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Exploring the nonlinear influence of nonverbal dominance in marketing communicators: Instrumental outcomes, social outcomes, and persuasion☆

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ABSTRACT

Expressions of dominance present potentially powerful nonverbal means for interpersonal marketing communications. Yet, research on the persuasiveness of nonverbal dominance has generated seemingly contradictory results. To reconcile these and establish whether there is a meaningful link between nonverbal dominance and persuasive outcomes, our study integrates nonverbal communication research with the warmth-competence model of social cognition. A field study and five experiments demonstrate that communicators perceived as either low or high in nonverbal dominance will generally be less persuasive than communicators exuding intermediate levels. Underlying this overall bell-shaped influence of dominance on persuasion are two independent pathways: one channeling the effect through instrumental outcomes (competence) and the other through social outcomes (warmth). Consumer focus on instrumental over social outcomes and consumer-communicator homophily represent boundary conditions. These findings suggest that nonlinear relationships may have been overlooked in past research.

1. Introduction

The study of persuasive personal communication has long been concerned with the question of what interpersonal perceptions and processes make for effective managerially relevant outcomes (e.g., increased purchases, positive brand attitude, and positive word-of-mouth). Extending the wide-ranging literatures to marketing communicators (e.g., salespeople, counselors, spokespersons, or other frontline employees) suggests that the expression of dominance may be a powerful means. Capturing a person's assertiveness and self-confident behavior (Burgoon & Dunbar, 2000), dominance can be conveyed not only verbally but also non-verbally, for example through facial expressions and body language (see Hall et al., 2005, for a review). Contrasting low against high levels of dominance, social psychology research has established a number of positive outcomes, including greater heterosexual attraction (Sadalla et al., 1987), higher perceived status (Cheng et al., 2013), and greater likability (Carli et al.,1995). Consumer research on persuasion effects of nonverbal dominance, however, have yielded ambiguous results, including linear positive (Marinova et al., 2018; Notarantonio & Cohen, 1990), linear negative (Webster & Sundaram, 2009), and non-significant effects (Ma & Dubé, 2011). These disparate effects leave researchers and marketers wondering if there is any meaningful relationship between communicator dominance and persuasive outcomes, and what individual and

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situational factors may change it.

To shed light on the workings of nonverbal dominance, specifically, its underlying mechanism and to reconcile conflicting findings, we integrate research on nonverbal communication with the warmth-competence model of social cognition to advance instrumental and social outcomes of dominance as two central mediators[1]. Research on instrumental outcomes (e.g., impressions of communicator competence, power, and ability) suggests a positive influence of dominance on persuasiveness (e.g., Cheng et al., 2013; Rennung et al., 2016; Williams & Tiedens, 2016). However, a parallel research stream on social outcomes (e.g., impressions of communicator warmth, empathy, and helpfulness) suggests a negative influence of dominance on persuasiveness (e.g., Carli et al., 1995; Cheng et al., 2010; Dillard et al., 1995). Adopting an integrative instrumental-social view (Ames & Flynn, 2007), we expect that a lack of persuasiveness may trace back to particularly low or particularly high levels of dominance. High levels of dominance may yield instrumental benefits as customers associate communicators with competence, aiding them in achieving their goals. At the same time, high levels of dominance can be detrimental to overall persuasion when the interpersonal relationship suffers due to a perceived lack of warmth and empathy. Therefore, increasing levels of dominance may entail a trade-off between social deficiencies and instrumental merits, or "between getting along and getting one's way" (Ames & Flynn, 2007).

Also missing from previous consumer research is an integrative perspective that aids marketers in how to strike a balance between too much and too little dominance given the opposing effects of dominance on the two mediating variables. Rather than merely focusing on the general aspect of this prediction, we additionally examine conditions when one aspect (social or instrumental outcome) is more prominent over the other. As such, our study makes three important contributions to the literature.

First, we show that intermediate rather than low or high levels of nonverbal dominance will be more persuasive, hereby providing initial evidence for a nonlinear, bell-shaped influence of nonverbal communicator dominance on persuasion. Second, we examine boundary conditions leading to a shift of the optimum level of dominance. We introduce motivational focus as a key moderator. Consumers focusing on instrumental outcomes (e.g., competence) will be persuaded more by higher dominance levels, whereas others focusing on social outcomes (e.g., warmth) will be put off. Similarly, we introduce homophily as a second key moderator and show that low levels of customer-communicator homophily amplify the curvilinear influence of nonverbal dominance on persuasion, whereas high levels of homophily mitigate the influence of nonverbal dominance. Finally, we show that underlying these effects are two independent mechanisms that shape the influence of dominance on persuasion: one through instrumental outcomes and the other through social outcomes. Fig. 1 illustrates our research model and its operationalization in the empirical studies. Because conceptualization and measures of persuasion are context-dependent (c.f., Dubois, Rucker & Galinsky, 2016), the empirical studies employ specific context-congruent variables to capture persuasion effectiveness.

[1] Different terms have been used in the literature for the framework (e.g., warmth-competence model; stereotype content model: Fiske et al., 2007) and its dimensions (e.g., communality and agency: Conway, Pizzamiglio & Mount, 1996; morality and competence: Phalet & Poppe, 1997; intention and ability: Kervyn et al., 2012). To make our model more applicable across a variety of settings, we draw from Fiske et al.'s (2007) original conceptualization and leadership research (Ames & Flynn, 2007) to more broadly label the mediators "instrumental outcomes" and "social outcomes". Like the original framework, these terms account for the fundamental premise that, when encountering others, people are primarily interested in identifying (a) whether others have positive or negative intentions toward them (social outcomes), and (b) how capable others are to either benefit or harm them (instrumental outcomes) (Fiske et al., 2007). In addition, subsequent operationalizations of the two mediators are fully consistent with indicators and items employed in extant research (Halkias & Diamantopoulos, 2020).

2. Conceptual framework and hypotheses development

Although a variety of definitions exist, most of them converge on the position that persuasiveness captures the success (or lack thereof) of communicators' attempts and can be assessed as the extent to which consumers find commercial communication to be convincing and persuasive (Dubois et al., 2016). In turn, persuasive communications leads consumers to form favorable attitudes and purchase intention (Jiang et al., 2010), exhibit approach behaviors (Fennis & Stel, 2011), continue to seek advice (Alexandrov et al., 2013), and show higher satisfaction (Mattila & Wirtz, 2001) and loyalty (Bundy et al., 2017).

Nonverbal behaviors of dominance or "the ability to influence others, through either social skills or physical aggression" (Keating & Bai, 1986) is well researched outside the marketing discipline (for a meta-analysis see Hall et al., 2005). Interpersonal perception of dominance is rooted in nonverbal "power codes" (Hall et al., 2005). For example, dominance and power are usually associated with open-body postures, especially with open arms (Cashdan, 1998), head and body canting (Halberstadt & Saitta, 1987), and with a raised rather than a bowed head (Mignault & Chaudhuri, 2003).

In consumer research, a smaller body of literature (Bashir & Rule, 2014) has focused on the impact of nonverbal communication on the perceptions consumers form of communicators and the implications of these impressions for their persuasiveness (Webster & Sundaram, 2009). These studies highlight the roles of body posture (Gurney et al., 2017), eye gaze (Leigh & Summers, 2002), touch (Orth et al., 2013), display of emotions (Mattila & Enz, 2002), listening (Ramsey & Sohi, 1997), and clothing (Bashir & Rule, 2014). Even brief exposures to nonverbal personal cues generally yield relatively accurate judgments (Naylor, 2007).

However, these studies have shown ambiguous findings in terms of the influence of dominant communication styles on consumer responses. For example, open postures, open arms, and forward leaning may positively influence satisfaction (Marinova et al., 2018). However, the study manipulated a range of nonverbal employee behaviors and did not isolate the effect of dominance-related aspects of body postures. Similarly, Notarantonio and Cohen (1990) demonstrated a positive influence of dominance, but for verbal cues only, not non-verbal ones. Contrasting these findings are reports of a negative influence of dominant communication styles on satisfaction (Webster & Sundaram, 2009). Relevant to our context, dominance was operationalized by asking the participants whether the communicator "came on too strong in expressing opinions" (Webster & Sundaram, 2009), implying that markedly high levels of dominance may elicit a negative consumer response.

2.1. The mediating influence of instrumental and social outcomes

The disparate results reported for the influence of dominant communication styles on persuasion arguably trace back to a lacking process explanation; little is known on *how* nonverbal dominance functions. Drawing from the warmth-competence model and research on assertiveness (Ames & Flynn, 2007), we expect that two key variables will channel effects: instrumental outcomes (e.g., impressions of communicator competence, power, and ability) and social outcomes (e.g., impressions of communicator warmth, empathy, and helpfulness) (Ames, Lee, & Wazlawek, 2017).

2.1.1. The mediating influence of instrumental outcomes

Evidence converges across a number of disciplines and contexts to indicate that personal displays of dominance reinforce other people's impressions of that person's competence, power, and ability. For example, in job interviews, applicants' dominance positively influences perceived competence (Williams & Tiedens, 2016). Power-posing, in general, increases ratings of competence (Rennung et al., 2016).

