- Duguid, M. M., & Goncalo, J. A. (2012). Living large the powerful overestimate their own height. *Psychological Science*, 23(1), 36–40. <https://doi.org/10.1177/0956797611422915>
- Escalas, J. E. (2004). Imagine yourself in the product: Mental simulation, narrative transportation, and persuasion. *Journal of Advertising*, 33(2), 37–48. <https://doi.org/10.1080/00913367.2004.10639163>
- Escalas, J. E. (2007). Self-referencing and persuasion: Narrative transportation versus analytical elaboration. *Journal of Consumer Research*, 33(4), 421–429. <https://doi.org/10.1086/510216>
- Escalas, J. E., & Bettman, J. R. (2003). You are what they eat the influence of reference groups on consumer connections to brands. *Journal of Consumer Psychology*, 13(3), 339–348. [https://doi.org/10.1207/s15327663jcp1303\\_14](https://doi.org/10.1207/s15327663jcp1303_14)
- Escalas, J. E., & Bettman, J. R. (2005). Self-construal, reference groups, and brand meaning. *Journal of Consumer Research*, 32(2), 378–389. <https://doi.org/10.1086/497549>
- Flynn, L. R., & Goldsmith, R. E. (1999). A short, reliable measure of subjective knowledge. *Journal of Business Research*, 46(1), 57–66. [https://doi.org/10.1016/s0148-2963\(98\)00057-5](https://doi.org/10.1016/s0148-2963(98)00057-5)
- Folger, R., & Kass, E. E. (2000). Social comparison and Fairness. In J. Suls & L. Wheeler (Eds.), *Handbook of social comparison - theory and research* (pp. 423–441). Boston, MA: Springer. [https://doi.org/10.1007/978-1-4615-4237-7\\_20](https://doi.org/10.1007/978-1-4615-4237-7_20)
- Förster, J., & Stepper, S. (2000). Compatibility between approach/avoidance stimulation and valenced information determines residual attention during the process of encoding. *European Journal of Social Psychology*, 30(6), 853–871. [https://doi.org/10.1002/1099-0992\(200011/12\)30:6<853::AID-EJSP20>3.0.CO;2-1](https://doi.org/10.1002/1099-0992(200011/12)30:6<853::AID-EJSP20>3.0.CO;2-1)
- Förster, J., & Strack, F. (1996). Influence of overt head movements on memory for valenced words: A case of conceptual-motor compatibility. *Journal of Personality and Social Psychology*, 71(3), 421–430. <https://doi.org/10.1037/0022-3514.71.3.421>
- Foscht, T., Maloles, C., III, Swoboda, B., Morschett, D., & Sinha, I. (2008). The impact of culture on brand perceptions: A six-nation study. *Journal of Product & Brand Management*, 17(3), 131–142. <https://doi.org/10.1108/10610420810875052>
- Fournier, S., & Alvarez, C. (2012). Brands as relationship partners: Warmth, competence, and in-between. *Journal of Consumer Psychology*, 22(2), 177–185. <https://doi.org/10.1016/j.jcps.2011.10.003>
- Fournier, S. (2009). Lessons learned about consumers' relationships with their brands. In D. J. MacInnis, C. W. Park & J. R. Priester (Eds.), *Handbook of brand relationships* (pp. 5–23). Armonk, NY: M.E. Sharpe.
