

# Is beauty more than skin deep? Attractiveness, power, and nonverbal presence in evaluations of hirability

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## Abstract

It turns out that being good-looking really does pay off: decades of research have shown that attractive individuals are more likely to get ahead in their careers. Although prior research has suggested that bias on the part of evaluators is the source of attractive individuals' favorable career outcomes, there is also evidence that these individuals may be socialized to behave and perceive themselves differently from others in ways that contribute to their success. Building on socialization research and studies on nonverbal power cues, we examined nonverbal communication in individuals with varying degrees of physical attractiveness. In two experimental studies with data from 300 video interview pitches, we found that attractive individuals had a greater sense of power than their less attractive counterparts and thus exhibited a more effective nonverbal presence, which led to higher managerial ratings of their hirability. However, we also identified a potential means for leveling this gap. Adopting a powerful posture was found to be especially beneficial for individuals rated low in attractiveness, enabling them to achieve the same level of effective nonverbal presence as their highly attractive counterparts naturally displayed. Our research sheds new light on the source of attractive individuals' success and suggests a possible remedy for individuals who lack an appearance advantage.

## KEYWORDS

attractiveness, evaluations, nonverbal communication, power cues

## 1 | INTRODUCTION

There is perhaps no human characteristic more desirable and rewarded in our society than attractiveness. More than 40 years ago, Dipboye et al. (1977) concluded that all else being equal and for all people, attractive people were preferred over unattractive. Career advantages accrue to attractive people as a result. Physically attractive employees enjoy higher pay (Judge et al., 2009), a better chance of being promoted (e.g., Morrow et al., 1990), more sponsorship within their organizations (Dossinger et al., 2019), and more positive performance evaluations (Hosoda et al., 2003). The “beauty premium” (Borland & Leigh, 2014) occurs across professions: Attractive professors receive significantly higher teaching evaluations than their less attractive counterparts (Riniolo et al., 2006), investors favor entrepreneurial ventures that are pitched by attractive men (Brooks et al., 2014), and higher stock returns accrue to companies that hire attractive CEOs (Halford & Hsu, 2014). Despite some evidence that beauty can backfire in certain circumstances (e.g., Paustian-Underdahl & Walker, 2016), the overall trend is clear: Across a broad range of job-related decisions and evaluations, employees’ attractiveness is associated with more positive outcomes ( $d = .37$  on average; Hosoda et al., 2003).

Over the decades, there have been a number of explanations for the differential outcomes attained by attractive people. One of the longest-standing is the “what is beautiful is good” phenomenon, which refers to a stereotype whereby positive characteristics, including intelligence, competence, and helpfulness, are attributed to attractive people (Dion et al., 1972). A second, similar explanation relies on status characteristics theory, suggesting that attractive people gain more organizational resources because they are viewed (by both themselves and others) as high in social status (Frevert & Walker, 2014; Kalick, 1988; Webster & Driskell, 1983). A third explanation builds on social expectancy theories (e.g., self-fulfilling prophecies and behavioral confirmation) to suggest that stereotypes may create reality. Because attractive people are treated differently by others, even as children, they have more positive social experiences and therefore develop positive traits, self-views, and behaviors. For instance, Judge et al. (2009) theorized that this accounts for the link between attractiveness and core self-evaluations, a trait associated with positive career outcomes.

In the first two theories, differential career outcomes are the result of bias in the process of social evaluation and judgment. But in the third explanation—wherein attractive people develop distinct traits as a result of how the world responds to their attractiveness—differential career outcomes may be the result of real differences in how attractive individuals communicate, even if those differences stem from previous instances of favorable bias. Drawing on socialization research, we propose that individuals who are attractive develop a strong sense of power (i.e., a perception of their capacity to influence other people; Anderson et al., 2012) and have more opportunities to learn how to properly encode, react to, and use nonverbal cues, because they are more accepted in social relationships throughout their lives. This perspective suggests the possibility that at least part of the reason beautiful people receive more positive evaluations throughout their career is that they really do become more effective at sending appropriate signals in social interactions. Moreover, it implies that if less attractive individuals could learn to adopt the effective behaviors that come naturally to their more attractive counterparts, the beauty premium might be reduced.

To test this premise, we focus on a context in which self-presentation and communication may help or hurt an individual’s career opportunities: the elevator pitch. A mainstay of employment interviews, career fairs, networking events, and entrepreneurship competitions alike, these short (30 s to a few minutes) speeches introducing one’s qualifications are often one of the first opportunities prospective employers, investors, or stakeholders have to observe and evaluate a candidate. In two studies, we examine the associations between attractiveness, nonverbal presence,

and managerial ratings of hirability based on pitches delivered by participants in a mock job search context. In Study 1, we propose that due to their heightened sense of power, more attractive individuals are perceived as displaying a more effective nonverbal presence, and that they are evaluated as more hireable as a result. In Study 2, we adopt an intervention that has been shown to increase individuals' sense of power and improve their nonverbal presence, testing the notion that less attractive individuals benefit more from adopting a powerful posture than do their attractive counterparts.

Our studies make several important contributions. First, we test the notion that successes achieved by attractive individuals are due (at least to some extent) to their sense of power-induced nonverbal communication, and not merely to error caused directly by stereotypes and biases (e.g., Dipboye et al., 1977; Feingold, 1992). In doing so, we answer calls to reassess the ways in which evaluation criteria that are traditionally considered biases may actually be performance-relevant (e.g., Posthuma et al., 2002). Second, we test the notion that physical postures associated with feelings of power and confidence can minimize behavioral differences between more and less attractive individuals in the job search context. A final, practical contribution is that we examine attractiveness, nonverbal communication, and managerial evaluations in the context of asynchronous video-based presentations. This is an important contribution, as more and more companies are asking candidates to record themselves answering interview questions as an early stage in the selection process (Zielinski, 2012), yet there has been limited research to date on this approach or its implications.

## 2 | THEORY AND HYPOTHESES

### 2.1 | Attractiveness, sense of power, and interpersonal skills

The dominant explanation in the literature for the professional benefits of attractiveness is bias (e.g., Marlowe et al., 1996). In this view, physical appearance is not relevant to an individual's qualifications; good-looking individuals' disproportionately favorable outcomes in organizations represent error derived from stereotypes in which attractive people are assumed to have other positive characteristics (Dion et al., 1972; Frevert & Walker, 2014). A recent meta-analytic review (Nault et al., 2020, p. 1104) added nuance to this long-standing explanation, finding evidence that attractiveness bias often represents "statistical discrimination" (a preference based on expected performance) rather than "taste-based discrimination" (a preference unrelated to expected performance). That is, organizational evaluators favor attractive people because they believe such people are more competent and productive than others.

But does this belief merely reflect the fairy-tale notion that "what is beautiful is good" (Dion et al., 1972)? An alternative possibility is that evaluators may be responding, at least partly, to real differences in performance-related behavior. There is some evidence to suggest that attractive people may differ from those who are less attractive in their ability to communicate with, and influence, others effectively. Webster and Driskell (1983, p. 160) argued that the link between attractiveness and interpersonal skills is twofold: "attractive people receive cues from others which actually make them behave better; the reactions that pretty people get may, in fact, make them learn to be more adept socially. Thus, they get a double advantage: From status generalization and from learning social skills."

Throughout life, people develop communication skills by receiving feedback from others' reactions (Saarni, 1979). Those who engage in more social interactions have more opportunities to learn, practice, and form effective nonverbal or emotional encoding and decoding abilities (Riggio, 1992). These advantages are heightened when the interactions are disproportionately positive—as they are for attractive individuals. Meta-analytic research indicates that attractive children receive significantly more attention and caregiving ( $d_+ = .69$ ), higher designations of academic ability ( $d_+ = .81$ ), fewer negative interactions ( $d_+ = -.64$ ), and more positive interactions ( $d_+ = .52$ ) than do others (Langlois et al., 2000). Similar social benefits continue into adulthood. Because of positive stereotypes surrounding beauty and attractiveness (e.g., Dion et al., 1972; Feingold, 1992; Langlois et al., 2000) and halo effects (Thorndike, 1920), attractive individuals are perceived to possess more positive characteristics (e.g., intelligence) and higher status,

and therefore receive preferential treatment (Langlois & Stephan, 1981; Miller, 1970; Webster & Driskell, 1983). In contrast to their lower-status peers, whose opinions are often ignored and have less impact (e.g., Blau, 1964), individuals who are accorded higher status in social groups are respected, admired, and influential (e.g., Blau, 1964; Berger et al. 1972): Attractive people receive more attention ( $d_+ = 1.09$ ), more help and cooperation ( $d_+ = .36$ ), and have fewer negative ( $d_+ = -.54$ ) and more positive interactions ( $d_+ = .57$ ) with others (Langlois et al., 2000), not to mention more career-enhancing opportunities and access to organizational resources (Dossinger et al., 2019). This lofty position in the status hierarchy serves as a foundation for perceptions of attractive people as influential (Anderson et al., 2012). Because of their higher social status, attractive individuals are allowed more control over group decisions and processes (e.g., Berger et al., 1972), giving them additional opportunities to develop social skills and a stronger sense of power in social situations.

Thus, a positive spiral occurs, in which attractive individuals receive more positive social development and attention, and develop more positive core self-evaluations (Judge et al., 2009) and greater perceptions of power (Zhang et al., 2014) and control (Andreoletti et al., 2001). They enjoy more opportunities to engage in interpersonal relationships that extend their social networks (Anderson et al., 2001), and therefore are able to develop stronger social skills (Langlois et al., 2000) and the ability to communicate more effectively (Mobius & Rosenblat, 2006).