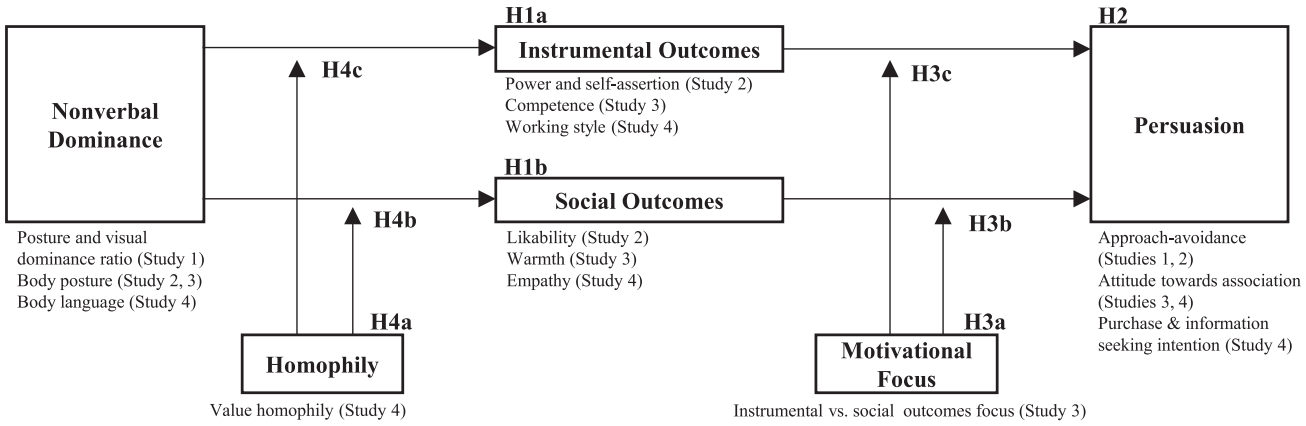

Fig. 1. Research Model and its Operationalization in the Empirical Studies.

Dominant members of social groups gain greater influence in steering collective behavior (e.g., Anderson & Kilduff, 2009; Cheng et al., 2013; Littlepage et al., 1995; Ridgeway, 1987). This greater influence of dominant communicators - verbal or non-verbal - has been attributed to dominant people being perceived as higher in competence (Anderson & Kilduff, 2009), expertise (Littlepage et al., 1995), agency (Cheng et al., 2013), leadership (Cheng et al., 2010), task capacity (Ridgeway, 1987), and power (Carli et al., 1995). Notably, these impression-tuning effects of dominance are unaffected by a person's actual competence (Anderson & Kilduff, 2009; Littlepage et al., 1995).

In commercial contexts, research on customer-employee dyads (Gurney et al., 2017), personal selling (Rentz et al., 2002), customer relationship management (Marinova et al., 2018), and retailing (Yani-de-Soriano & Foxall, 2006) established a positive effect of communicator dominance on instrumental outcomes. Most relevant, Rentz et al. (2002) showed higher levels of dominance leading customers to perceive communicators as more professional. In turn, instrumental outcomes (i.e., competence, expertise, and power) have a proven ability for enhancing persuasion in a number of contexts, including advertising (Ohanian, 1990), relationship marketing (Palmatier et al., 2006), health counseling (Dellande et al., 2004), and the provision of services in general (Johnson & Grayson, 2005). Integrating these studies with reports of positive linear effects of dominance on instrumental outcomes, we expect:

H1a: The nonverbal dominance of a communicator has a linear positive influence on instrumental outcomes, which, in turn, enhance persuasiveness. Instrumental outcomes thus mediate the relationship between dominance and persuasion.

2.1.2. *The mediating influence of social outcomes*

Research on social outcomes has shown that dominance lowers perceptions of warmth, empathy, and attraction, thereby implying a negative influence. For example, dominance in group members is detrimental to perceptions of being socio-emotional (Ridgeway, 1987), likable (Carli et al., 1995), group orientated (Ridgeway, 1987), cooperative, and helpful (Cheng et al., 2010). In interpersonal dyads, dominant communicators are perceived as less likable and less polite (Dillard et al., 1995).

However, markedly low levels of dominance associate not with positive social outcomes but with decreased warmth and empathy (Kraft-Todd et al., 2017). Taken together, extant research suggests a curvilinear (i.e., bell-shaped) influence of dominance on social outcomes. In turn, social outcomes (i.e., warmth, empathy, and likeability) exert a positive influence on persuasion. Corresponding effects have been reported across a variety of contexts including the behavior of retail personnel (Lemmink & Mattsson, 1998), health care providers (Kim et al., 2004), and service delivery (Wieseke et al., 2012). Integrating these studies with the previously discussed bell-shaped influence of dominance on social outcomes, we expect:

H1b: The nonverbal dominance of a communicator has a bell-shaped influence on social outcomes, which, in turn, enhance persuasiveness. Social outcomes thus mediate the relationship between dominance and persuasion.

2.1.2.1. *The Bell-Shaped influence of nonverbal dominance on persuasion.*

Integrating the mediating roles of instrumental and social outcomes, we expect that the overall effect of nonverbal dominance on persuasion is bell-shaped rather than linear. That is, because of positive instrumental and social outcomes up to intermediate levels, increases in dominance should be more persuasive. Beyond intermediate levels, however, further increases should be less persuasive due to increasingly negative social outcomes. Therefore, we expect:

H2: Nonverbal dominance has a bell-shaped influence on persuasion with most favorable persuasive outcomes relating to intermediate rather than low or high levels.

2.2. *Shifting optimum dominance levels*

We expect that specific communication characteristics should lead to shifts in the bell-shaped pattern. In particular, we expect that the shape of the overall effect curve (and consequently the optimum level of dominance) will shift depending on (a) a consumer's motivational focus, and (b) the customer-communicator homophily. The expected shifts include horizontal as well as vertical changes in the most persuasive levels of nonverbal dominance. A horizontal shift means that levels of communicator dominance must be adjusted for optimal persuasion. A vertical shift captures an increase or decrease in the highest level of persuasion possibly induced by dominance. Fig. 2 illustrates these patterns.

2.2.1. *Horizontal shift of optimum levels of dominance depending on consumer focus*

We expect a consumer's focus on instrumental over social outcomes to impact relationships between nonverbal dominance and persuasive outcomes. For example, when interacting with service personnel some costumers focus more on their counterpart being fast and professional, a non-interpersonal quality (Driver & Johnston, 2001), suggesting that instrumental outcomes of dominance may be more important. For other customers, interpersonal qualities are more important such as their counterpart being friendly and caring (Driver & Johnston, 2001). Similarly, consumers under-weight provider competence when a request emphasizes relationship aspects (Liu & Lin, 2018), making warmth more

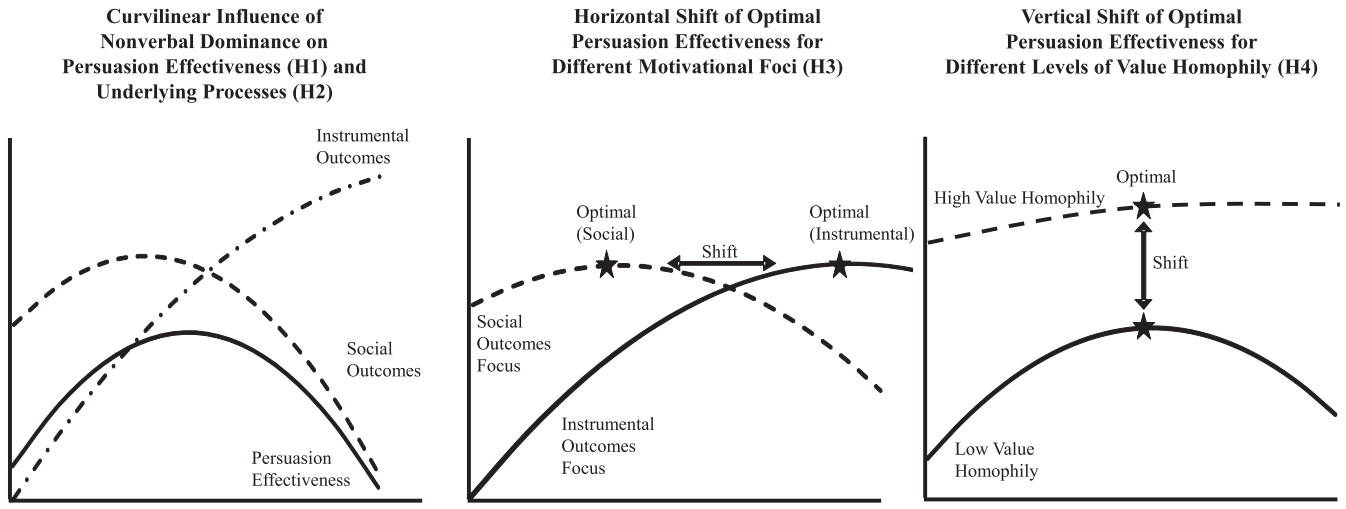

Fig. 2. Processes and Conditions Underlying Shifts in the Bell-shaped Pattern.

effective (Wang et al., 2017). Both examples illustrate cases where social outcomes are more relevant.

These findings support the expectation that a consumer's focus on instrumental versus social outcomes of dominance should moderate the impact of both outcomes on persuasion. More precisely, when consumers focus on instrumental outcomes, a highly dominant communicator should be more persuasive because possibly lacking social outcomes will be less impactful than the favorable instrumental outcomes. In contrast, when a consumer focuses on social outcomes, mediocre instrumental outcomes associated with intermediate communicator dominance should matter less than associated positive social outcomes. These differences in consumer focus should result in a horizontal shift of the curve and the associated optimum level of dominance. Specifically, the optimum level will lie with higher levels of dominance when the focus is instrumental, and will be lower when the focus is on social outcomes. Formally:

H3a: Consumer motivational focus (social vs. instrumental) moderates the influence of communicator nonverbal dominance on persuasion such that a social focus leads to a more pronounced curvilinear influence of dominance on persuasion, whereas an instrumental focus leads to a stronger linear positive influence.