- Giessner, S. R., Ryan, M. K., Schubert, T. W., & van Quaquebeke, N. (2011). The power of pictures: Vertical picture angles in power pictures. *Media Psychology*, 14(4), 442–464. <https://doi.org/10.1080/15213269.2011.620541>
- Giessner, S. R., & Schubert, T. (2007). High in the hierarchy: How vertical location and judgments of leaders' power are interrelated. *Organizational Behavior and Human Decision Processes*, 104(1), 30–44. <https://doi.org/10.1016/j.obhdp.2006.10.001>
- Gjelsvik, B., Lovric, D., & Williams, J. M. G. (2018). Embodied cognition and emotional disorders: Embodiment and abstraction in understanding depression. *Journal of Experimental Psychopathology*, 9(3), pr-035714. <https://doi.org/10.5127/pr.035714>
- Goldschmied, N., McDaniel, C., & Ramirez, V. (2017). Preference for the underdog when sampling commercial products: Assessment of the effect and limiting conditions. *Journal of Marketing Behavior*, 3(1), 51–61. <https://doi.org/10.1561/107.00000041>
- Goodrich, K. (2010). What's up?: Exploring upper and lower visual field advertising effects. *Journal of Advertising Research*, 50(1), 91–106. <https://doi.org/10.2501/s002184991009121x>
- Grewal, D., Baker, J., Levy, M., & Voss, G. B. (2003). The effects of wait expectations and store atmosphere evaluations on patronage intentions in service-intensive retail stores. *Journal of Retailing*, 79(4), 259–268. <https://doi.org/10.1016/j.jretai.2003.09.006>
- Grubb, E. L., & Grathwohl, H. L. (1967). Consumer self-concept, symbolism and market behavior: A theoretical approach. *Journal of Marketing*, 31(4), 22–27. <https://doi.org/10.2307/1249461>
- Guido, G., Pichierri, M., Natarajan, R., & Pino, G. (2016). Animated logos in mobile marketing communications: The roles of logo movement directions and trajectories. *Journal of Business Research*, 69(12), 6048–6057. <https://doi.org/10.1016/j.jbusres.2016.06.003>
- Hamstra, M. R. (2014). 'Big men': Male leaders' height positively relates to followers' perception of charisma. *Personality and Individual Differences*, 56(1), 190–192. <https://doi.org/10.1016/j.paid.2013.08.014>
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: Guilford Press. <https://doi.org/10.1111/jedm.12050>
- Higgins, E. T. (1996). Knowledge activation: Accessibility, applicability, and salience. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 133–168). New York, NY: Guilford Press.
- Hofstede, G. (1984). *Culture's consequences: International differences in work-related values* (Abridged ed.). Newbury Park, NY: Sage Publications.

- Hong, J., & Sternthal, B. (2010). The effects of consumer prior knowledge and processing strategies on judgments. *Journal of Marketing Research*, 47(2), 301–311. <https://doi.org/10.1509/jmkr.47.2.301>
- Huang, X. I., Li, X., & Zhang, M. (2013). "Seeing" the social roles of brands: How physical positioning influences brand evaluation. *Journal of Consumer Psychology*, 23(4), 509–514. <https://doi.org/10.1016/j.jcps.2013.03.001>
- Jin, L., & Huang, Y. (2019). How power states influence the persuasiveness of topdog versus underdog appeals. *Journal of Consumer Psychology*, 29(2), 243–261. <https://doi.org/10.1002/jcpy.1069>
- Judge, T. A., & Cable, D. M. (2004). The effect of physical height on workplace success and income: Preliminary test of a theoretical model. *Journal of Applied Psychology*, 89(3), 428–441. <https://doi.org/10.1037/0021-9010.89.3.428>
- Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing*, 57(1), 1–22. <https://doi.org/10.2307/1252054>