We do not claim that these findings disprove the existence of bias. The association between physical attractiveness and positive work outcomes can be found even in situations that do not allow evaluators to observe targets' behavior; for example, Busetta et al. (2013) found that fake CVs submitted with photos of attractive individuals received 36 percent more callbacks than did the same CVs submitted with less attractive photos. Such findings are clearly more attributable to direct bias than to true differences in candidates' behavior. Even so, Mobius & Rosenblat (2006) argued that enhanced confidence and oral communication skills may account for as much as 60% of the beauty premium. In addition, Goldman and Lewis (1977) found that following telephone communications, attractive college students' interaction skills were rated more positively than those of unattractive students—even though the raters were not aware of the students' levels of physical attractiveness. Following this line of thought, we posit that lifelong bias in favor of attractive individuals may aid them in developing a sense of power and social skills that give them a potentially job-relevant source of advantage over time.

## 2.2 | Nonverbal presence, sense of power, and organizational evaluations

Building on prior research on the ways in which feelings of power influence interpersonal communication, our study examines a specific aspect of social interaction that is both crucial for a broad range of jobs and particularly likely to be associated with attractiveness: nonverbal presence. The nonverbal aspects of communication include both physical elements (e.g., gestures) and spoken ones (e.g., tone of voice; Bonaccio et al., 2016), but not communication content. We focus on nonverbal behavior because it is difficult to regulate for self-presentation purposes (DePaulo, 1992), yet it “provides observers with a relatively valid source of information regarding the true internal states and dispositions of another” (Ambady et al., 2000, p. 205). Whereas appropriate verbal behavior for professional contexts can be coached (and routinely is, as in the case of job interviews), the effects of attractiveness and feelings of power on nonverbal communication may be more visible because they are less easily moderated by conscious effort.

Feeling powerful induces effective nonverbal displays. Prior research demonstrates that high-status individuals tend to use nonverbal cues that communicate dominance and reinforce their power (Keltner et al., 2008; Kraus & Keltner, 2009). Similarly, people who feel powerful tend to engage in more effective nonverbal behaviors, including more expressive facial expressions, more nodding, more bodily openness, faster speech, and vocal relaxation (Hall et al., 2005). In addition, those with a higher sense of power experience more positive emotions (Keltner et al., 2003) and handle stressful situations better (Kuehn et al., 2015), enabling them to suppress ineffective nonverbal cues associated with anxiety and nervousness (DeGroot & Motowidlo, 1999; Riggio & Throckmorton, 1988). In contrast, individuals with a lower sense of power are more likely to exhibit powerless and anxious nonverbal behaviors (e.g., gaze

avoidance, self-touches, and restless body movements; Carney et al., 2015), which are associated with perceptions of incompetence and inauthenticity (McClintock & Hunt, 1975; Mehrabian, 1971). Thus, due to their strong sense of power, attractive individuals are more likely to present themselves successfully through nonverbal behaviors.

If attractive individuals are indeed more successful nonverbal communicators than others, that would help to explain their favorable outcomes in organizational evaluations. Indeed, one meta-analysis found that nonverbal behaviors may be even stronger predictors of interviewer ratings ( $r_c = .40$ ) than are verbal behaviors ( $r_c = .34$ ; Barrick et al., 2009). But strong nonverbal communication skills are not merely useful for creating a favorable impression during evaluations; they are fundamental to performance across a wide variety of roles and industries—that is, they represent valid criteria for decisions such as selection and promotion, rather than error. One reason for this is that effective nonverbal communication is a powerful means of motivating or influencing others (Darioly & Mast, 2013). Supervisors who employ nonverbal immediacy elicit stronger satisfaction and perceptions of credibility from subordinates (Teven, 2007), and salespeople who demonstrate effective nonverbal behaviors in sales talks are perceived as more charismatic, leading to positive customer responses (Pauser et al., 2018). Nonverbal behaviors also foster the development of high-quality relationships (Bonaccio et al., 2016), and aid employees in producing appropriate emotional displays (which are associated with beneficial organizational outcomes such as customer satisfaction; e.g., Grandey et al., 2005).

The challenge for researchers is how to operationalize skilled nonverbal communication, which can be viewed from either a micro or a macro perspective (Ambady & Weisbuch, 2010; Bonaccio et al., 2016): The micro perspective focuses on specific behaviors (e.g., eye gaze, smile, body posture, or tone of voice), whereas the macro or molar perspective examines nonverbal codes as higher-level constructs corresponding to the meaning of behaviors (e.g., displays of competence or confidence; Weisbuch et al., 2010). On the micro side, certain nonverbal cues, such as eye contact, smiling, hand gestures, an upright posture, and fluent speech are generally recognized as effective in professional contexts (e.g., Anderson & Shackleton; Arvey & Campion, 1982; 1990). However, these represent only a few of a much larger range of nonverbal cues that successful communicators deploy (Duncan, 1969). Moreover, the effectiveness of these cues is not straightforward to measure (DePaulo, 1992). For example, regular eye contact and smiling generally indicate forthrightness, confidence, and positive affect in the U.S., but the same level of eye contact might be perceived as arrogant by individuals from East Asian cultures (Akechi et al., 2013), while frequent smiling may read as insincere or foolish in Europe (Krys et al., 2016). Even within a culture, these cues must be deployed in an optimal manner; one U.S.-based study found that smiling could actually hinder success for job candidates who deployed it at the wrong point in an interview or when applying for a position demanding a “serious demeanor” (Ruben et al., 2015, p. 107).

Perhaps the best gauge of whether an individual's nonverbal cues are effective, then, is the intended audience's *perception* of whether the individual's nonverbal displays are conveying appropriate signals for the context—that is, the broad (macro) perspective. This approach fits with evidence that evaluators typically observe multiple nonverbal behaviors at the same time to form a general impression (McGovern & Tinsley, 1978), rather than focusing narrowly on individual cues. In addition, researchers have suggested that meaning-oriented macro ratings better predict behavioral outcomes than do micro ratings of specific cues (Ambady et al., 2000) and are more consistent (Funder & Colvin, 1991; Weisbuch et al., 2010). We therefore adopt the macro perspective and capture perceptions of effective communication with a measure of *nonverbal presence*, in which evaluators rate the extent to which an individual's nonverbal behaviors came across as confident, enthusiastic, captivating, and not awkward (e.g., Chen et al., 2009; Cuddy et al., 2015).

Our prediction that attractive individuals receive beneficial outcomes in organizations because of their successful nonverbal presence could apply to a wide variety of evaluations, including selection and promotion decisions, performance evaluations, and entrepreneurial investment decisions. In the present study, we use elevator pitches—brief speeches presenting an individual's qualifications or ideas—as a focal context. We chose this approach because elevator pitches are a common and crucial form of professional evaluation for many individuals. For example, a 5-min pitch in which entrepreneurs present their business plan has become an industry standard for attracting investors (Brooks et al., 2014), and a brief pitch to introduce oneself is often the first step for job seekers at career fairs, interviews, and

networking events (e.g., Collamer, 2013). Questions such as “Tell me about yourself” or “Why should we hire you?” are also common in job interviews and make elevator pitches a formal part of many selection processes (SHRM, 2016a). Although concise, these pitches enable us to measure all the key elements of our theory: individuals’ attractiveness, nonverbal presence, and evaluation outcomes. The pitches in our study were designed to showcase candidates’ suitability for a fictional job, enabling evaluators to assess their hirability. We therefore predict that attractive individuals are evaluated as more hireable because their nonverbal presence is perceived as more effective (Hypothesis 1a), and that the reason why they are able to present themselves effectively through nonverbal displays is that they have a heightened sense of power (Hypothesis 1b):

**Hypothesis 1a.** Physical attractiveness is associated with better nonverbal presence, which in turn leads to higher ratings of hirability.

**Hypothesis 1b.** Physical attractiveness is associated with nonverbal presence via sense of power.

## 2.3 | Power posing and nonverbal presence

In Study 1, we test the notion that physical attractiveness is associated with power-induced nonverbal presence. Our theory is that attractive individuals have a more effective nonverbal presence because they feel more powerful than do less attractive individuals. In Study 2, we therefore use an intervention that has been shown to increase individuals’ sense of power, in an effort to bolster the effectiveness of their nonverbal presence. We adopt this approach, rather than alternatives such as explicitly teaching nonverbal communication skills, because it may have benefits beyond the immediate context (e.g., it might increase individuals’ confidence and ultimately contribute to enhanced social status), and because the difficulty of intentionally regulating one’s nonverbal cues implies that indirect interventions may be more effective than direct coaching (DePaulo, 1992).