The overall effect of dominance on persuasion should further be driven by the interaction between consumer motivational focus and social and instrumental outcomes. Specifically, we expect that both motivational foci (social vs. instrumental) will have an amplifying influence on the perception of employees. An instrumental focus should enhance perceptions of competence, power, and ability, and a social focus should enhance perceptions of communicator empathy and warmth. Therefore, the linear positive effect of social outcomes on persuasion should be stronger for people holding a social focus than for others holding an instrumental focus. In contrast, the positive linear effect of instrumental outcomes on persuasion should be stronger for individuals holding an instrumental focus than for others holding a social focus. Formally:

H3b, c: Consumer motivational focus moderates the influence of dominance on persuasion to the extent that (b) a focus on social outcomes will increase the positive influence of social outcomes, and (c) a focus on instrumental outcomes will increase the positive influence of instrumental outcomes.

2.2.2. Vertical shift of optimal levels of dominance: The influence of homophily

One of the most robust findings in social psychology is that people respond more positively to others when they perceive them as similar to themselves (Montoya & Horton, 2014). Similarity judgments are based on observable characteristics such as demographics (e.g., gender and age) and appearance (e.g., clothing; McPherson et al., 2001), but also on psychological constructs such as attitudes, beliefs, and values (Touhey, 1974). Dellande et al. (2004) use the term "homophily" to refer to the degree to which people in a dyad are similar on such attributes. Positive effects of homophily have been attributed to an overall greater interpersonal attraction (for a meta-analysis see Montoya et al., 2008).

In commercial contexts, favorable outcomes such as satisfaction and purchase likelihood (Foster & Resnick, 2013; Jiang et al., 2010; Mai & Hoffmann, 2011) have been traced back to greater customer-communicator similarity in terms of birthplace (Jiang et al., 2010), regional dialect (Mai & Hoffmann, 2011), and gender (Foster & Resnick, 2013). Attitude similarity increases purchase probability and enhances the relationship (Crosby & Kenneth, 1990). In addition, homophily can lead to more favorable perceptions of other people's intelligence, knowledge, and morality (Montoya et al., 2008).

Extending these findings to the present context suggests that consumer-communicator homophily should impact the outcomes of non-verbal dominance. More specifically, when similarity is high (rather than low), consumers should be more tolerant and forgiving at high levels of dominance which should reduce its detrimental impact on the outcomes of non-verbal dominance. Therefore, we expect that (a) social outcomes (b) instrumental outcomes, and (c) persuasion should be more favorable when homophily is high, irrespective of the communicator's nonverbal dominance. In contrast, for low homophily we expect a sharp decrease of social outcomes, instrumental outcomes, and persuasion with high levels of nonverbal dominance. Therefore:

H4: Homophily moderates the influence of non-verbal dominance on (a) social outcomes, (b) instrumental outcomes, and (c) persuasion. Specifically, the negative effect of high dominance is lower at high homophily compared to low homophily.

3. Study 1: Quantitative field observations

To initially explore the expected effects of communicator dominance under realistic conditions, Study 1 employed observations of actual consumer-communicator interactions in a number of field settings. The main focus of Study 1 lies on testing our key premise, an overall bell-shaped effect of nonverbal dominance on persuasion.

3.1. Participants, procedure, and stimuli

A total of 45 customer-employee interactions ($M_{Duration}$ = 8.1 min, $SD_{Duration}$ = 10.5 min, 47 % female costumers, 24 % female employees) were observed and recorded by two research assistants. These were thoroughly trained in the professional observation of customer-employee interactions to systematically detect, classify, and record key measures and indicators using a standardized template for recording nonverbal communicator dominance and persuasion outcomes. A number of test-runs with shops and at a farmers' market served to train research assistants in how to record time (duration of interaction), sales outcomes, and details of the interactions between customer and communicator. Each training session lasted at least one hour and served to calibrate the observation and recording routines, especially regarding customers' nonverbal expressions and the assessment of time.

In the main study, observers wore noise-canceling headphones to exclude the possibly biasing influence of verbal information and to protect against privacy concerns. To minimize bias, observers stayed in the background, reducing the likelihood of being noticed by customers. Observations took place in five contexts: a car dealership, an osteopathic ambulance, a pharmacy, a recreational equipment store, and a specialized wine shop. While the interactions were observed in both product and service contexts, the majority of customers arguably entered the stores with an intent to buy. In fact, 50 % of the observed interactions lead to a purchase.

To assess nonverbal dominance, we employed 7-point Likert scales (ranging from 7 = "extremely dominant" to 1 = "not dominant at all") for body posture (adapted from Hall et al., 2005), visual dominance ratio (adapted from Exline et al., 1975), and the time spent by the communicator speaking (Mast, 2001). To operationalize persuasion, the observers completed a psychometric scale (7-point Likert type) after the customer exited the store, assessing approach-avoidance (Mehrabian & Russell, 1974), a measure commonly employed to assess persuasion (Mattila & Wirtz, 2001). Table 1 holds the scale items and key statistics.

3.2. Analysis and results

We performed a quadratic regression analysis to quantify the curvilinear relationship between nonverbal dominance (NVD) and approach-avoidance. Therefore, we included the NVD variable and the quadratic term of NVD as independent variables and approach-avoidance as dependent variable. Our results reveal a statistically significant relationship between the explanatory variables NVD (B = 5.30; p = .03) and NVD^2 (B = −0.59; p = .04), and the dependent variable approach-avoidance (F(2, 42) = 3.191, p = .05). Combined, these two explanatory variables accounted for 13.2 % (R^2 = 0.132) of approach avoidance. The regression equation was found to be: approach-avoidance = −5.361 + 5.296*(NVD) - 0.590*(NVD^2). When comparing different regression models, the first model with NVB as independent variable, and the second model with NVB and NVB^2 as independent variables, our results demonstrate a R^2-change of 0.098 and a F-change of 4.72 (p = .03), therefore providing evidence that the inclusion of the quadratic term significantly contributes to the explanation of approach-avoidance. An intermediate level of dominance was associated with the strongest approach behavior, supporting the curvilinear influence proposed in H2.[2]

Employing observations in a variety of field settings, Study 1

[2] We conducted a curve estimation of the relationship between nonverbal dominance and approach-avoidance, illustrating a scatterplot containing the observed values, the linear estimation, and the quadratic estimation (see web appendix WA.2). It is important to bear in mind that the scatter plot only serves as a visual representation of the curvilinear relationship, while the statistical analysis that accounts for the curvilinear nature is implemented by means of the integration of the quadratic term into the regression model.

Table 1
Measurement Scales, Descriptive Statistics, and Reliabilities of Constructs.

Construct	Study 1	Study 2	Study 3	Study 4
	α M (SD)			
Nonverbal Communicator Dominance				
Observed nonverbal dominance	0.80			
• Postural openness: making oneself look taller/ smaller	4.13 (0.53)			
• Postural openness: body position open/closed				
• Hand/arm gestures: frequency				
• Hand/arm gestures: takes up little/ large space				
• Visual dominance ratio: Eye contact while talking (%)				
• Visual dominance ratio: Eye contact while listening (%)				
• Speaking time (in seconds)				
Measured nonverbal dominance		0.91	0.81	0.83
• Active/ passive		2.95	3.79	4.44
• Autonomous/ guided		(1.08)	(1.57)	(1.35)
• Controlling/ controlled				
• Influential/ influenced				
Persuasion				
Observed approach/avoidance	*6.28 (0.87)*			
Measured approach/avoidance *(AVE = 0.75, r^2_{max} = 0.59)*		0.94		
• I like this store environment.		1.88		
• I like to spend time with this employee.		(0.90)		
• I pleased to be consulted by this employee.				
• This is a friendly employee, who I would like to start conversation with.				
• This is the sort of store, where I end up spending more time than I originally set out to spend.				
Attitude towards the shop *(AVE = 0.83, r^2_{max} = 0.12)*			0.93	
• Good/bad			3.41	
• Favorable/unfavorable			(1.15)	
• Positive/negative				
Intention to seek for information and to purchase *(AVE = 0.65, r^2_{max} = 0.31)*				0.83
• I would buy the products (meat, eggs, milk) with the NuTiHR label.				4.44 (1.35)
• I like NuTiHR so much that I will deliberately search for these marked products.				
• I am convinced by the statements of the press spokesman.				
Instrumental outcome				
Power *(AVE = 0.73, r^2_{max} = 0.07)*		0.89		
• This employee imposes their will on customers.		2.45		
• This employee has clout to get their way.		(1.04)		
• This employee is one of this store's most important employees.				
Competence *(AVE = 0.70, r^2_{max} = 0.12)*			*0.92*	
• Ambitious			3.88	
• Skilled			(1.37)	
• Competent				
• Determined				
• Industrious				
Competence *(AVE = 0.67, r^2_{max} = 0.26)*				*0.85*
• Competent				4.39
• Intelligent				(1.25)
• Knowledge				
• Responsible				
Social outcome				

(*continued on next page*)

Table 1 (*continued*)

Construct	Study 1	Study 2	Study 3	Study 4
	α M (SD)			
Likability *(AVE = 0.78, r^2_{max} = 0.59)*		0.92		
• This employee is always nice to their costumer.		2.47		
• This employee is friendly.		(1.60)		
• This employee is someone costumers like to have around.				
Warmth *(AVE = 0.71, r^2_{max} = 0.10)*			0.92	
• Caring			3.52	
• Gentle			(1.25)	
• Pleasant				
• Sympathetic				
• Warm-hearted				
Empathy *(AVE = 0.75, r^2_{max} = 0.24)*				0.84
• Cheerful				3.98
• Friendly				(1.33)
• Warmth				
Value homophily *(AVE = 0.64, r^2_{max} = 0.31)*				r = 0.86
• Morals like mine				4.23
• Shares my values				(0.93)
Realism of the speaker's body language				r = 0.85
• I can easily see a spokesperson exhibiting this body language				3.29
• I've seen spokespeople who had a similar body language				(1.41)
• I consider such a body language to be likely with a spokesperson				

provides initial evidence for the curvilinear influence of communicator dominance on persuasion. The findings suggest that the net effect of nonverbal dominance may be robust across a variety of environments.