- Kim, J. H., Allison, S. T., Eylon, D., Goethals, G. R., Markus, M. J., Hindle, S. M., & McGuire, H. A. (2008). Rooting for (and then abandoning) the underdog. *Journal of Applied Social Psychology*, 38(10), 2550–2573. <https://doi.org/10.1111/j.1559-1816.2008.00403.x>
- Kipnis, E., Broderick, A. J., Demangeot, C., Adkins, N. R., Ferguson, N. S., Henderson, G. R., ... Zuniga, M. (2013). "Branding beyond prejudice: Navigating multicultural marketplaces for consumer well-being. *Journal of Business Research*, 66(8), 1186–1194. <https://doi.org/10.1016/j.jbusres.2012.08.011>
- Kirmani, A., Hamilton, R. W., Thompson, D. V., & Lantzy, S. (2017). Doing well versus doing good: The differential effect of underdog positioning on moral and competent service providers. *Journal of Marketing*, 81(1), 103–117. <https://doi.org/10.1509/jm.15.0369>
- Kleine, R. E., III, Kleine, S. S., & Kernan, J. B. (1993). Mundane consumption and the self: A social-identity perspective. *Journal of Consumer Psychology*, 2(3), 209–235. [https://doi.org/10.1016/s1057-7408\(08\)80015-0](https://doi.org/10.1016/s1057-7408(08)80015-0)
- Knapen, J. E. P., Blaker, N. M., & Van Vugt, M. (2018). The Napoleon complex: When shorter men take more. *Psychological Science*, 29(7), 1134–1144. <https://doi.org/10.1177/0956797618772822>
- Körner, A., Topolinski, S., & Strack, F. (2015). Routes to embodiment. *Frontiers in Psychology*, 6, 940. <https://doi.org/10.3389/fpsyg.2015.00940>
- Lakens, D., Semin, G. R., & Foroni, F. (2011). Why your highness needs the people: Comparing the absolute and relative representation of power in vertical space. *Social Psychology*, 42(3), 205–213. <https://doi.org/10.1027/1864-9335/a000064>
- Lakoff, G., & Johnson, M. (1980). The metaphorical structure of the human conceptual system. *Cognitive Science*, 4(2), 195–208. [https://doi.org/10.1207/s15516709cog0402\\_4](https://doi.org/10.1207/s15516709cog0402_4)
- Lakoff, G., & Johnson, M. (1999). *Philosophy in the flesh: The embodied mind and its challenge to western thought*. New York, NY: Basic Books.
- Lam, S. K., Ahearne, M., Hu, Y., & Schillewaert, N. (2010). Resistance to brand switching when a radically new brand is introduced: A social identity theory perspective. *Journal of Marketing*, 74(6), 128–146. <https://doi.org/10.1509/jmkg.74.6.128>
- Lam, S. K., Ahearne, M., Mullins, R., Hayati, B., & Schillewaert, N. (2013). Exploring the dynamics of antecedents to consumer-brand identification with a new brand. *Journal of the Academy of Marketing Science*, 41(2), 234–252. <https://doi.org/10.1007/s11747-012-0301-x>
- Landau, M. J., Meier, B. P., & Keefer, L. A. (2010). A metaphor-enriched social cognition. *Psychological Bulletin*, 136(6), 1045–1067. <https://doi.org/10.1037/a0020970>
- Lassar, W., Mittal, B., & Sharma, A. (1995). Measuring customer-based brand equity. *Journal of Consumer Marketing*, 12(4), 11–19. <https://doi.org/10.1108/07363769510095270>
- Lieberman, N., Trope, Y., & Wakslak, C. (2007). Construal level theory and consumer behavior. *Journal of Consumer Psychology*, 17(2), 113–117. [https://doi.org/10.1016/s1057-7408\(07\)70017-7](https://doi.org/10.1016/s1057-7408(07)70017-7)
- Loose, S. M., & Szolnoki, G. (2012). Market price differentials for food packaging characteristics. *Food Quality and Preference*, 25(3), 171–182. <https://doi.org/10.1016/j.foodqual.2012.02.009>
- Machiels, C. J. A., & Orth, U. R. (2017). Verticality in product labels and shelves as a metaphorical cue to quality. *Journal of Retailing and Consumer Services*, 37, 195–203. <https://doi.org/10.1016/j.jretconser.2017.02.009>