In the interview literature, researchers have tested several interventions that candidates can adopt prior to a job interview to boost their sense of power and confidence or conquer nervousness and stress, all of which have been shown to improve interview performance (e.g., Latham & Budworth, 2006; Lammers et al., 2013). For example, individuals who recalled a personal experience of being powerful wrote a more persuasive cover letter and performed better in a face-to-face interview (Lammers et al., 2013). The intervention that has received the most popular attention is adopting a power pose: an expansive and open physical posture (Carney et al., 2010; Schubert, 2004). Research on embodied cognition suggests that bodily movement, such as facial display, posture, and head position, can affect self-perceptions (e.g., Borghi & Cimatti, 2010; Shapiro, 2010). For example, making a fist causes individuals to perceive themselves as more assertive and esteemed (Schubert & Koole, 2009), and lifting one’s head upward induces feelings of pride (Stepper & Strack, 1993). Therefore, physically acting in a powerful manner may change individuals’ perceptions of their own power and their subsequent behaviors. In one study conducted by Cuddy and coauthors (2015), power posing increased job candidates’ sense of power and improved their nonverbal presence during the interview, causing raters to perceive them as less awkward and more confident, captivating, and enthusiastic. Further research shows that the use of expansive and open postures can also influence others’ perceptions of an actor’s power and confidence. Studies investigating nonverbal cues and power (along with similar constructs, such as status, dominance, and leadership, etc.) have suggested that individuals who make more eye contact (Kleck & Nuessle, 1968), use more hand gestures (Burgoon & Le Poire, 1999), or adopt an expansive and open posture (Carney et al., 2005) are seen as more powerful, confident, and competent—perceptions that are valuable in influencing others.

In Study 2, then, we examine whether power posing can level the playing field for less attractive individuals. Specifically, we expect that unattractive individuals will gain more benefits from adopting a powerful posture than

will more attractive people, who may naturally exhibit a powerful and confident nonverbal presence. We propose that:

**Hypothesis 2.** The effect of a powerful posture on nonverbal presence is stronger for individuals with low (vs. high) levels of physical attractiveness.

### 3 | STUDY 1

#### 3.1 | Method

The data collection occurred from March 2015 to February 2016. The study was approved and monitored by the University of Florida Institutional Review Board (IRB) in compliance with ethical standards (# 2014-U-1408; "Influence Behaviors"). Participants—197 undergraduate and graduate business students from a large public university in the southeastern U.S.—were invited to enroll in a study entitled "Getting the Job," in which they would be asked to record a video elevator pitch as part of a simulated hiring process. Although university students often represent a convenience sample for researchers, they were a theoretically appropriate choice for this study. A growing number of companies are using asynchronous "video interviews"<sup>1</sup> in selecting interns or entry-level employees, who are typically current college students or recent graduates (e.g., Dietz, 2019; Harwell, 2019; Holmes, 2019; SHRM, 2016; Zielinski, 2012). Commonly, candidates are given a short time to prepare and one or two chances to record brief video responses (up to 3 min each) to one or more questions (e.g., HireVue, 2014a). One of the leading video interview platforms lists "Tell me a little about yourself" as one of its top five most common interview questions, suggesting that candidates are frequently asked to deliver a pitch as part of the video interview process (HireVue, 2014b). Our research design was therefore highly realistic for participants, many of whom either were applying for internships or jobs or intended to do so soon.

Following enrollment, participants completed an online survey in which we asked about their age, gender, and ethnicity. When participants arrived at the lab, they were told that the job they were applying for in the simulation was a leadership internship position at a Fortune 500 company. They were told that their task was to prepare a 3-min introduction for the hiring manager, which would be videotaped, and that their goal in the video was to convince the company that they were the right candidate for the position. (See Appendix for the interview prompt.) Each participant was assigned to a private room, where they completed a brief survey in which they reported their state sense of power and then were given 20 min to prepare for the interview. During the preparation period, participants were allowed to make notes and practice out loud, but they could not use their phones or seek any external help. When the time was up, a session assistant entered the room to set up the recording equipment—a web camera, a microphone, and a desktop computer equipped with recording software (Windows Movie Maker)—and then instructed the participant on how to use it. The participants faced the computer screen, where they saw their faces and upper-body. Once they were ready, they hit the recording button and started talking. The session assistant left the room during the recording and came back after 3 min to help stop the recording and save the video. Following the session, all participants received tailored feedback reports from the research team on their interview performance, including detailed suggestions on their speaking style and nonverbal presence. Undergraduate participants also received extra course credit for participation.

Ultimately, 21 participants were dropped from analysis: 12 participants due to computer or microphone malfunctions that rendered their videos unusable, and nine others for failing attention checks in the background survey (providing incorrect responses to items such as "Click 'strongly agree' for this question," as suggested by Meade & Craig, 2012). Thus, our final analyses are based on data from 176 participants. Their average age was 21 years; 52% were

male; and 56% identified themselves as White, 12% as Latino, 3% as Black, and 12% as Asian, with approximately 18% choosing not to disclose their race/ethnicity.

## 3.2 | Measures

### 3.2.1 | Attractiveness

Following previous studies (e.g., Bono et al., 2017; Griffin & Langlois, 2006), participants' attractiveness was rated by seven undergraduate research assistants, using a 5-point scale (1 = *very unattractive*, 3 = *average*, and 5 = *very attractive*). Each research assistant provided an independent attractiveness rating for each participant based on images in the video. The judgments were made quickly, with most of them in fewer than 25 s (median = 23, mode = 19). The seven ratings were then averaged to form a single attractiveness score for each participant. Intraclass correlations supported the aggregation of attractiveness ratings (ICC (1) = .45 and ICC (2) = .85).

### 3.2.2 | Nonverbal presence

Following Cuddy et al. (2015), participants' nonverbal presence was rated by a separate team of five trained undergraduate research assistants. Raters were asked to focus on the nonverbal aspects of the videos and assess the extent to which each participant's delivery was "confident," "enthusiastic," "captivating," and "awkward" (reverse-scored), using a scale from 1 = *not at all* to 7 = *extremely* ( $\alpha = .93$ ). The intraclass correlations supported the aggregation of ratings (ICC (1) = .50 and ICC (2) = .83).<sup>2</sup>

### 3.2.3 | Hirability

Participant hirability was rated by several managers with hiring experience, either as the sole decision maker or as a hiring committee member. We recruited 21 managers with such experience from Amazon MTurk, using a pre-screening survey in which we also asked a variety of questions about their managerial experience (e.g., current and highest job titles, level of organizational responsibility, number of direct reports, and years of experience). To help ensure that these raters did in fact have the required experience, we checked that their responses to these questions were consistent; all raters' answers appeared reasonable and cohesive. To protect participants' privacy and ensure that managers were taking the ratings seriously, raters were asked to complete confidentiality training and to sign a non-disclosure agreement before being given access to study materials. Managers were paid \$50.

Managers were randomly assigned to rate between 50 and 75 video pitches; each manager was assigned a unique randomized order in which to watch the videos, to reduce the potential for anchoring or contrast effects. Rating managers responded to three questions: (a) hirability ("How interested would you be in hiring this applicant?": 1 = *very uninterested* to 5 = *very interested*), (b) signing bonus ("If you made a hiring offer to this applicant, what bonus amount would you offer?": 0 = \$0, 1 = \$2000, 2 = \$4000, 3 = \$6000, 4 = \$8000) and (c) future performance ("How well do you think this applicant would do in this position?": 1 = *very poorly* to 5 = *very well*). Ratings of each question were aggregated (hirability: ICC (1) = .35 and ICC (2) = .77; signing bonus: ICC (1) = .21 and ICC (2) = .61; future performance: ICC (1) = .36 and ICC (2) = .77). These variables were highly correlated, ranging from .86 (for hirability and signing bonus) to .95 (for hirability and future performance). Therefore, we computed a composite variable by standardizing and averaging the three variables ( $\alpha = .96$ ).

### 3.2.4 | Sense of power

Participants' sense of power was measured before they began preparing their pitches, using the scale developed by Anderson et al. (2012). Participants indicated their agreement with eight items (1 = *strongly disagree* to 7 = *strongly agree*), such as "I can get people to listen to what I say," "I can get others to do what I want," and "I think I have a great deal of power." Items were averaged to form a sense of power score ( $\alpha = .85$ ).

## 4 | RESULTS

Means, standard deviations and correlations among key variables are reported in the last four rows of Table 1. Consistent with our expectations, attractiveness was correlated with sense of power ( $r = .17, p = .03$ ) and with nonverbal presence ( $r = .46, p = .00$ ); nonverbal presence was positively correlated with hirability ( $r = .74, p = .00$ ). We used a regression-based path analysis in Mplus 8.3 (Muthén & Muthén, 2019) to test the indirect effects of attractiveness on hirability via nonverbal presence (H1a), and on nonverbal presence via sense of power (H1b). We specified a model with simultaneous estimation of all associations.

Results of the hypothesized model are reported in Table 2. Hypothesis 1a predicted a positive association between physical attractiveness and hirability, mediated by nonverbal presence. As illustrated in Figure 1, physical attractiveness was associated with better nonverbal presence ( $B = .47, SE = .07, p = .00$ ), and nonverbal presence was associated with higher hirability ( $B = .86, SE = .06, p = .00$ ). We used a bootstrapping simulation with 20,000 replication (MacKinnon et al., 2004; Preacher et al., 2010) to estimate a confidence interval around our indirect effects (indirect effect = .40, 95% CI [.28, .54]). This effect was positive and significant, supporting Hypothesis 1a.

Hypothesis 1b proposed that attractiveness would be associated with nonverbal presence via sense of power; we used the same estimation techniques, with bootstrapped confidence intervals to test this hypothesis. As shown in Figure 1, physical attractiveness was associated with greater sense of power ( $B = .17, SE = .08, p = .04$ ), which predicted better nonverbal presence ( $B = .23, SE = .08, p = .01$ ). In addition, the indirect effect of attractiveness on nonverbal presence via sense of power was significant (indirect effect = .04, 95% CI [.01, .10]), supporting Hypothesis 1b. Moreover, because our hypotheses imply serial four-stage mediation (attractiveness→sense of power→nonverbal presence→hirability; Figure 1), we also tested this mediation model and found significant mediation (indirect effect = .03, 95% CI [.01, .09]).