4. Study 2: Experimentally testing the base model (H1 and H2)

Study 2 was designed to test the claim that two opposing underlying mechanisms (H1a,b) drive the curvilinear effect of nonverbal dominance on persuasion effectiveness (H2). First, nonverbal dominance should have a linear positive influence on instrumental outcomes, in turn, enhancing persuasiveness (H1a). Second, nonverbal dominance should have a bell-shaped influence on social outcomes, again, in turn, enhancing persuasiveness (H1b).

4.1. Pre-study

A pre-study was designed to identify stimuli for effectively manipulating communicator nonverbal dominance. Given the efficacy of even brief exposures to static images (Naylor, 2007), we chose digital photographs of a male and a female communicator, each depicted in a (1) dominant, high-power pose, (2) a submissive, low-power pose, and (3) a pose that was intermediate in terms of dominance. Guided by prior insights on nonverbal dominance (Holland et al., 2017), we designed our manipulations to generate variance in dominance at levels likely to occur in real business settings. An initial pool of photographs was tested with a sample of target consumers (N = 30). Each photo showed one communicator with an accompanying short text. Participants rated communicator dominance on six 5-point semantic differentials indicating how active/ passive, autonomous/guided, commanding/weak, controlling/controlled, dominant/ submissive, and influential/influenced they perceived the communicator (Mehrabian & Russell, 1974). The results yielded three photographs for each gender (Web Appendix Figure WA.1) that elicited the desired impressions as they significantly differed in terms of perceived dominance ($M_{low\ dom.} = 1.71$, $M_{intermediate\ dom.} = 2.46$, $M_{high\ dom.} = 3.79$; $F(2,27) = 49.5$, $p = .001$, $\eta^2 = 0.06$).

4.2. Participants, procedure, and stimuli

To minimize possibly biasing same-gender/other gender effects, Study 2 included only female participants in our main study. A total of 310 female consumers ($M_{age} = 27.0$, $SD_{age} = 8.21$) participated in an online experiment with a one-factorial between-subjects design. Randomly assigned to one of three experimental groups (low dominance: n = 102, intermediate dominance: n = 100, high dominance: n = 108), subjects viewed the photograph showing the communicator and text. According to sensitivity analysis with G*Power (Faul et al., 2007), the sample size (n = 310) allows to detect an effect size of f = 0.18 (α = 0.05, 1-β = 0.80, two-tailed).

While viewing the stimulus, participants were asked to envision themselves as customers encountering the marketing communicator in a shopping situation. To reduce context-specific bias, we randomly switched between placing shopping encounters in a fashion context and a health-counseling context. Immediately following the manipulation, participants completed dominance scales identical to the ones used in the pre-study as a manipulation check. To assess instrumental outcomes, we employed Doney and Cannon's (1997) scale on the perceived power of the communicator.[3] As social outcome, we measured the likability of the communicator (Doney & Cannon, 1997). Approach-avoidance served as a measure of persuasion, consistent with research on employee-customer relationships (Mattila & Wirtz, 2001) and the warmth-competence model (Fiske et al., 2007). Together, the approach-avoidance items captured likability of the store, propensity to spend more time with the employee and in the store than originally thought, willingness to start a conversation with the employee, and propensity to be pleased to be consulted by this employee (see Table 1 for scale items and key statistics). At the end, participants provided socio-demographic information and were debriefed to ascertain they understood the study was for experimental purposes only.

Confirmatory factor analysis (AMOS 28.0) on all multi-item constructs (Dash & Paul 2021) indicated an acceptable fit (see Web Appendix Table WA.1). Furthermore, the analysis indicated discriminant validity (Fornell & Larcker 1981) with the average variance extracted for each construct being higher than the maximum of the squared correlations of the construct with all latent variables (see Table 1).

4.3. Manipulation and robustness checks

ANOVA results show a significant effect of the treatments on the dominance measure ($F(2, 307) = 238.9$, $p < .001$, $\eta^2 = 0.61$) with mean scores as intended ($M_{low\ dom.} = 2.05$, $M_{intermediate\ dom.} = 2.67$, $M_{high\ dom.} = 4.05$). Adding the context (fashion retail versus health counseling) as a covariate indicated no significant effect.

4.4. Testing the curvilinear main effect (H2)

First, we test the prediction that a communicator's nonverbal dominance has an overall curvilinear effect on persuasion (H2). ANOVA results reveal a significant effect of the manipulated nonverbal communicator dominance on approach-avoidance, the persuasion measure ($F(2, 307) = 64.2$, $p < .001$, $\eta^2 = 0.30$). When including our control variables (i.e., age, gender of stimulus, and context), thereby removing extraneous variance, the effect remained significant ($F(2, 304) = 63.8$, $p < .001$, $\eta^2 = 0.30$). Consistent with the hypothesized curvilinear pattern, an intermediate level of dominance was associated

[3] While the measure used for assessing the mediator variable (instrumental outcome) does include the word "power", it is conceptually different from the independent variable as it presents an established measure of agency, the perceived ability to get things done related to the subject matter (Doney & Cannon, 1997) rather than perceived vertical differences in the consumer-communicator relationship.

with the highest level of persuasion ($M_{low\ dom.} = 1.58$, $M_{intermediate\ dom.} = 2.58$, $M_{high\ dom.} = 1.50$). Post-hoc tests (LSD) show significant differences in persuasion between intermediate and low ($p < .001$) and between intermediate and high levels of dominance ($p < .001$), but no significant difference between high and low levels ($p = .44$; Figure WA. 2). It is important to note that the proposed curvilinear relationship means that in our context, moderate levels of nonverbal dominance resulted in significantly higher persuasion levels than low or high levels of nonverbal dominance. We used trend analysis to break down the experimental effect into what can be explained by a linear relationship between nonverbal dominance and persuasion (i.e., the means increase linearly across groups) and what can be explained by a quadratic relationship (i.e., the pattern of means is curvilinear, and thus represented by a curve with one bend in). Trend tests are only used to compare quantitative (ordered) independent variables. In our case, there are three levels of nonverbal dominance: low, moderate, and high. The results show that the linear contrast is non-significant ($p = .44$), but the quadratic contrast is significant ($p < .001$). As a result of the trend analysis, the curvilinear relationship between nonverbal dominance and persuasion is confirmed.

4.5. Testing the mediation through social and instrumental outcomes paths (H1)

To test H1 and the claim of two opposing mediation effects we replicated the analytical approach employed in Study 1. ANOVA results confirmed a significant influence of dominance on instrumental outcomes ($F(2, 307) = 65.0$, $p < .001$, $\eta^2 = 0.30$) with a linear pattern ($M_{low\ dom.} = 1.75$, $M_{intermediate\ dom.} = 2.52$, $M_{high\ dom.} = 3.10$, linear trend: $p < .001$), providing support for H1a. For social outcomes, ANOVA results show a significant influence of dominance ($F(2, 307) = 93.1$, $p < .001$, $\eta^2 = 0.38$), but in a curvilinear pattern ($M_{low\ dom} = 2.34$, $M_{intermediate\ dom.} = 3.35$, $M_{high\ dom.} = 1.77$, curvilinear trend: $p < .001$), supporting H1b. Regression (OLS) analysis revealed that both, instrumental outcomes ($\beta = 0.24$; $p < .001$) and social outcomes ($\beta = 0.76$; $p < .001$) increased persuasion. When including the control variables (age, gender of stimulus, context), the effects remain significant ($F(2, 304) = 64.3$, $p < .001$, $\eta^2 = 0.30$; $\beta_{Instrumental} = 0.21$; $p < .001$; $\beta_{Social} = 0.76$; $p < .001$). Figure WA. 3 (Web Appendix) illustrates the linear influence of dominance on instrumental outcomes and the bell-shaped influence on social outcomes.

Using PROCESS (Hayes, 2013, Model 4), we tested the indirect effects of communicator dominance on persuasion, mediated in parallel through instrumental and social outcomes. Applying effect coding clarifies the curvilinear pattern of dominance effects by contrasting the low dominance group against the intermediate dominance group (D1: low = −1, intermediate = 1, high = 0) and the high dominance group (D2: low = −1, intermediate = 0, high = 1). For the route through instrumental outcomes, the results indicate a non-significant indirect effect of D1 ($\beta = 0.02$, SE = 0.02; 95 %CI = [−0.019, 0.045]), and a significant positive indirect effect of D2 ($\beta = 0.14$, SE = 0.03; 95 %CI = [0.090, 0.206]) on persuasion. For the route through social outcomes, the results indicate a significant and positive indirect effect of D1 ($\beta = 0.49$, SE = 0.05; 95 %CI = [0.400, 0.580]) as well as a significant negative indirect effect of D2 ($\beta = -0.40$, SE = 0.05; 95 %CI = [−0.491, −0.316]) on persuasion. Accordingly, the results show that the overall negative total effect of dominance on persuasion for the high dominance group (D2: $\beta = -0.39$, SE = 0.06; $p < .001$) is shaped by negativity, as the negative indirect effect through social outcomes ($D2_{indirect\_social}$: $\beta = -0.40$) overrides the positive indirect effect through instrumental outcomes ($D2_{indirect\_instrumental}$: $\beta = 0.14$).