- McGinnis, L. P., Gao, T., Jun, S., & Gentry, J. (2017). Motivational bases for consumers' underdog affection in commerce. *Journal of Service Management*, 28(3), 563–592. <https://doi.org/10.1108/josm-02-2016-0052>
- McGinnis, L. P., & Gentry, J. W. (2009). Underdog consumption: An exploration into meanings and motives. *Journal of Business Research*, 62(2), 191–199. <https://doi.org/10.1016/j.jbusres.2008.01.026>
- McGuire, W. J., & Padawer-Singer, A. (1976). Trait salience in the spontaneous self-concept. *Journal of Personality and Social Psychology*, 33(6), 743–754. <https://doi.org/10.1037/0022-3514.33.6.743>
- Meier, B. P., & Dionne, S. (2009). Downright sexy: Verticality, implicit power, and perceived physical attractiveness. *Social Cognition*, 27(6), 883–892. <https://doi.org/10.1521/soco.2009.27.6.883>
- Meier, B. P., Hauser, D. J., Robinson, M. D., Friesen, C. K., & Schjeldahl, K. (2007). What's "up" with God? Vertical space as a representation of the divine. *Journal of Personality and Social Psychology*, 93(5), 699–710. <https://doi.org/10.1037/0022-3514.93.5.699>
- Meier, B. P., Schnall, S., Schwarz, N., & Bargh, J. A. (2012). Embodiment in social psychology. *Topics in Cognitive Science*, 4(4), 705–716. <https://doi.org/10.1111/j.1756-8765.2012.01212.x>
- Mignault, A., & Chaudhuri, A. (2003). The many faces of a neutral face: Head tilt and perception of dominance and emotion. *Journal of Nonverbal Behavior*, 27(2), 111–132. <https://doi.org/10.1023/A:1023914509763>
- Mittal, B. (2006). I, me, and mine - how products become consumers' extended selves. *Journal of Consumer Behaviour: An International Research Review*, 5(6), 550–562. <https://doi.org/10.1002/cb.202>
- Nariswari, A. G., & Chen, Q. (2016). Siding with the underdog: Is your customer voting effort a sweet deal for your competitors? *Marketing Letters*, 27(4), 701–713. <https://doi.org/10.1007/s11002-015-9372-z>
- Neumann, R., Förster, J., & Strack, F. (2003). Motor compatibility: The bidirectional link between behavior and evaluation. In J. Musch & K. C. Klauer (Eds.), *The psychology of evaluation: Affective processes in cognition and emotion* (pp. 371–391). New York, NY: Lawrence Erlbaum Associates.
- Niedenthal, P. M., Barsalou, L. W., Winkielman, P., Krauth-Gruber, S., & Ric, F. (2005). Embodiment in attitudes, social perception, and emotion. *Personality and Social Psychology Review*, 9(3), 184–211. [https://doi.org/10.1207/s15327957pspr0903\\_1](https://doi.org/10.1207/s15327957pspr0903_1)
- Page, C., & Herr, P. M. (2002). An investigation of the processes by which product design and brand strength interact to determine initial affect and quality judgments. *Journal of Consumer Psychology*, 12(2), 133–147. <https://doi.org/10.1207/153276602760078668>
- Paharia, N., Keinan, A., Avery, J., & Schor, J. B. (2011). The underdog effect: The marketing of disadvantage and determination through brand biography. *Journal of Consumer Research*, 37(5), 775–790. <https://doi.org/10.1086/656219>
- Pecher, D. (2018). Curb your embodiment. *Topics in Cognitive Science*, 10(3), 501–517.
- Pecher, D., & Winkielman, P. (2013). Grounded cognition and social interaction. In B. Kaldis (Ed.), *Encyclopedia of philosophy and the social sciences* (pp. 396–397). Thousand Oaks, CA: Sage. <https://doi.org/10.4135/9781452276052.n148>
- Peterson, R. A., & Sauber, M. (1983). A mood scale for survey research. In P. Murphy (Ed.), *AMA educators' proceedings*. Chicago, IL: AMA.