### 4.1 | Supplemental analyses

#### 4.1.1 | Behavioral predictors of nonverbal presence

Although our choice of a macro (broad) perceptual variable to operationalize effective nonverbal communication was carefully considered, we nonetheless wanted to confirm that raters' perceptions of nonverbal presence had some basis in actual nonverbal behavior. Thus, a team of five undergraduate research assistants (distinct from the teams that coded attractiveness and nonverbal presence) was asked to rate the frequency with which participants used three specific nonverbal cues commonly studied in the interview literature (e.g., Gilmore & Ferris, 1989; Imada & Hakel, 1977; Stevens & Kristof, 1995). Raters coded smiling and eye contact (1 = *hardly at all*; 9 = *nearly all the time*), as well as participants' body expansiveness (1 = *very contractive*; 7 = *very expansive*; Cuddy et al., 2015); ICCs indicated a high degree of consistency among raters (ICC (1) ranged from .31 to .62; ICC (2) ranged from .69 to .89).

Correlations in Table 1 showed significant and positive associations between nonverbal presence and eye contact ( $r = .40, p = .00$ ), smiling ( $r = .39, p = .00$ ) and expansive body posture ( $r = .66, p = .00$ ). To examine the extent to which

TABLE 1 Means, standard deviations and intercorrelations among Study 1 variables

|                                              | M      | SD     | 1     | 2     | 3    | 4      | 5     | 6     | 7     | 8     | 9      | 10     | 11     | 12    |
|----------------------------------------------|--------|--------|-------|-------|------|--------|-------|-------|-------|-------|--------|--------|--------|-------|
| 1. Gender                                    | .48    | .50    | -     |       |      |        |       |       |       |       |        |        |        |       |
| 2. Black                                     | .03    | .18    | .05   | -     |      |        |       |       |       |       |        |        |        |       |
| 3. Latino                                    | .14    | .34    | .01   | -.07  | -    |        |       |       |       |       |        |        |        |       |
| 4. Asian                                     | .14    | .34    | .09   | -.07  | -.16 | -      |       |       |       |       |        |        |        |       |
| 5. Eye contact                               | 7.20   | 1.26   | .07   | -.03  | .07  | .06    | -     |       |       |       |        |        |        |       |
| 6. Smile                                     | 3.34   | 1.51   | .40** | .08   | -.08 | -.15   | .26** | -     |       |       |        |        |        |       |
| 7. Expansiveness                             | 4.07   | 0.80   | .05   | .01   | .06  | -.09   | .26** | .33** | -     |       |        |        |        |       |
| 8. Professional attire                       | 2.38   | 0.81   | .10   | .13   | -.06 | .32**  | .18*  | .07   | .07   | -     |        |        |        |       |
| 9. Self-promotion                            | 3.41   | 0.79   | .08   | .04   | .01  | .22**  | .06   | .01   | -.04  | .38** | -      |        |        |       |
| 10. Ingratiation                             | 0.67   | 0.75   | .03   | .12   | -.06 | -.13   | .00   | .19*  | .10   | -.15  | -.42** | -      |        |       |
| 11. Inspirational appeal                     | 1.22   | 0.80   | -.12  | .08   | -.08 | -.12   | .14   | .10   | .29** | -.09  | -.50** | .31**  | -      |       |
| 12. Rational persuasion                      | 2.54   | 0.87   | -.08  | -.04  | .12  | -.19*  | .20** | .02   | .19*  | .01   | .06    | -.28** | .00    | -     |
| 13. Word counts                              | 384.60 | 127.99 | -.08  | .09   | -.03 | -.14   | .27** | .09   | .41** | -.08  | -.06   | .07    | .41**  | .54** |
| 14. Clout                                    | 43.13  | 18.00  | -.07  | .14   | -.12 | -.03   | .03   | -.04  | .10   | .04   | -.25** | .08    | .11    | .27** |
| 15. Authentic                                | 66.33  | 18.58  | -.05  | -.19* | -.05 | -.16*  | -.01  | .05   | .14   | -.12  | .02    | -.01   | .19*   | .02   |
| 16. Informal language                        | 3.53   | 2.68   | -.03  | -.09  | .05  | .14    | -.11  | .00   | -.12  | .00   | .11    | -.04   | -.16*  | -.06  |
| 17. Working with others                      | 2.27   | 0.56   | .01   | .09   | -.01 | -.25** | .13   | .11   | .19*  | -.17* | -.02   | -.04   | .04    | .60** |
| 18. Self-management                          | 2.05   | 0.51   | -.05  | .04   | .11  | -.14   | .18*  | .00   | .10   | -.01  | .20**  | -.16*  | -.07   | .47** |
| 19. Problem-solving                          | 1.84   | 0.57   | -.07  | .06   | .02  | .14    | .09   | -.09  | .11   | .28** | .38**  | -.20** | -.24** | .44** |
| 20. Leadership experience                    | 2.07   | 0.78   | -.13  | .08   | .17* | -.24** | .17*  | .05   | .10   | -.07  | .08    | -.07   | -.05   | .54** |
| <b>Focal variables in hypothesized model</b> |        |        |       |       |      |        |       |       |       |       |        |        |        |       |
| 21. Attractiveness                           | 3.31   | 0.73   | .15*  | .03   | .08  | -.39** | .12   | .34** | .30** | -.16* | -.09   | .00    | .11    | .26** |
| 22. Sense of power                           | 5.23   | 0.75   | -.13  | -.06  | .00  | -.01   | .10   | -.01  | .13   | .02   | .04    | .11    | .07    | .13   |
| 23. Nonverbal presence                       | 5.24   | 0.80   | .07   | .09   | .02  | -.14   | .40** | .39** | .66** | .13   | .09    | .06    | .28**  | .35** |
| 24. Hirability                               | .00    | .97    | .08   | .15   | .07  | -.11   | .36** | .27** | .41** | .19*  | .12    | .02    | .17*   | .44** |

(Continues)

TABLE 1 (Continued)

|                                              | 13    | 14     | 15     | 16     | 17    | 18    | 19    | 20    | 21    | 22    | 23    | 24 |
|----------------------------------------------|-------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|----|
| 13. Word counts                              | -     |        |        |        |       |       |       |       |       |       |       |    |
| 14. Clout                                    | .18*  | -      |        |        |       |       |       |       |       |       |       |    |
| 15. Authentic                                | .16*  | -.48** | -      |        |       |       |       |       |       |       |       |    |
| 16. Informal language                        | -.17* | -.05   | -.20** | -      |       |       |       |       |       |       |       |    |
| 17. Working with others                      | .52** | .30**  | -.04   | -.19*  | -     |       |       |       |       |       |       |    |
| 18. Self-management                          | .44** | .08    | .13    | -.28** | .45** | -     |       |       |       |       |       |    |
| 19. Problem-solving                          | .40** | .14    | -.08   | -.07   | .27** | .45** | -     |       |       |       |       |    |
| 20. Leadership experience                    | .36** | .20**  | -.08   | -.10   | .56** | .60** | .40** | -     |       |       |       |    |
| <b>Focal variables in hypothesized model</b> |       |        |        |        |       |       |       |       |       |       |       |    |
| 21. Attractiveness                           | .29** | .01    | .15*   | -.20** | .35** | .24** | -.01  | .27** | -     |       |       |    |
| 22. Sense of power                           | .12   | .05    | .02    | .04    | .18*  | .01   | .04   | .15*  | .17*  | -     |       |    |
| 23. Nonverbal presence                       | .49** | .11    | .17*   | -.23** | .32** | .26** | .13   | .26** | .46** | .29** | -     |    |
| 24. Hirability                               | .52** | .10    | .10    | -.11   | .35** | .37** | .28** | .35** | .38** | .26** | .74** | -  |

Note. N = 155 for Black, Latino, and Asian, which represent dummy variables comparing them to White participants. N = 175 for sense of power. N = 176 for the rest of variables. Gender was dummy coded (0 = male and 1 = female).

\* $p < .05$ .

\*\* $p < .01$ .

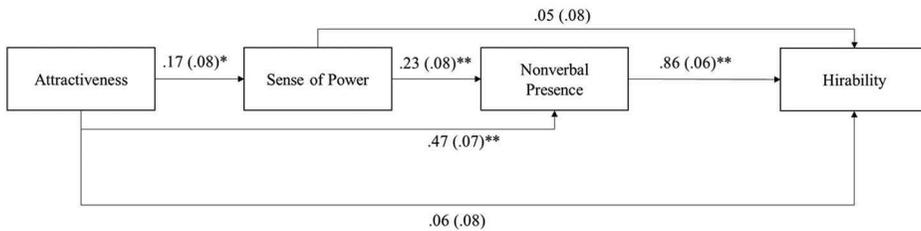
**TABLE 2** Study 1 unstandardized estimates of the hypothesized model

|                    | Sense of power |     |        |      | Nonverbal presence |     |        |      | Hirability |     |        |       |
|--------------------|----------------|-----|--------|------|--------------------|-----|--------|------|------------|-----|--------|-------|
|                    | B              | SE  | 95% CI |      | B                  | SE  | 95% CI |      | B          | SE  | 95% CI |       |
|                    |                |     | LL     | UL   |                    |     | LL     | UL   |            |     | LL     | UL    |
| Intercept          | 4.67**         | .27 | 4.13   | 5.19 | 2.49**             | .47 | 1.51   | 3.38 | -4.99**    | .43 | -5.80  | -4.13 |
| Attractiveness     | .17*           | .08 | .01    | .33  | .47**              | .07 | .32    | .61  | .06        | .08 | -.10   | .21   |
| Sense of power     |                |     |        |      | .23**              | .08 | .07    | .40  | .05        | .08 | -.10   | .20   |
| Nonverbal presence |                |     |        |      |                    |     |        |      | .86**      | .06 | .75    | .98   |
| R <sup>2</sup>     | 3%             |     |        |      | 26%                |     |        |      | 55%        |     |        |       |

Note. CI, confidence interval; LL, lower limit; UL, upper limit.