Pairwise comparisons, testing the strengths of each specific indirect effect in relation to all other specific indirect effects, show that the differences are significant. Specifically, the pairwise comparison between social and instrumental outcomes (contrast = instrumental outcomes – social outcomes) is significant when contrasting the high dominance group against the intermediate dominance group ($\beta = 1.17$, SE = 0.09; 95 %CI = [0.982, 1.340]). Furthermore, there was a significant effect when contrasting the low dominance group against the group with intermediate dominance ($\beta = -0.35$, SE = 0.10; 95 %CI = [−0.539, −0.154]). Therefore, the drop in persuasion at high dominance levels is mainly driven by the greater influence of social outcomes, providing further support for H1 and H2.

4.6. Discussion

Study 2 corroborates Study 1 findings in that a communicator's nonverbal dominance had the expected curvilinear effect on persuasion. In addition, the findings provide process evidence that dominance affects persuasion through instrumental (H1a) and social outcomes (H1b). Study 2 employed only female participants to reduce the overall complexity of the experimental design and to minimize own-gender/other-gender effects[4].

5. Study 3: The moderating influence of motivational focus (H3)

Study 3 extends previous studies by exploring the moderating influence of consumer motivational foci. More specifically, a social focus should lead to a more pronounced curvilinear influence of dominance on persuasion compared to an instrumental focus. We also used a fresh set of stimuli to test the robustness of our findings across operationalizations and contexts.

5.1. Pre-Study 3

A pre-study aided in identifying stimuli for effectively manipulating a person's motivational focus. After several rounds of pretesting and refinement, two vignettes emerged describing a situation where a consumer is shopping for a new jacket (see Web Appendix Table WA. 2). The instrumental focus vignette emphasized that obtaining competent and efficient advice from the shop employee has the highest priority. Accordingly, the counselor (communicator) should be experienced, and should have extensive specialist knowledge. In contrast, the social focus vignette emphasized that obtaining advice from friendly and warm employees has the highest priority. Accordingly, the counselor should be sympathetic and empathic. In the final round of pretesting, 15 members of the target population read the vignettes and indicated which combination of "expertise" and "empathy" in the communicator would be perfect (scale from 1 = *competence only* to 100 = *empathy only*). T-tests indicated a significant effect, with the vignettes eliciting the desired foci ($M_{social} = 53$, $M_{instrumental} = 28$, $p = .03$), as intended.

5.2. Participants, procedure, and stimuli

Participants in an online experiment were 329 students ($M_{age} = 22.4$, $SD_{age} = 2.61$; 46 % female) recruited at a large public university in Germany for course credit. The experiment had a 3 (communicator dominance: low, intermediate, high) × 4 (motivational focus: instrumental, social, instrumental & social, control) between-subjects design. According to sensitivity analysis with G*Power (Faul et al.,2007), the

[4] To demonstrate the robustness and generalizability of our results, we replicated and validated the effects found in Study 2 with a sample from Study 3 that included both male and female participants. We extracted a sub-sample of Study 3 participants, including only those that were assigned to the condition without focus priming (to avoid confounding influence of the second factor). To best replicate results, we also used the same dominance manipulation as in Study 2. The results (see Web appendix – Supplementary Studies) corroborated the main- and mediator effects established in Study 2. Furthermore, we controlled for gender effects by including participant gender as a control variable in Studies 3 and 4 (as we did in Study 1).

sample size (n = 329) allows to detect an effect size of f = 0.21 (α = 0.05, 1-β = 0.80, two-tailed).

Randomly assigned to one of the four focal conditions participants were instructed to carefully read the vignettes to elicit a social (n = 85), instrumental (n = 79), joint (n = 90), and no specific focus (n = 75) (Web Appendix Table WA. 2). Then, participants viewed a randomly selected photograph of a communicator, selected for eliciting low dominance (n = 107), intermediate dominance (n = 114), and high dominance (n = 108). As before, we randomly showed a male and female counselor to minimize gender bias (see Study 2 stimuli). Next, followed manipulation checks for dominance (α = 0.81, M = 3.79, SD = 1.57; Table 1) and motivational focus (scale from 1 = *competence only* to 7 = *empathy only*; M = 3.49, SD = 1.26).

To operationalize persuasion, we assessed attitude towards the company (Ajzen & Fishbein, 1980) on a 7-point Likert-scale (e.g., "I find the shop…" [good – bad], [favorable - unfavorable], etc.). Following Bruckmüller and Abele (2013), instrumental outcomes were assessed using a measure of employee competence, and social outcomes were measured as warmth. Before submitting personal information (gender, age), participants viewed the communicator picture again and indicated their response to three statements to assess communicator realism (e.g., "In the past, I have met salespeople who exhibited a similar posture," α = 0.86, M = 4.24, SD = 1.52) and rated situational realism (e.g., "How easy was it for you to see yourself in such a shopping situation?"; 1 = very easy to 7 = very difficult: M = 3.19, SD = 1.71). Table 1 holds full scales and key statistics. Confirmatory factor analysis (AMOS 28.0) on all multi-item constructs (Dash & Paul 2021) indicated an acceptable fit of the model (see Web Appendix Table WA.1) and discriminant validity (Fornell & Larcker 1981).

5.3. Manipulation checks

ANOVA results show a significant positive and linear effect of the dominance manipulations on perceived dominance ($F(2, 326) = 158.5$, $p < .001$, $\eta^2 = 0.49$), with all means as intended ($M_{low\ dom.} = 2.67$, $M_{intermediate\ dom.} = 3.37$, $M_{high\ dom.} = 5.31$). Results of a second ANOVA indicate that the vignettes generated the intended significant effects on motivational foci ($F(3, 325) = 11.7$, $p < .001$, $\eta^2 = 0.10$), with the social focus vignette scoring higher on empathy than the instrumental vignette ($M_{instrumental} = 3.16$, SD = 1.14; $M_{social} = 4.09$, SD = 1.34). The joint foci vignette generated a score in between the social and the instrumental focus vignettes ($M_{joint} = 3.51$, SD = 1.12), whereas the score of the control vignette was similar to the one of the instrumental focus condition ($M_{control} = 3.11$, SD = 1.18; p = .55). These findings suggest successful manipulations.

5.4. Replicating the main effect and testing the interaction effect on persuasion

ANOVA with manipulated dominance and motivational focus as independent variables and persuasion as the dependent measure revealed a nonsignificant effect of motivational focus ($F(3, 317) = 0.44$, $p = .73$, $\eta^2 = 0.00$) and a significant effect of dominance ($F(2, 317) = 14.4$, $p < .001$, $\eta^2 = 0.08$). As with Studies 1 and 2, an intermediate level of dominance was associated with the highest level of persuasion ($M_{low\ dom.} = 3.00$, $M_{intermediate\ dom.} = 3.80$, $M_{high\ dom.} = 3.52$). Lastly, post hoc tests (LSD) indicate significant differences in persuasion between the intermediate and low dominance treatments ($p < .001$), a marginally significant difference between the intermediate and high dominance treatments ($p = .057$), and a significant difference between high and low dominance ($p = .001$). When including a person's age, communicator gender, consumer gender, situational realism, and realism of communicator posture as controls, the effect of communicator dominance on persuasion remained significant ($F(2, 307) = 12.0$, $p < .001$, $\eta^2 = 0.08$), whereas the effect of motivational focus remained non-significant ($F(3, 307) = 0.4$, $p = .75$, $\eta^2 = 0.07$). Confirming this pattern, trend analysis revealed a curvilinear influence of dominance on persuasion (curvilinear trend: $p < .001$).

Importantly, the interaction between motivational focus and communicator dominance is significant ($F(6, 317) = 2.4$, $p = .03$, $\eta^2 = 0.04$). In the instrumental focus condition, dominance had a significant linear influence on persuasion ($F(2, 76) = 7.4$, $p = .001$, $\eta^2 = 0.16$; linear trend: $p = .01$). In the social focus condition, dominance had a significant and strong curvilinear (bell-shaped) effect on persuasion ($F(2, 82) = 7.4$, $p = .001$, $\eta^2 = 0.15$; curvilinear trend: $p = .01$).[5] In the joint foci condition, dominance had a significant curvilinear influence of on persuasion ($F(2, 87) = 3.8$, $p = .03$, $\eta^2 = 0.10$; curvilinear trend: $p = .008$), as it had in the control condition ($F(2, 72) = 7.1$, $p = .002$, $\eta^2 = 0.15$; curvilinear trend: $p = .001$). Figure WA. 4 (Web Appendix) illustrates these results. Together, these findings provide support for H3a.

5.5. Replicating the effects of nonverbal dominance on instrumental and social outcomes

Similar to Study 2, ANOVA results show a significant effect of dominance on instrumental outcomes ($F(2, 313) = 117.9$, $p < .001$, $\eta^2 = 0.43$), following a linear pattern ($M_{low\ dom.} = 2.81$, $M_{intermediate\ dom.} = 3.80$, $M_{high\ dom.} = 5.00$, linear trend: $p < .001$). The influence of motivational focus ($F(3, 313) = 2.4$, $p = .07$, $\eta^2 = 0.02$) and the dominance × focus interaction term ($F(6, 313) = 0.8$, $p = .57$, $\eta^2 = 0.02$) are not significant. When including the control variables (age, communicator gender, consumer gender, situational realism, and realism of body posture) the effect of dominance on instrumental outcomes remains significant ($F(2, 307) = 115.6$, $p < .001$, $\eta^2 = 0.43$), whereas the effect of motivational focus ($F(3, 307) = 2.3$, $p = .08$, $\eta^2 = 0.02$) and the dominance × focus interaction term ($F(6, 307 = 0.7$, $p = .66$, $\eta^2 = 0.01$) remain non-significant.