- Proksch, M., Orth, U. R., & Bethge, F. (2013). Disentangling the influence of attachment anxiety and attachment security in consumer formation of attachments to brands. *Journal of Consumer Behaviour*, 12(4), 318–326. <https://doi.org/10.1002/cb.1434>
- Robinson, M. D., Zabelina, D. L., Ode, S., & Moeller, S. K. (2008). The vertical nature of dominance-submission: Individual differences in vertical attention. *Journal of Research in Personality*, 42(4), 933–948. <https://doi.org/10.1016/j.jrjp.2007.12.002>
- Roccas, S., & Amit, A. (2011). Group heterogeneity and tolerance: The moderating role of conservation values. *Journal of Experimental Social Psychology*, 47(5), 898–907. <https://doi.org/10.1016/j.jesp.2011.03.011>
- Roose, G., Vermeir, I., Geuens, M., & Van Kerckhove, A. (2019). A match made in heaven or down under? The effectiveness of matching visual and verbal horizons in advertising. *Journal of Consumer Psychology*, 29(3), 411–427. <https://doi.org/10.1002/jcpy.1088>
- Schoel, C., Eck, J., & Greifeneder, R. (2014). A matter of vertical position: Consequences of ostracism differ for those above versus below its perpetrators. *Social Psychological and Personality Science*, 5(2), 149–157. <https://doi.org/10.1177/1948550613488953>
- Schubert, T. W. (2004). The power in your hand: Gender differences in bodily feedback from making a fist. *Personality and Social Psychology Bulletin*, 30(6), 757–769. <https://doi.org/10.1177/0146167204263780>
- Schubert, T. W. (2005). Your highness: Vertical positions as perceptual symbols of power. *Journal of Personality and Social Psychology*, 89(1), 1–21. <https://doi.org/10.1037/0022-3514.89.1.1>
- Schubert, T. W., & Semin, G. R. (2009). Embodiment as a unifying perspective for Psychology. *European Journal of Social Psychology*, 39(7), 1135–1141. <https://doi.org/10.1002/ejsp.670>
- Sedgewick, J. R., Flath, M. E., & Elias, L. J. (2017). Presenting your best self (ie): The influence of gender on vertical orientation of selfies on tinder. *Frontiers in Psychology*, 8, 604. <https://doi.org/10.3389/fpsyg.2017.00604>
- Sharoni, L. J. (2006). Height as a factor in the perception and evaluation of leader-follower dyads. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 66, 4525.
- Singla, D., Veqar, Z., & Hussain, M. E. (2017). Photogrammetric assessment of upper body posture using postural angles: A literature review. *Journal of Chiropractic Medicine*, 16(2), 131–138. <https://doi.org/10.1016/j.jcm.2017.01.005>
- Sirgy, M. J. (1982). Self-concept in consumer behavior: A critical review. *Journal of Consumer Research*, 9(3), 287–300. <https://doi.org/10.1086/208924>
- Slepian, M. L., Masicampo, E. J., & Ambady, N. (2015). Cognition from on high and down low: Verticality and construal level. *Journal of Personality and Social Psychology*, 108(1), 1–17. <https://doi.org/10.1037/a0038265>
- Spiller, S. A., Fitzsimons, G. J., Lynch, J. G., & McClelland, G. H. (2013). Spotlights, floodlights, and the magic number zero: Simple effects tests in moderated regression. *Journal of Marketing Research*, 50(2), 277–288. <https://doi.org/10.1509/jmr.12.0420>
- Statistisches Bundesamt. (2017). <https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Gesundheit/Gesundheitszustand-Relevantes-Verhalten/Tabellen/liste-koerpermasse.html>
- Stokburger-Sauer, N., Ratneshwar, S., & Sen, S. (2012). Drivers of consumer-brand identification. *International Journal of Research in Marketing*, 29(4), 406–418. <https://doi.org/10.1016/j.ijresmar.2012.06.001>
- Sujan, M. (1985). Consumer knowledge: Effects on evaluation strategies mediating consumer judgments. *Journal of Consumer Research*, 12(1), 31–46. <https://doi.org/10.1086/209033>
- Sundar, A., & Noseworthy, T. J. (2014). Place the logo high or low? Using conceptual metaphors of power in packaging design. *Journal of Marketing*, 78(5), 138–151. <https://doi.org/10.1509/jm.13.0253>
- Swaminathan, V., Page, K. L., & Gürhan-Canli, Z. (2007). “My brand” or “our” brand: The effects of brand relationship dimensions and self-construal on brand evaluations”. *Journal of Consumer Research*, 34(2), 248–259. <https://doi.org/10.1086/518539>
- Tracy, J. L., & Robins, R. W. (2004). Putting the self into self-conscious emotions: A theoretical model. *Psychological Inquiry*, 15(2), 103–125. [https://doi.org/10.1207/s15327965pli1502\\_01](https://doi.org/10.1207/s15327965pli1502_01)
- Turley, L. W., & Milliman, R. E. (2000). Atmospheric effects on shopping behavior: A review of the experimental evidence. *Journal of Business Research*, 49(2), 193–211.