\* $p < .05$ .

\*\* $p < .01$ .

**FIGURE 1** Study 1 hypothesized model

Note. \* $p < .05$ . \*\* $p < .01$ . Coefficients are unstandardized and SEs are in parentheses.

these nonverbal behaviors mediated the association between attractiveness and nonverbal presence, we estimated a model in which attractiveness predicted nonverbal behaviors and sense of power, which in turn were associated with nonverbal presence. Results indicated that attractiveness was associated with observers' perceptions of nonverbal presence, both because of the expansive body posture attractive participants exhibited (indirect effect = .16, 95% CI [.09, .24]) and the sense of power they felt (indirect effect = .03, 95% CI [.01, .08]). These findings demonstrate that observers' perceptions of nonverbal presence were rooted in both participants' behaviors and their underlying psychological states.

#### 4.1.2 | Content

Based on reviewer suggestions, we re-estimated the hypothesized model controlling for substantive content of the pitches. To clearly distinguish verbal content from nonverbal presence, we coded transcripts of the pitches in three ways. First, we recruited a team of eight undergraduate research assistants (distinct from previous coding teams), who rated the extent to which participants used each of four influence tactics previously linked to work outcomes (self-promotion, ingratiation, inspirational appeals, and rational persuasion; e.g., Higgins et al., 2003), using a codebook with definitions of each tactic and a scale ranging from 0 = *never* to 5 = *very strongly*. ICCs supported aggregation of ratings (ICC (1) ranged from .20 to .57; ICC (2) ranged from .66 to .91). Second, we conducted content analysis using Linguistic Inquiry and Word Count (LIWC) software (Pennebaker et al., 2015). LIWC includes dozens of dictionaries, but we focused on four with potential theoretical or practical relevance: word counts (as an indicator of the volume of speech), "clout" (which assesses the frequency of words that express certainty and authority, as a proxy for displays of influence and power; Kacewicz et al., 2014; Lanaj et al., 2019), "authenticity" (which encompasses more self-referring words,

fewer negative emotion words, and more markers of cognitive complexity, as a proxy for confidence; Newman et al., 2003), and “informal language” (which assesses filler words and nonfluencies, as a proxy for low confidence). LIWC calculates the percentage of a participant’s total words that correspond to each category, allowing for quantitative analysis of verbal content.

We ran a mediation model in which attractiveness was associated with sense of power, which predicted nonverbal presence and verbal content simultaneously, both of which in turn predicted hirability. Results showed that attractive individuals used more words, more “authentic” words, and less informal language. They also used more rational persuasion. Although verbal content (i.e., rational persuasion and word count) partially mediated the effect of attractiveness on hirability (95% CI [.01, .12] and [.01, .14], respectively), the results of the hypothesized mediation model remained significant (H1a: indirect effect = .35, 95% CI [.24, .47]; H1b: indirect effect = .04, 95% CI [.01, .10]; total model indirect effect = .03, 95% CI [.01, .08]), supporting the unique and robust effects of nonverbal presence.

Third, we coded and controlled for the job-related content of the transcripts. According to the Corporate Recruiters Survey (2018) and the National Association of Colleges and Employers (2021), the top competencies and skills U.S. companies seek in college graduates are “working with others,” “self-management,” “problem-solving,” and “leadership experience.” Therefore, we had seven undergraduate research assistants read the transcripts and rate them on the extent to which each participant discussed having these competencies. We provided them with detailed descriptions of the four competencies and a behaviorally anchored rating scale for each (e.g., for problem-solving, 1 = *needs improvement or could not be determined*: “Lower than typical for a college student: evidence that the candidate may become easily overwhelmed by problems or may fail to recognize them when they arise; may have trouble identifying or acting on potential solutions without substantial support from others” to 4 = *excellent*: “Diagnoses and solves highly difficult or complex challenges (e.g., resolving a crisis in an organization); systematically gathers a range of information and perspectives to analyze problems; makes prudent judgments; demonstrates strong critical thinking skills and anticipates potential risks and consequences of decisions; can adapt solutions as circumstances change”; see the online supplement for the full set of BARS). We added the competencies and skills discussed in the pitches to the hypothesized model as controls. Although the main effect of problem-solving on hirability was significant ( $B = .21, SE = .08, p = .01$ ), the hypothesized results remained unchanged (H1a: indirect effect = .32, 95% CI [.21, .46]; H1b: indirect effect = .04, 95% CI [.01, .10]; total model indirect effect = .03, 95% CI [.01, .08]). Finally, we estimated a model that included all these speech-content-related controls simultaneously (LIWC word frequency analyses, influence tactics, and job-related competencies and skills), with no change in our hypothesized results.

### 4.1.3 | Gender and race/ethnicity

Because prior research has shown that attractiveness may have differential effects for men and women (e.g., Feingold, 1990; Marlowe et al., 1996) and that attractiveness judgments may be biased based on race and/or ethnicity (e.g., Coetsee et al., 2014), we tested whether gender or race/ethnicity moderated the effects of attractiveness on ratings of sense of power (direct effect), nonverbal presence (direct effect) or hirability (indirect effect). Gender (0 = male and 1 = female) moderated the effect of attractiveness on nonverbal presence ( $B = -.35, SE = .15, p = .02$ ), but not on sense of power ( $B = .05, SE = .17, p = .77$ ). The association between attractiveness and nonverbal presence was significant for both genders, but it was stronger for males (simple slope = .63,  $SE = .10, p = .00$ ; indirect effect = .57, 95% CI [.40, .77]) than for females (simple slope = .28,  $SE = .11, p = .01$ ; indirect effect = .21, 95% CI [.04, .38]). To account for the possibility that highly attractive female candidates might be seen as less hireable (Paustian-Underdahl & Walker, 2016), we also tested for curvilinear effects of attractiveness on sense of power (direct effect), nonverbal presence (direct effect) and hirability (indirect effect) for female applicants; the results were not significant. For race/ethnicity, we created three dummy variables for Black, Latino, or Asian participants (comparing each to White participants) and entered them simultaneously into two separate regression models to test whether membership in any of these categories

moderated the relationship between (a) attractiveness and nonverbal presence, and (b) attractiveness and sense of power. We found no significant direct or moderating effects (i.e., the three interaction terms).

## 4.2 | Study 1 discussion

In Study 1, we found that attractive individuals were perceived as more hireable in part because of their stronger nonverbal presence, which was itself driven by their heightened sense of power and more effective nonverbal behaviors. These results held even when controlling for specific behaviors (e.g., expansive body posture) and verbal content (e.g., rational persuasion, word volume, and discussion of job-related competencies). The goal of our second study was to test whether an intervention could level the playing field for less attractive applicants. Because of the relative difficulty of regulating one's nonverbal cues (DePaulo, 1992), we employed an intervention designed to enhance participants' nonverbal presence indirectly by increasing their sense of power and confidence. Specifically, we examined whether a power posing intervention might have stronger benefits for less attractive applicants than for their highly attractive counterparts.

## 5 | STUDY 2

### 5.1 | Method

Study 2 procedures replicated those of Study 1, with the addition of a "power posing" manipulation shown in previous studies to influence participants' subjective feelings of power (p-curve analysis, Cuddy et al., 2018; meta-analysis, Gronau et al., 2017). Past power posing studies have frequently compared a powerful pose to a powerless pose, with no neutral condition (e.g., Carney et al., 2010; Cuddy et al., 2015). This poses a problem for two reasons. First, it makes it impossible to determine whether results are due to the positive effects of an expansive powerful posture or the negative effects of a contractive, powerless posture (Credé, 2019). Second, it is unrealistic: it is highly unlikely that anyone would practice powerless poses in preparation for a pitch designed to influence others. Therefore, we added a neutral control condition to reflect our interest in comparing participants' natural postures to power posing. We tested our hypotheses with the two realistic conditions (i.e., power pose and neutral); however, we also tested the powerless pose condition for the sake of consistency with prior research.<sup>3</sup>

Upon arrival, participants were randomly assigned to one of three conditions: a power posing condition, a powerless posing condition, or a neutral condition with no intervention. Participants were told that the research was about physical motion and interview performance, and so they might be asked to try out a physical position while preparing their 3-min video attempting to convince the recruiter that they were the best person for the job. After the manipulation, participants recorded their pitches normally.<sup>4</sup> Based on the preparation time used by participants in Study 1, participants in Study 2 were given 5 min to prepare.