Also in line with Study 2, ANOVA results show a significant influence of dominance on social outcomes ($F(2, 313) = 35.6$, $p < .001$, $\eta^2 = 0.19$), following a curvilinear pattern ($M_{low\ dom.} = 3.55$, $M_{intermediate\ dom.} = 4.15$, $M_{high\ dom.} = 2.83$, curvilinear trend: $p < .001$). Effects of motivational focus ($F(3, 313) = 0.4$, $p = .77$, $\eta^2 = 0.00$) and the dominance × focus interaction term ($F(6, 313) = 0.4$, $p = .87$, $\eta^2 = 0.01$) were non-significant. Including controls (age, communicator and consumer gender, situational, and body posture realism) did not change the substance of findings. The results support H1a,b and corrorate that effects doe not depend on motivational focus.

5.6. Testing the moderating role of motivational focus on persuasion

Regression (OLS) analysis revealed that both, instrumental outcomes (β = 0.31; $p < .001$) and social outcomes (β = 0.28; $p < .001$) had a positive effect on persuasion. The effect of the instrumental outcomes × focus interaction term was non-significant. However, conditional effects of instrumental outcomes on persuasion at different levels of motivational foci show that the influence of instrumental outcome was stronger in the instrumental focus condition (β = 0.21; $p = .001$) than in the social focus condition (β = 0.15; $p = .114$). The joint foci condition (β = 0.20; $p = .027$) and the control condition (β = 0.37; $p < .001$) also exhibited significant positive effects. These findings provide preliminary evidence for the moderating influence of motivational focus, in support of H3b,c.

Further detailing the results indicates a significant interaction effect between social outcomes and motivational focus (effect coding of the multi-categorical group with dummy variables d1, d2, and d3; d1: instrumental focus = -1, social focus = 1, joint foci, control = 0; d2:

[5] ANOVA with nonverbal dominance and a social conditions factor (social focus coded as "0", other conditions coded as "1") yielded a significant interaction effect ($F(2, 323) = 3.79$, $p = .02$)), indicating that the curvilinear influence of nonverbal dominance is more pronounced in the social outcomes condition than in the other conditions.

instrumental focus = -1, joint foci = 1, social focus, control = 0; d3: instrumental focus = -1, social focus, joint foci = 0, control = 1) when contrasting the instrumental focus group against the social focus group (d1 × social outcomes: β = 0.20; p = .02, d2 × social outcomes: β = 0.02; p = .83, d3 × social outcomes: β = 0.20; p = .44). Conditional effects of social outcomes on persuasion at different levels of motivational foci show that the influence of social outcomes on persuasion is stronger in the social focus condition (β = 0.48; p < .001) than in the instrumental focus condition (β = 0.13; p = .19). In addition, the control condition (β = 0.22; p = .03) and joint foci condition exhibit coefficients that are smaller than the one in the social focus condition (β = 0.30; p = .002). We take this as support for H3b,c, as the influence of instrumental outcomes on persuasion is amplified when participants have an instrumental focus (compared to a social focus), whereas the influence of social outcomes on persuasion is amplified when participants have a social focus (compared to an instrumental motivational focus). Figure WA. 5 (Web Appendix) illustrates these conditional effects of social and instrumental outcomes for focal conditions.

5.7. Replicating the mediation through social and instrumental outcomes

Replicating the analytical approach employed in Study 2, mediation analysis (PROCESS, Hayes, 2017, Model 4) revealed no significant relative indirect effect of D1 (β = −0.03, SE = 0.03; 95 %CI = [−0.085, 0.027]), but a positive relative indirect effect of D2 (β = 0.37, SE = 0.08; 95 %CI = [0.215, 0.527]) of dominance on persuasion through instrumental outcomes. Also, there is a positive relative indirect effect of D1 (β = 0.14, SE = 0.04; 95 %CI = [0.070, 0.226]) and a negative relative indirect effect of D2 (β = −0.15, SE = 0.04; 95 %CI = [−0.231, −0.076]) on persuasion through social outcomes. The overall negative relative total effect of dominance on persuasion for the high dominance group (D2: β = 0.39, SE = 0.06, p < .001) is shaped by negativity, as the negative indirect effect of dominance through social outcomes ($D2_{indirect\_social}$: β = −0.63) overrides the positive indirect effect through instrumental outcomes ($D2_{indirect\_instrumental}$: β = 0.12). Pairwise comparison between social and instrumental outcomes (contrast = instrumental outcomes – social outcomes) is significant when contrasting the group with high dominance against the intermediate dominance group (β = 0.95, SE = 0.11; 95 %CI = [0.748, 1.192]), but not when contrasting the low dominance group against the intermediate dominance group (β = -0.12, SE = 0.10; 95 %CI = [−0.331, 0.082]). Again, the results show that the drop in persuasion at high levels of dominance is mainly driven by the greater influence of social outcomes, in support of H1 & H2.

5.8. Testing the moderated mediation through social and instrumental outcomes

Moderated mediation analysis (PROCESS Model 14, Hayes, 2017) shows that a social focus amplifies the positive influence of social outcome on persuasion, as indicated by a significant indirect effect of dominance on persuasion through social outcomes for the social focus condition (IE_{D1}: β = 0.25, SE = 0.08; 95 %CI = [0.100, 0.411]; IE_{D2}: β = −0.26, SE = 0.08; 95 %CI = [−0.419, −0.110]). This finding explains why the curvilinear influence of dominance on persuasion (shaped by the social outcome) is amplified in the social focus condition. In contrast, an instrumental focus attenuates the positive influence of the social outcome, leading to a non-significant indirect effect (IE_{D1}: β = 0.05, SE = 0.06; 95 %CI = [−0.076, 0.169]; IE_{D2}: β = 0.05, SE = 0.06; 95 %CI = [−0.168, 0.832]). Accordingly, the positive linear effect of instrumental outcomes breaks through, leading to a positive linear relation between dominance and persuasion. Consistent with this, the index of moderated mediation vial social outcomes is also significant when contrasting the instrumental against the social outcome group (D_1: β = 0.12, SE = 0.06; 95 %CI = [0.006, 0.242]; D2: β = −0.13, SE = 0.06; 95 %CI = [−0.248, −0.007]). Table WA. 3 (Web Appendix) holds full results.

5.9. Discussion

Study 3 findings support the contention that differences in a consumer's motivational focus moderate effects of nonverbal dominance. Our results illustrate that with individuals having a social motivational focus, the curvilinear influence of dominance is more pronounced. In contrast, with individuals holding an instrumental focus the influence of dominance on persuasion appears to be linear. Finally, our results show that these effects are conditionally mediated by social and instrumental outcomes, together providing support for H3a,b,c.[6]

6. Study 4: Value homophily as a moderator (H4)

To partially replicate previous findings (H1 and H2) and to additionally test the moderating role of homophily (H4), Study 4 employs videos of a spokesperson advocating a controversial new farmers' association on the potentially polarizing topic of animal welfare. We expect homophily to moderate the influence of nonverbal dominance on persuasion such that the overall curvilinear effect of dominance on persuasion will become more pronounced as homophily increases. We also expect homophily to moderate the influence of nonverbal dominance on social and on instrumental outcomes. Presenting videos to the participants also extended previously validated effects beyond static images and contexts.

6.1. Participants, procedure, and stimuli

Study 4 employed a one-factorial experimental design in the context of a farmers' association spokesperson announcing the launch of a new (fictitious) animal-welfare label. A total of 185 individuals (M_{age} = 26.9, SD_{age} = 8.90, 54 % females) acquired through quota-sampling, participated in an online-experiment. Sensitivity analysis with G*Power (Faul et al., 2007) yielded the sample size (n = 185) allows to detect an effect size of f = 0.23 (α = 0.05, 1-β = 0.80, two-tailed). Participants were randomly assigned to one of three groups pretested[7] to vary in the spokesperson's nonverbal dominance (low: n = 71, intermediate: n = 63, high: n = 51). During a mock press conference, the spokesperson announces the launch of a novel animal-welfare label for food products, committing to standards above legal requirements. The video was produced with a professional actor who performed three versions, one displaying submissive body language (e.g., having closed arms), a second displaying a dominant body language (e.g., by taking space: spreading the arms, legs wide apart), and a third behaving in a neutral manner (i.e., not dominant nor submissive). The (standardized) text of the announcement and the instructions for the actor is available in Web Appendix Table WA. 4.

Following exposure to the video, the participants completed scales on perceived dominance (Mehrabian & Russell, 1974). As a measure of persuasive outcomes, we assessed the consumers' intention to seek information and to purchase products bearing the animal-welfare label (e.g., "I would buy the products (meat, eggs, milk) with the NuTiHR label,"

[6] To validate Study 3 results, we conducted Study 3b (Web Appendix – Supplementary Studies). In brief, the findings support H3 and additionally show that not only a customer's motivational focus can lead high levels of dominance to backfire, but so can a business focus (on instrumental versus social outcomes).