- Valenzuela, A., & Raghurir, P. (2015). Are top-bottom inferences conscious and left-right inferences automatic? Implications for shelf space positions. *Journal of Experimental Psychology: Applied*, 21(3), 224–241. <https://doi.org/10.1037/xap0000055>
- Valenzuela, A., Raghurir, P., & Mitakakis, C. (2013). Shelf space schemas: Myth or reality? *Journal of Business Research*, 66(7), 881–888. <https://doi.org/10.1016/j.jbusres.2011.12.006>
- Vallacher, R. R., & Wegner, D. M. (1989). Levels of personal agency: Individual variation in action identification. *Journal of Personality and Social Psychology*, 57(4), 660–671. <https://doi.org/10.1037/0022-3514.57.4.660>
- Valtonen, A. (2013). Height matters: Practicing consumer agency, gender, and body politics. *Consumption, Markets & Culture*, 16(2), 196–221. <https://doi.org/10.1080/10253866.2012.662831>
- Van Kerckhove, A., Geuens, M., & Vermeir, I. (2015). The floor is nearer than the sky: How looking up or down affects construal level. *Journal of Consumer Research*, 41(6), 1358–1371. <https://doi.org/10.1086/679309>
- Van Kleef, G. A., Oveis, C., van der Löwe, I., LuoKogan, A., Goetz, J., & Keltner, D. (2008). Power, distress, and compassion: Turning a blind eye to the suffering of others. *Psychological Science*, 19(12), 1315–1322. <https://doi.org/10.1111/j.1467-9280.2008.02241.x>
- Van Rompay, T. J., De Vries, P. W., Bontekoe, F., & Tanja-Dijkstra, K. (2012). Embodied product perception: Effects of verticality cues in advertising and packaging design on consumer impressions and price expectations. *Psychology & Marketing*, 29(12), 919–928. <https://doi.org/10.1002/mar.20574>
- Van Rompay, T. J., van Hoof, J. J., Rorink, J., & Folsche, M. (2019). Served straight up: Effects of verticality cues on taste evaluations and luxury perceptions. *Appetite*, 135(1), 72–78. <https://doi.org/10.1016/j.appet.2019.01.002>
- Venkatesh, G., Sampson, J., Goulding, N., Garcia, S., Bryksin, V., Lugo-Martinez, J., ... Bedford Taylor, M. (2010). Conservation cores: Reducing the energy of mature computations. *ASPLOS XV Proceedings of the Fifteenth Edition of ASPLOS on Architectural Support for Programming Languages and Operating Systems*, 205–218. <https://doi.org/10.1145/1735970.1736044>
- Vignoles, V. L., Chrysoschoou, X., & Breakwell, G. M. (2000). The distinctiveness principle: Identity, meaning, and the bounds of cultural relativity. *Personality and Social Psychology Review*, 4(4), 337–354. [https://doi.org/10.1207/s15327957pspr0404\\_4](https://doi.org/10.1207/s15327957pspr0404_4)
- Völckner, F., & Sattler, H. (2006). Drivers of brand extension success. *Journal of Marketing*, 70(2), 18–34. <https://doi.org/10.1509/jmkg.70.2.018>
- Yoo, B., Donthu, N., & Lenartowicz, T. (2011). Measuring Hofstede's five dimensions of cultural values at the individual level: Development and validation of CVSCALE. *Journal of International Consumer Marketing*, 23(3), 193–210. <https://doi.org/10.1080/08961530.2011.578059>
- Zanolie, K., van Dantzig, S., Boot, I., Wijnen, J., Schubert, T. W., Giessner, S. R., & Pecher, D. (2012). Mighty metaphors: Behavioral and ERP evidence that power shifts attention on a vertical dimension. *Brain and Cognition*, 78(1), 50–58. <https://doi.org/10.1016/j.bandc.2011.10.006>

**How to cite this article:** Orth UR, Machiels CJ, Rose GM. The reverse Napoleon effect: The brand appreciation of looking up by tall people. *Psychol Mark*. 2020;37:1194–1211. <https://doi.org/10.1002/mar.21352>