The data collection occurred from September 2016 to April 2017. Participants ( $N = 160$ ) were undergraduate management students at a large public university in the southeastern U.S. About three-quarters (77%) of participants received extra credit in a management course in exchange for participating (University of Florida, IRB Protocol: # 2014-U-1408 "Influence Behaviors"). The rest (23%) were enrolled in the first author's Human Resource Management class and completed the study activities as one of their course assignments. Once they finished the session, they were asked whether they consented to their data being used for research purposes (University of Florida, IRB Protocol: # 201601616 "Interview Behaviors"). Whether or not they agreed did not influence their grades in any way; only data from students who consented are included in our analyses. Thirteen participants were dropped from analysis because their videos were not recorded or saved successfully. We also dropped 23 individuals who reported being familiar with either the research on power posing or with Cuddy's TED Talk (Cuddy, 2012) about power posing, due to concerns that

the inclusion of such participants might improperly inflate estimates of the intervention's effects (Gronau et al., 2017). Thus, our final analyses were based on data from 124 participants: 43 in the powerful condition, 40 in the neutral condition, and 41 in the powerless condition. Participants' average age was 20 years; 36% were male; 42% identified themselves as White, 21% as Latino, 2% as Black, 2% as Asian, with approximately 33% choosing not to disclose their race/ethnicity.

## 5.2 | Manipulations

Following the procedure used by Cuddy et al. (2015), in the powerful condition, participants were instructed to adopt an expansive and open standing pose while they prepared for their pitch. Each participant was shown a picture of a powerful posture and told to stand with their feet shoulder-width apart, hands on their hips, chest out, and chin up. The session assistant demonstrated the correct pose, and if needed, adjusted the participants' posture by lightly touching their head and arms (with their consent). Once the participant adopted the pose correctly, the session assistant left the room briefly to give the participant time to get used to the pose. Similarly, in the powerless posing condition, each participant was shown the powerless pose picture (a contractive and closed standing pose; Cuddy et al., 2015) and instructed to adopt the same pose by standing with their left ankle crossed over their right ankle, arms crossed over their body, shoulders inward, and chin slightly down. The session assistant returned after 1 min and observed the participant to ensure that they remained in the pose throughout the preparation period. Participants in the neutral condition were simply given 5 min to prepare, with the same instructions as in Study 1. After the preparation period, participants were no longer required to hold their assigned poses and were able to move freely while recording their videos.

## 5.3 | Measures

As our primary interest was in comparing a powerful posture with a natural posture, we created a dummy variable for posture, with the powerful condition coded as "1" and the natural condition coded as "0". We measured attractiveness (ICC (1) = .60 and ICC (2) = .85), nonverbal presence (ICC (1) = .66 and ICC (2) = .88;  $\alpha = .94$ ) and hirability (hirability: ICC (1) = .24 and ICC (2) = .66; signing bonus: ICC (1) = .14 and ICC (2) = .50; future performance: ICC (1) = .29 and ICC (2) = .71;  $\alpha = .94$  for the composite) as in Study 1, all with independent and unique coding teams: Attractiveness and nonverbal presence were evaluated by two research assistant teams, and hirability ratings were provided by MTurk managers.

## 6 | RESULTS

Means, standard deviations, and correlations among study variables are reported in Table 3. Following the same analytical approaches as in Study 1, we tested our hypothesis—that power posing would have stronger effects for less attractive people—using Mplus 8.3 (Muthén & Muthén, 2019). Results of the hypothesized model are reported in Table 4. As shown in Figure 2, the interaction between a powerful physical posture and attractiveness was significant ( $B = -.54, SE = .26, p = .04$ ). Furthermore, the results of simple slope tests showed that the association between physical posture and nonverbal presence was positive and significant for individuals who had a low level of attractiveness (i.e., 1 SD below the mean;  $B = .62, SE = .28, p = .03$ ), but not for individuals with high attractiveness (i.e., 1 SD above the mean;  $B = -.10, SE = .25, p = .69$ ; see Figure 3), supporting Hypothesis 2. As illustrated in Figure 4, the effect of physical posture compensated for the negative effect of unattractiveness on nonverbal presence. That is, the nonverbal presence of less attractive individuals in the powerful pose condition was equivalent to the nonverbal presence of attractive individuals in the neutral condition ( $M_{unattractiveness \times powerful} = 5.34$  and  $M_{attractiveness \times neutral} = 5.19$ ,

**TABLE 3** Means, standard deviations and intercorrelations among study 2 variables

|                                              | Mean   | SD     | 1    | 2     | 3     | 4    | 5     | 6     | 7     | 8     | 9    | 10  | 11    |
|----------------------------------------------|--------|--------|------|-------|-------|------|-------|-------|-------|-------|------|-----|-------|
| 1. Gender                                    | .66    | .48    | -    |       |       |      |       |       |       |       |      |     |       |
| 2. Word count                                | 381.40 | 127.80 | -.11 | -     |       |      |       |       |       |       |      |     |       |
| 3. Rational persuasion                       | 2.70   | .63    | .06  | .63** | -     |      |       |       |       |       |      |     |       |
| 4. Professional attire                       | 1.86   | .54    | .00  | .13   | .07   | -    |       |       |       |       |      |     |       |
| 5. Working with others                       | 2.33   | .53    | .01  | .58** | .59** | .04  | -     |       |       |       |      |     |       |
| 6. Self-management                           | 2.06   | .50    | -.03 | .41** | .37** | .01  | .45** | -     |       |       |      |     |       |
| 7. Problem-solving                           | 1.70   | .50    | .01  | .44** | .55** | -.06 | .43** | .45** | -     |       |      |     |       |
| 8. Leadership experience                     | 2.02   | .72    | -.10 | .34** | .50** | .06  | .49** | .69** | .56** | -     |      |     |       |
| <b>Focal variables in hypothesized model</b> |        |        |      |       |       |      |       |       |       |       |      |     |       |
| 9. Attractiveness                            | 3.35   | .66    | .17  | -.03  | -.04  | -.04 | .04   | -.04  | .04   | .04   | -    |     |       |
| 10. Power Posing (vs. Neutral)               | .52    | .50    | -.03 | .07   | .12   | -.03 | .13   | -.06  | -.09  | -.05  | -.16 | -   |       |
| 11. Nonverbal Presence                       | 5.12   | .89    | .07  | .55** | .46** | .11  | .50** | .35** | .33** | .26*  | .04  | .14 | -     |
| 12. Hirability                               | .16    | .94    | .00  | .54** | .54** | .15  | .42** | .54** | .53** | .44** | .11  | .01 | .68** |

Note.  $N = 83$  (Only Powerful and Neutral conditions are included). Gender was dummy coded (0 = male and 1 = female).

\* $p < .05$ .

\*\* $p < .01$ .

**TABLE 4** Study 2 unstandardized estimates of the hypothesized model

|                                   | Nonverbal presence |     |        |      | Hirability |     |        |       |
|-----------------------------------|--------------------|-----|--------|------|------------|-----|--------|-------|
|                                   | B                  | SE  | 95% CI |      | B          | SE  | 95% CI |       |
|                                   |                    |     | LL     | UL   |            |     | LL     | UL    |
| Intercept                         | 4.96**             | .16 | 4.65   | 5.26 | -3.50**    | .38 | -4.22  | -2.74 |
| Attractiveness                    | .35                | .20 | -.04   | .76  | .10        | .10 | -.10   | .30   |
| Powerful posture                  | .26                | .20 | -.14   | .65  | -.14       | .15 | -.44   | .16   |
| Attractiveness X Powerful posture | -.54*              | .26 | -1.05  | -.04 |            |     |        |       |
| Nonverbal presence                |                    |     |        |      | .73**      | .08 | .57    | .88   |
| $R^2$                             | 6%                 |     |        |      | 48%        |     |        |       |

Note. CI, confidence interval; LL, lower limit; UL, upper limit.

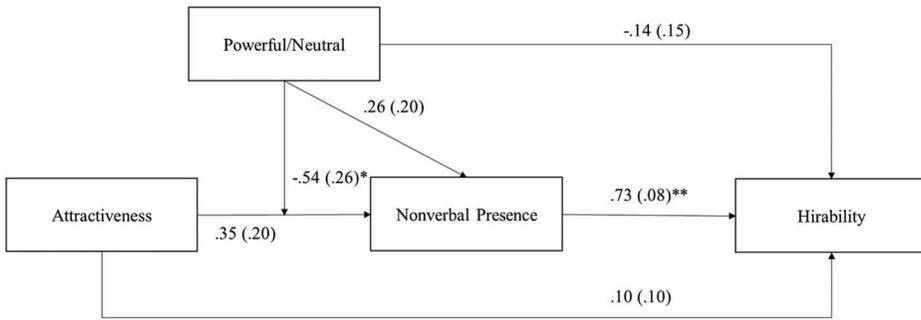
\* $p < .05$ .

\*\* $p < .01$ .

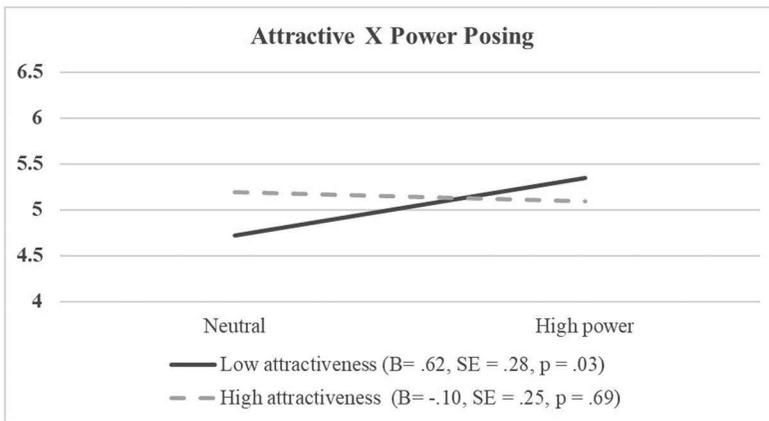
respectively). As expected, an effective nonverbal presence was associated with higher hirability ratings ( $B = .73$ ,  $SE = .08$ ,  $p = .00$ ).