[7] As before, experimental manipulations were designed to generate variance in nonverbal dominance, which, after several rounds of pretesting and refinement, were obtained by changing head canting, body posture, gesture, self-touch, and speech pattern of the spokesperson while minimizing differences in verbal expression (N = 15, $M_{low\ dominance}$ = 1.20, $M_{moderate\ dominance}$ = 3.73, $M_{high\ dominance}$ = 5.13; p<.001).

and "I like NuTiHR so much that I will deliberately search for these marked products."). Additional measures included perceived competence as a measure of instrumental outcomes (Warner & Sugarman, 1986: competent, intelligent, knowledgeable, responsible) and empathy as a measure of social outcomes (Warner & Sugarman, 1986: cheerful, friendly, warm). To operationalize homophily we employed McCroskey et al.'s (1976) item battery, dropping two items deemed not to be appropriate for our context. Exploratory factor analysis (orthogonal rotation, principal component analysis) yielded two factors, one of them corresponding with value homophily. Participants also completed questions on the similarity between the communicator's and their own tempo of speech (7-point semantic differential ranging from 1: "The employee speaks slower than me" to 7: "The employee speaks faster than me"). The realism of the speaker's body language was assessed as a further control variable. Last, we collected socio-demographic information (gender, age, education) and participants' professional relation with agriculture (10.7 % stated "yes"). Table 1 holds full scales and key statistics. Confirmatory factor analysis (AMOS 28.0) on all multi-item constructs (Dash & Paul 2021) indicated an acceptable fit of the model (see Web Appendix Table WA.1) and discriminant validity (Fornell & Larcker 1981).

6.2. Manipulation and robustness checks

ANOVA results show a significant effect of the treatments on perceived dominance ($F(2, 182) = 43.3$, $p < .001$, $\eta^2 = 0.32$) with means as intended ($M_{low\ dom.} = 2.31$, $M_{intermediate\ dom.} = 2.70$, $M_{high\ dom.} = 4.33$. An second ANOVA yielded a non-significant effect of the treatments on perceived realism of the communicator's body language ($F(2, 182) = 2.0$, $p = .14$, $\eta^2 = 0.02$).

6.3. Replicating the curvilinear main effect and testing the interaction effect

ANOVA with dominance as the independent variable and persuasion as the dependent measure revealed a significant effect ($F(2, 182) = 3.0$, $p = .05$, $\eta^2 = 0.03$). However, post hoc tests (LSD) indicated significant differences in persuasion between intermediate and low levels of dominance ($M_{low\ dom.} = 4.14$, $M_{intermediate\ dom.} = 4.69$; $p = .02$), a non-significant difference between intermediate and high dominance ($M_{high\ dom.} = 4.54$; $p = .09$), and no significant difference between high and low dominance levels ($p = .53$). When including control variables (age, consumer gender, realism of body language, participant's professional relation), the effect of dominance on persuasion remained significant ($F(2, 174) = 3.2$, $p = .04$, $\eta^2 = 0.02$). Finally, trend analyses did not indicate a significant curvilinear pattern (curvilinear trend: $p = .09$). Accordingly, the non-linear pattern postulated in H2 and found in previous studies, could not be replicated as the drop in persuasion does not occur with high levels of nonverbal dominance.

To test H4a and the prediction that value homophily moderates the influence of dominance on persuasion, we conducted a regression analysis with dominance (effect-coded D1 and D2), value homophily, and the dominance × homophily interaction term as independent variables, and persuasion as the dependent variable. The results indicate a significant main effect of dominance on persuasion (d1: $\beta = 0.32$, $t = 2.82$, $p = .005$; d2: $\beta = -0.02$, $t = -0.14$, $p = .89$) as well as a significant effect of homophily ($\beta = 0.55$, $t = 9.15$, $p < .001$). In addition, the results reveal a significant dominance × homophily interaction effect (d1 × value homophily: $\beta = -0.19$, $t = -2.13$, $p = .04$; d2 × value homophily: $\beta = 0.13$, $t = 1.46$, $p = .15$). Analyzing the conditional effects yields the pattern posited in H4a: The curvilinear influence of nonverbal communicator dominance is more pronounced at low levels (-1SD) of homophily (d1: $\beta = 0.57$, $t = 3.60$, $p < .001$; d2: $\beta = -0.19$, $t = -1.09$, $p = .28$) than at moderate levels of value homophily (d1: $\beta = 0.32$, $t = 2.82$, $p = .005$; d2: $\beta = -0.02$, $t = -0.14$, $p = .89$), and becomes non-significant at high homophily levels (d1: $\beta = 0.07$, $t = 0.43$, $p = .669$; d2: $\beta = 0.16$, $t = 0.97$, $p = .34$; see Figure WA 4).

6.4. Replicating the mediation effects

ANOVA results indicate a significant effect of dominance on instrumental outcomes ($F(2, 182) = 3.1$, $p = .05$, $\eta^2 = 0.03$, linear trend: $p = .09$) as well as a significant effect on social outcomes ($F(2, 182) = 3.1$, $p = .05$, $\eta^2 = 0.03$, curvilinear trend: $p = .01$). Subsequent regression (OLS) analyses reveal that both, instrumental outcomes ($\beta = 0.54$, $t = 8.00$, $p < .001$) and social outcomes increase persuasion ($\beta = 0.29$, $t = 4.08$, $p < .001$). Including control variables leaves these effects unchanged. To test the mediating role of instrumental and social outcomes in the dominance - persuasion relationship, we employed PROCESS (Hayes, 2017, Model 4). Again, supporting H1a, for instrumental outcomes, the results indicate a marginally significant indirect effect of D1 ($\beta = 0.11$, $SE = 0.07$; 90 %CI = [0.004, 0.223]), and no relative indirect effect of D2 ($\beta = 0.05$, $SE = 0.07$; 95 %CI = [−0.070, 0.163]). In line with H1b, for social outcomes, there was a positive relative indirect effect of D1 ($\beta = 0.10$, $SE = 0.05$; 95 %CI = [0.020, 0.199]) and no significant relative indirect effect of D2 ($\beta = -0.06$, $SE = 0.04$; 95 %CI = [−0.154, 0.017]), as expected.

6.5. Testing the mediated moderation

H4b,c suggest a moderating influence of value homophily on the relation between communicator dominance and persuasion, mediated through instrumental and social outcomes. For instrumental outcomes, regression results indicate a marginal main effect of dominance (d1: $\beta = 0.66$, $t = 1.93$, $p = .05$; d2: $\beta = 0.01$, $t = 0.03$, $p = .98$), a significant effect of homophily ($\beta = 0.33$, $t = 6.69$, $p < .001$), and a significant dominance × homophily interaction effect (d1 × value homophily: $\beta = -0.16$, $t = -2.23$, $p = .03$; d2 × value homophily: $\beta = 0.08$, $t = 1.09$, $p = .28$), in support of H4c: The curvilinear influence of dominance is more pronounced at low levels (-1SD) of homophily (d1: $\beta = 0.57$, $t = 3.60$, $p < .001$; d2: $\beta = -0.10$, $t = -0.58$, $p = .57$), significant at intermediate levels (d1: $\beta = 0.27$, $t = 2.38$, $p = .02$; d2: $\beta = 0.02$, $t = 0.19$, $p = .85$), and becomes non-significant at high levels (d1: $\beta = -0.03$, $t = -0.17$, $p = .86$; d2: $\beta = 0.15$, $t = 0.90$, $p = .37$).

For social outcomes, there was a significant positive main effect of homophily ($\beta = 0.16$, $t = 4.20$, $p < .001$), a significant effect of homophily ($\beta = 0.41$, $t = 7.26$, $p < .001$), but no significant dominance × homophily interaction effect (d1 × value homophily, $\beta = -0.07$, $t = -0.69$, $p = .49$, d2 × value homophily, $\beta = 0.01$, $t = 0.08$, $p = .94$). However, analyzing conditional effects yields a pattern of effects consistent with H4b: The curvilinear influence of dominance is strong and significant at low levels (-1SD) of value homophily (d1: $\beta = 0.48$, $t = 2.63$, $p = .009$; d2: $\beta = -0.26$, $t = -1.29$, $p = .20$), smaller and significant at intermediate levels (d1: $\beta = 0.39$, $t = 2.96$, $p = .004$; d2: $\beta = -0.25$, $t = -1.80$, $p = .07$), and non-significant at high levels of homophily (d1: $\beta = 0.30$, $t = 1.52$, $p = .13$; d2: $\beta = -0.24$, $t = -1.27$, $p = .21$; see Figure WA. 6 in web appendix).

Fully testing the moderating role of homophily additionally involved employing mediated moderation analysis (Hayes, 2017, Model 7). Communicator nonverbal dominance was the independent variable (effect-coded, d1 and d2), homophily the moderator, social and instrumental outcomes the mediators, and persuasion the dependent variable. The results (Web Appendix Table WA. 5) further illustrate the moderating role of homophily and provide support for H4 as evidenced by indices of moderated mediation ($\beta = -0.03$, $SE = 0.01$, 95 %CI = [0.06, −0.00]) and significant conditional indirect effects at D1 and low levels of homophily.

6.6. Discussion

Study 4 further corroborates the influence of dominance on persuasion through instrumental and social outcomes. Our results show that

the curvilinear influence of nonverbal communicator dominance on persuasion effectiveness was observed only with individuals exhibiting low levels of homophily. Notably, and contrary to previous studies, we were unable to replicate this curvilinear pattern for the entire sample. In line with the new findings of this study 4, we assume that the underlying value homophily of the participants in this sample may differ from that of the other samples. One reason could be that simply watching the video increased value homophily, whereas the images presented in the other studies gave participants less room to sense shared values. As a result, the average value homophily in this study may be higher than in the other samples. As our findings show, the curvilinear relationship between nonverbal dominance and persuasion effectiveness vanishes as value homophily increases. Given that dominance effects are robust in the presence of a direct positive effect of homophily on persuasion, the study rules out the possibility that homophily alone explains dominance effects. Finally, the findings highlight that the moderating effects on persuasion hinge on the relations between dominance and social versus instrumental outcomes.[8]

7. General discussion

7.1. Summary of findings and theoretical implications

Our studies (see Web Appendix Table WA. 6 for an overview of hypotheses and findings) offer at least four important insights into the psychological mechanisms that underlie persuasion when consumers encounter nonverbal dominance in marketing communicators.