## 6.1 | Supplemental analyses

In Study 1, we found a stronger association between attractiveness and nonverbal presence for men than women. Therefore, we tested also for differences in the efficacy of our Study 2 intervention for men and women. The two-way



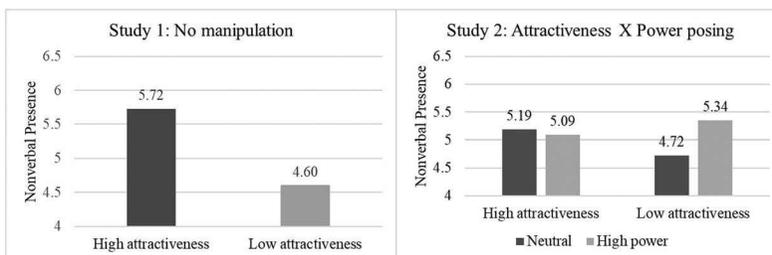
**FIGURE 2** Study 2 hypothesized model  
 Note. \* $p < .05$ . \*\* $p < .01$ . Coefficients are unstandardized and SEs are in parentheses.



**FIGURE 3** Study 2 interactions between attractive and powerful posture predicting nonverbal presence

interactions were non-significant (attractiveness X powerful posture:  $B = -.80, SE = .68, p = .24$ , powerful posture X gender:  $B = -.58, SE = .49, p = .23$ ; attractiveness X gender:  $B = -.48, SE = .63, p = .45$ ). The three-way interaction (i.e., attractiveness X powerful posture X gender) was also not significant ( $B = .30, SE = .75, p = .69$ ), suggesting that men and women benefitted equally from our power posture intervention.

We also tested whether our results held when controlling for content of the pitches. First, we focused on rational persuasion and word count, as they were found to partially mediate the association between attractiveness and hirability in Study 1. We added rational persuasion and word count as the mediators in the hypothesized model (attractiveness → three mediators: nonverbal presence, rational persuasion, and word count → hirability) and tested whether



**FIGURE 4** Study 1 and Study 2 nonverbal presence ratings for more and less attractive participants

powerful posture moderated their effects as well. The interaction terms (attractiveness X powerful posture) were not significant for rational persuasion ( $B = -.03, SE = .19, p = .86$ ) or word count ( $B = -14.02, SE = 40.68, p = .73$ ), providing no evidence that our posture intervention affected these aspects of verbal communication. More important, our hypothesized associations (Hypothesis 2) remained significant even when controlling for verbal content; the interaction between a powerful physical posture and attractiveness on nonverbal presence was significant ( $B = -.54, SE = .26, p = .04$ ). We also controlled for job-related content of the pitches with no change in hypothesized results (H2:  $B = -.73, SE = .27, p = .01$ ) though some competencies were associated with nonverbal presence (working with other:  $B = .73, SE = .20, p = .00$ ; problem-solving:  $B = .42, SE = .21, p = .05$ ) and hirability (self-management:  $B = .51, SE = .23, p = .03$ ; problem-solving:  $B = .47, SE = .15, p = .00$ ). Finally, as in Study 1, we estimated a model that included all of the speech content-related controls simultaneously (job-related content, rational persuasion, and word volume) and found no change in our results (H2:  $B = -.62, SE = .27, p = .02$ ).<sup>5</sup>

## 7 | DISCUSSION

The primary goal of our research was to examine whether the benefits of attractiveness in organizational evaluations primarily represent society's bias toward beauty, or whether attractive people excel in these situations partly because they are more effective communicators. This is an important question, as the capabilities that help attractive individuals get ahead in evaluation processes such as selection may very well be the same ones that enable them to excel in their work roles. Our results suggest that at least some of the effects commonly attributed to bias can be explained by performance-relevant behaviors. Specifically, we found that due to their higher sense of power and successful use of nonverbal cues, attractive individuals were perceived as exhibiting a more effective nonverbal presence, which increased managers' judgments of their hirability. Moreover, we demonstrated that it may be possible for less attractive job-seekers to level the playing field with an intervention designed to enhance their nonverbal presence.

### 7.1 | Theoretical and practical implications

Our study extends existing theory on biases in social judgment and decision making by answering challenges to distinguish sources of bias in the evaluation process from valid predictors (e.g., Swider et al., 2016). Initial impressions—which encompass attractiveness and other salient physical characteristics, as well as verbal and nonverbal communication in the opening moments of an encounter—are a critical predictor of organizational outcomes such as hiring (Barrick et al., 2010), investment decisions (e.g., Parhankangas et al., 2015), and evaluation of sales effectiveness (e.g., Ambady et al., 2006). Although researchers often treat the content of these impressions as a contaminant that introduces confirmation bias and threatens decision-making validity (e.g., Levashina et al., 2014), some studies have shown that individuals are actually fairly accurate when they make judgments based on thin slices of data (e.g., Ambady et al., 2000; Kraus & Keltner, 2009). In the selection literature, there is growing recognition that the impressions evaluators glean through brief interactions capture meaningful aspects of interview performance (Swider et al., 2016). We contribute new insight to this line of research by highlighting the ways in which seemingly irrelevant aspects of initial impressions (like those formed during a short elevator pitch) may in fact be proxies for meaningful cues about an individual's ability or potential to perform well in the work role. More broadly, our findings shed additional light on possible sources of the "beauty premium" and of attractive individuals' greater career success.

In addition, this research contributes to the literature on bias in selection by showing that a brief intervention developed for broad use in the general population (power posing) may be especially beneficial for socially disadvantaged individuals, whose interview prospects are likely to be hindered rather than boosted by evaluators' initial impressions. A power posing intervention enabled less attractive individuals to achieve ratings of nonverbal presence that were equivalent to those earned by their more attractive counterparts, even though attractive individuals had the

benefit of a lifetime of positive socialization. To be clear, the recommendation implied by this study—that less attractive individuals should employ interventions that boost their feelings of power and confidence and change their nonverbal presence—is not an all-encompassing solution for bias. Indeed, it is problematic in that it places the burden of overcoming societal bias on marginalized individuals themselves (Kim et al., 2018). It is also not at all certain that such an intervention would be effective in the context of organizational decisions in which evaluators have more information about, and a preexisting work relationship with, targets (e.g., promotions). Nonetheless, our results suggest new and potentially empowering lines of inquiry on ways individuals with visible sources of social disadvantage can exercise agency in creating positive first impressions in social evaluation situations. There is evidence from the mental health literature that sense of power may counteract internalized stigma (Campellone et al., 2014; Corrigan & Calabrese, 2005), and a growing interest in power interventions in the management literature (Lammers et al., 2013), but little research that combines the two streams to explore how individuals who experience bias due to their appearances might make use of these interventions.

Our findings also offer new insight on the debate surrounding power posing research (e.g., Cesario et al., 2017). In Study 2, power posing enhanced nonverbal presence for individuals who were rated as low in physical attractiveness, but not their highly attractive counterparts. These results imply that one possible explanation for the mixed findings on the effects of power posing is that it may *not* be effective for everyone; rather, it may work best for individuals who commonly experience negative social reactions from others, or who lack confidence in interpersonal situations. Future research might examine whether other individual differences—particularly those that are salient to evaluators in an interview context—moderate the efficacy of this much-discussed intervention.

Finally, although our results provide evidence that attractive individuals' success in selection processes may not be solely due to direct instances of bias, it is clear from previous research that bias does play a role in the outcomes they receive (e.g., Busetta et al., 2013). Our study therefore raises the important question of how organizations should respond to attractiveness bias. Artificial intelligence has been proposed as a possible solution (Chamorro-Premuzic, 2013), and indeed, AI-based software such as HireVue is already being used to analyze and quantify the effectiveness of applicants' nonverbal behavior (among other cues) during video interviews. In theory, this approach could help to reduce bias, both by making it possible for companies to screen many more candidates than would be possible with traditional interviews (e.g., Holmes, 2019) and by enabling them to separate "signal" (applicants' nonverbal presence) from "noise" (attractiveness). In practice, however, it is not without potential pitfalls. AIs often have a deeply problematic tendency to replicate human biases (e.g., assigning higher attractiveness ratings to photos of White women than to those of women of color; Levin, 2016), which firms must recognize and actively work to correct when using predictive analytics.

However, the fundamental question at hand may be even broader: Despite growing momentum behind concerns about attractiveness bias, its potential role as a Trojan horse in discriminating against legally protected classes such as older workers, and the rights of organizations to require "aesthetic labor" from their employees (Mahajan, 2007; Warhurst et al., 2009), society has not yet reached a consensus as whether such bias represents a problem to begin with. Commentators have argued that there are situations in which attractiveness itself—distinct from the interpersonal skills it facilitates—may be a valid job-relevant characteristic, whether directly (as in the case of cosmetics salespeople, who are expected to display an attractive appearance to demonstrate their products) or indirectly (as in the case of executives, whose attractiveness elicits more trust from others; Miller, 2011). No one study can provide a definitive answer to these questions, but we hope this research contributes to the larger conversation about how organizations can make just and accurate personnel decisions (e.g., Nault et al., 2020).