First, our work adds to previous reports of mixed outcomes of dominance (Ma & Dubé, 2011; Notarantonio & Cohen, 1990; Webster & Sundaram, 2009) by showing how a dual process model involving two divergent mediators can explain persuasive outcomes. Integrating two streams of research, one on nonverbal dominance and the other on the warmth-competence model of social cognition, our findings provide consistent support for the pivotal functioning of social and instrumental outcomes. Rather than advocating the prevalence of one path over the other, our findings highlight the coexistence of two psychological processes that collectively, not alternatively, explain consumer response to nonverbal dominance in marketing communicators.

Second, our findings show that as dominance increases instrumental outcomes (e.g., perceived competence and power) increase, whereas social outcomes (e.g., empathy, warmth, and likeability) follow a curvilinear, bell-shaped effect. The resulting net effect of dominance on persuasion is inverse curvilinear (bell-shaped) with optimal levels being at intermediate rather than very high or very low dominance levels. These effects emerged consistently across studies, different types of stimuli (i.e., static photographs, videos, and real communicator-consumer encounters), operationalizations (e.g., perceived competence and power for instrumental outcomes; likability, warmth, and empathy for social outcomes; approach-avoidance, purchase intention, and attitude towards the organization for persuasion), and business contexts (i.e., advertising, counseling, retailing, and public relations), suggesting robust findings.

Third, we identify two boundary conditions for shifts in the optimum level of dominance, hereby refining the notion that an average level of nonverbal dominance always trumps higher levels of dominance. Study 3 demonstrates that consumers' focus on one outcome over the other (i.e., instrumental versus social) shapes the relationship between dominance and persuasion. We show a linear positive effect of nonverbal dominance on persuasion when the focus is on instrumental outcomes, contrasting the curvilinear effect when the focus is on social outcomes. Across two conceptualizations of focus (consumer motivational and business focus), the stronger influence of one mediator over the other leads to a horizontal shift in optimum dominance. This finding adds to previous studies highlighting the divergent importance of instrumental outcomes (e.g., Driver & Johnston, 2001) and of social outcomes (e.g., Wang et al., 2017). Specifically, we show that changing optimal levels of dominance trace back to the focus on social versus instrumental outcomes as mediators of the dominance-persuasion relationship. Our findings also offer evidence that the two mediators operate independent of each other.

Finally, Study 4 shows that the bell-shaped effect on nonverbal dominance does not always hold. Instead, homophily moderates the dominance-persuasion relationship to the extent that an inverse curvilinear net effect was observed when value homophily was low, but not when it was high. The associated vertical shift in the optimum level of dominance extends research on social psychology (e.g., Montoya & Horton, 2014) and marketing (Foster & Resnick, 2013; Jiang et al., 2010; Mai & Hoffmann, 2011) by establishing homophily's role as an important influencer of the relationships between nonverbal dominance and mediating (instrumental / social) outcomes.

7.2. Managerial implications

Our findings offer several important managerial implications. First, the question of how to persuade consumers, for example by communicating competence and warmth, is of considerable importance to many businesses and in various contexts (Dubois et al., 2016). While managers likely have at least some knowledge on possible drivers and consequences of competence and warmth, our findings suggest that more attention should be paid to factors potentially affecting both outcomes: For maximum persuasiveness the optimal level of dominance depends on a careful weighting of both instrumental and social outcomes, hereby accounting for characteristics of the business and its customers. Due to the independent functioning of instrumental and social outcomes and their unique influences on persuasion, the overall curvilinear effect does not advocate a "more-is-better" approach.

Our findings thus enable managers to more carefully calibrate the level of dominance communicated nonverbally by their salespeople, counselors, spokespersons, and other frontline employees, and potentially also in mass communications and on social media. While an intermediate degree of nonverbal dominance is likely to be most effective in general, a better understanding of consumers' response allows a more selective adjustment of dominance levels. More precisely, managers should keep in mind that dominant communicators facilitate instrumental outcomes, but, at the same time, impairs social outcomes. Thus, calibrating the optimum level of dominance is crucial for communicating effectively with target audiences.

Second, our findings allow managers to better benefit from studies on nonverbal communication, specifically, expressions of dominance. Research has identified how dominance can be communicated nonverbally (see Hall et al., 2005 for a *meta*-analysis) and the employment of corresponding cues can be trained (Peterson, 2005). For example, communicators can adjust their body posture (Carli et al., 1995), head tilt (Mignault & Chaudhuri, 2003), and clothing (Bashir & Rule, 2014) to evoke a more optimal level of dominance. Our findings on how and when dominance favorably impacts persuasion thus enable marketers to more fully employ previously identified means and options for designing levels of nonverbal dominance.

Finally, when nonverbal dominance is to be used as a means of persuasion, our findings aid managers in better tailoring dominance levels to target audiences and business contexts. Given that changes in consumer motivational and business focus and communicator-consumer value homophily induce shifts in optimum levels of dominance, managers gain a better understanding of how to adapt levels of dominance to their own business and customers. For example, businesses focusing

[8] To enhance the internal and external validity of findings we conducted Study 4b (see Web Appendix – Supplementary Studies). The study re-uses the video stimulus created for Study 4, but employs different measures of homophily and persuasion. The findings provide further support for our Study 4 findings.

more on competence, an instrumental outcome (e.g., IT services), could more effectively communicate with audiences by adopting levels of dominance higher than those of businesses focusing on warmth (e.g., retirement homes). Similarly, PR agencies would be well advised to employ levels of dominance that are higher than intermediate to persuade audiences who exhibit little value homophily in the subject matter. As another validation study shows (Study 3b, Web Appendix), a hospitality business might find it worthwhile to adjust communicator dominance levels depending on the guests, adopting above-intermediate levels for business customers and below-intermediate levels for private customers.

7.3. Further research and limitations

The majority of marketing communication research has tested for linear relations between communicator qualities and effectiveness (e.g., Marinova et al., 2018). Our study is among the first to provide evidence for the predictive value of non-linear effects and points towards exciting further research opportunities.

First, by proposing an optimal midrange for nonverbal dominance in marketing communicators, we do not mean to suggest that successful communicators should always act moderately dominant. Instead, by defaulting a style that is neither markedly high nor low in dominance, they may be more flexible to adapt, exhibiting a greater range of behaviors. This notion of flexibility further ties in with boundary conditions identified in our study, providing for contingency approaches to nonverbal dominance communication. Linking nonverbal dominance – as we identified it in this study – with contingency models (e.g., social styles, situational control, communicator skill level) to persuasion seems an interesting avenue for further research.

Second, introducing homophily to the context of nonverbal communication also connects with market segmentation and targeting studies by providing insights into the question of what audiences can be persuaded effectively. Future research should investigate this issue and extent our study to other personality and segmentation variables.

Third, given the rapidly increasing deployment of service robots, avatars, and chatbots in sales and service (Wirtz et al., 2018), it seems intriguing to explore effects of their dominance displays. Digital service agents can communicate non-verbally (e.g., through their designs, posture, and facial expressions). Some firms already offer to tailor digital agents to specific brands and contexts (e.g., the firm Soul Machines that states it is in the business of "digital people"; Wirtz et al., 2023). It would be interesting to extend our findings to digital agents and explore how their lack of or low level of perceived mind (i.e., agency and emotion; Pitardi et al., 2022) affects the dominance-persuasion effectiveness relationship.

Finally, while our findings offer important insights, a few limitations exist that provide avenues for future research, especially with regard to replicating our studies in more extensive field studies with behavioral dependent variables such as purchasing behavior, churn prevention, and in-service encounter behaviors such as time spent (e.g., Mattila & Wirtz, 2001).

Moreover, the results of our study show a nonlinear influence of nonverbal dominance on persuasive effectiveness that is slightly different from the curvilinear effect we found in the other studies. Due to a modified business context in this study, we speculate that there may be other context-specific moderating influences that shape the relationship between nonverbal dominance and persuasive efficiency. While we provide evidence for the generalizability of our findings across contexts, future studies should go deeper and consider context-specific features.

Also, there may be other boundary conditions in addition to focus and homophily such as culture and gender. For example, displaying high dominance may be more appropriate in collectivist culture as customers might not accept high power stances from employees (c.f. reward the angry customer; Glikson et al., 2019). Likewise, the social costs of exhibiting high dominance may be more severe for female communicators than for male ones because dominant behavior can be considered a violation of the feminine gender role (Eagly & Karau, 2002).

Finally, we proposed a curvilinear relationship between nonverbal dominance and persuasion effectiveness. While in study 1, we used a continuous measure of nonverbal dominance and were thus able to draw a continuous curvilinear relationship, we manipulated nonverbal dominance in the laboratory experiments. Nonverbal dominance may be measured in quasi-experimental laboratory experiments in future studies to better understand the curvilinear relationship. While analysis of variance is commonly used to analyze factorial experiments, as we did in our analyses, a continuous measurement would necessitate the use of other methods, such as curvilinear regression models.

In closing, our study integrated nonverbal communication research with the warmth-competence model of social cognition and thereby managed to reconcile hitherto conflicting bodies of literature. We hope our study helps to reinvigorate this important field.

CRediT authorship contribution statement

Wassili Lasarov: Writing – original draft, Conceptualization, Data curation, Formal analysis, Investigation, Methodology. **Ulrich R. Orth:** Writing – review & editing, Writing – original draft, Supervision, Investigation, Methodology, Conceptualization. **Jochen Wirtz:** Writing – review & editing, Investigation, Methodology, Conceptualization. **Mirjam Holm:** Investigation, Conceptualization.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary material

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jbusres.2023.114201.

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