## 7.2 | Limitations and future research

Despite its strengths and contributions, our study is not without limitations. One is that our theory predicts that because having a strong nonverbal presence is beneficial in a broad variety of organizational contexts, it should

contribute to attractive individuals' success in an equally broad range of work-related evaluations. As an initial test of this theory, our study focused on a simulated selection context, in which participants' pitches were the only source of information available for use in managers' judgments. Such zero-acquaintance evaluations are worth studying, given that they also occur in real-world settings (e.g., entrepreneurial pitch competitions; Kanze et al., 2018). However, other evaluations, such as decisions about pay and promotions, commonly involve longstanding relationships between managers and employees, and much more individuating information about candidates is available. Prior meta-analytic evidence makes clear that the effects of attractiveness persist even in these information-rich situations (Hosoda et al., 2003), but it is less clear that our powerful posture intervention could be used to offset them. Two related challenges for future research, then, are (a) to unpack the role played by nonverbal presence in information-rich organizational evaluations, and (b) to test a variety of interventions aimed at enhancing nonverbal presence in individuals who lack appearance advantages.

A related concern is that our study focuses on a self-presentational pitch. Similar pitches often take place in the initial minutes of a job interview (e.g., in response to a request to "tell me about yourself" or "tell me why you want this job"; SHRM, 2016a). However, in a selection interview, this pitch is typically followed by questions designed to collect more concrete information about the candidate's job-relevant qualifications. The question, then, is whether our findings would hold in an interview setting (particularly a structured one), or whether they uniquely occur in the context of a pitch in which evaluators have limited information about candidates' experience and competencies. Previous research offers some support for the former possibility. For example, Swider and coauthors (2016) asked interviewers to rate job candidates' competence after a few minutes of small talk and then again after 12 job-specific structured questions. They found that candidates who successfully made a positive impression during the small talk received higher scores overall than those who did not—even if they did equally well in the structured portion of the interview. This suggests that our findings on elevator pitches may generalize to two-way interviews, even structured ones. However, further research is needed to establish whether this is in fact the case.

Another methodological limitation is that our sample consisted of U.S. graduate and undergraduate students who recorded one-way videos. Although we argue that the combination of sample and method was theoretically appropriate, given that organizations are increasingly using similar selection methods among the same and similar student populations (Dietz, 2019; Harwell, 2019; Holmes, 2019; SHRM, 2016b; Zielinski, 2012), it nonetheless represents a limited view of the selection process. In particular, the students in our sample had relatively little work experience, making it more difficult to differentiate them based on their accomplishments. Furthermore, our participants' average age was 20–21 years old, which may raise concerns about range restriction and generalizability. Although prior literature supports the relationship between attractiveness and job-related outcomes in both student and professional samples of various age ranges (e.g., Hosoda et al., 2003; Judge et al., 2009; Scholz & Sicinski, 2015), replicating our specific findings with samples in other age groups could be an interesting direction for future research.

In addition, the use of unidirectional video both constrains the informational cues available to evaluators (Levashina et al., 2014) and eliminates the impact of interviewers' characteristics on interviewees' behaviors (Latu & Mast, 2016). On one hand, since video communication constrains viewable space and only presents two dimensions rather than three (Daft & Lengel, 1986; Fletcher & Major, 2006), the effects of attractiveness and nonverbal presence we observed in our study might become stronger in a face-to-face setting, given the increased richness of the cues. On the other hand, as noted above, our research design may have served to strengthen the effect of attractiveness on hirability judgments by limiting the information available to both managers and candidates. If either of these possibilities is true of our study, though, it may also be true of real-world "video interviews" and pitches. This highlights the need not only to replicate our findings in other contexts, but to further study the implications of the use of asynchronous videos in selection. This work is especially important in light of the COVID-19 pandemic, which has accelerated organizations' use of virtual selection methods (Maurer, 2020).

Another potential methodological limitation is that we recruited managers from Amazon MTurk to evaluate participants' pitches and provide ratings of hirability. Reports have shown that compared to average U.S. working adults, MTurkers are relatively young and tend to have lower levels of income (e.g., Hitlin, 2016; Ross et al., 2009),

which suggests that the managers in our study may be concentrated in relatively low-paying fields (e.g., retail or fast food). Given evidence that the benefits of attractiveness occur in both student and professional contexts, across many different occupations (Hosoda et al., 2003), and among both experienced and inexperienced managers (Marlowe et al., 1996), this is unlikely to hinder the validity of our results. Moreover, given that our participants were college students, managers of entry-level jobs represent an appropriate choice as evaluators. However, future research could help to define possible boundary conditions of our findings by testing them in different industries and at different job levels. One fruitful possibility might be to contrast settings where nonverbal presence is more versus less job-relevant.

Lastly, more work remains to be done in accounting for the role of gender and race/ethnicity in the relationship between attractiveness and nonverbal presence in interviews. In the Study 1 supplemental analyses, we found that the gap in nonverbal presence between low- and high-attractiveness men was larger than that between low- and high-attractiveness women (and that backlash against highly attractive women did not account for this). On average, the low-attractiveness men were rated as less attractive than the low-attractiveness women ( $M_{\text{Male}} = 3.20$ ,  $SD_{\text{Male}} = .72$ ;  $M_{\text{Female}} = 3.43$ ,  $SD_{\text{Female}} = .72$ ), so one possibility is that the lower attractiveness “floor” for men in our sample was associated with a larger gap in nonverbal presence. Another possibility is that evaluators may hold men to a higher standard for confident self-presentation, particularly in traditionally male-typed jobs such as management (Guillén et al., 2017), and that this may have led to especially low assessments of nonverbal presence for men who failed to project the expected level of self-assurance. The Study 2 results showed that the power intervention benefited low-attractiveness men and women equally; taken together with the Study 1 findings, this suggests that less attractive men might be especially in need of support to improve their nonverbal presence. However, this is somewhat surprising in light of prior evidence that women engage in fewer power displays than men during interviews (e.g., Dovidio et al., 1988), which suggests that they might be expected to reap larger benefits from adopting a powerful nonverbal presence.

Our finding that participants’ race/ethnicity neither moderated the effect of attractiveness on sense of power or nonverbal presence, nor had a direct effect on ratings of nonverbal presence, was similarly counterintuitive given the evidence that observers evaluate nonverbal behaviors differently depending on the actor’s race (Katsumi et al., 2017). One possible explanation is that the number of Asian, Black, and Latino participants in our sample was relatively low, making it difficult to find effects based on group membership. Clearly, there is much yet to be learned about how attractiveness, race, ethnicity and gender affect nonverbal presence and displays of power.

## 8 | CONCLUSION

Considered as a whole, our research demonstrates that direct bias does not fully account for attractive individuals’ success in work settings, as we observed significant differences in both sense of power and self-presentation of individuals who were high and low in attractiveness. Moreover, when less attractive individuals engaged in a powerful posture intervention, their nonverbal presence rose to the level of their highly attractive counterparts. Thus, our study provides a nuanced explanation for the associations between physical attractiveness and career success, as well as a potential remedy for individuals who lack the advantages of attractiveness.

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### DATA AVAILABILITY STATEMENT

Due to IRB restrictions, the data are not publicly available. The data that support the findings of this study are available from the first author upon reasonable request.

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## ENDNOTES

- <sup>1</sup> Because these recordings do not involve two-way, real-time interaction between the candidate and evaluator[s], they do not represent true interviews as they are typically conceptualized in the research literature. However, we use the term “video interview” because it is a term widely used by practitioners to describe pre-recorded video pitches like the ones in our study.
- <sup>2</sup> Based on a reviewer’s suggestion, we conducted a post hoc validity study, to verify that hiring managers and undergraduate students rate nonverbal presence similarly. We randomly selected 50 videos and recruited 12 Amazon MTurk workers with managerial and hiring experience. Each worker rated the nonverbal presence of 25 participants and was paid \$20. Each of the 50 randomly selected videos were rated by six MTurk workers in unique randomized orders. To ensure that MTurk workers were honest about their information, we took several steps: First, we did not tell the participants the qualifications for the study; second, along with the screening questions on managerial and hiring experience, we included different types of questions such as demographics (e.g., gender and age), educational background, and work experience, so it was not clear to the participants what we were actually looking for. Intraclass correlations support the aggregation of these ratings to a single score for each participant ( $ICC(1) = .72$ ;  $ICC(2) = .94$ ). Moreover, the ratings provided by managers with hiring experience were highly correlated with those provided by undergraduate students ( $r = .94$ ,  $p = .00$ ), supporting the validity of our original measurement of nonverbal presence.
- <sup>3</sup> In an effort to replicate previous studies, and in the context of ongoing debate about the power posing paradigm, we included a powerless pose condition as well, for supplemental analysis. Considering only powerful and powerless posing conditions, we found that physical posture had a positive indirect effect on hirability via nonverbal presence (indirect effect = .27, 95% CI = [.02, .52]), replicating Cuddy et al.’s (2015, p. 1292) results. We further tested the same mediation model (physical posture → nonverbal presence → hirability) using all three conditions (powerless = -1, neutral = 0, and powerful condition = 1) and again replicated the results (indirect effect = .14, 95% CI = [.01, .26]).
- <sup>4</sup> Following the procedure used by Cuddy et al. (2015), after the manipulation, participants were told that they could stand however they like when they recorded their pitches. Although standing is rare in interviews and may have artificially focused participants’ attention on their poses, it is quite common for individuals to stand during other forms of self-presentation, such as those in entrepreneurial funding pitches. Moreover, because all but two participants in both conditions were standing, any effect of standing vs. sitting (which we could not test because only two people sat) would be distributed equally across conditions.
- <sup>5</sup> Based on a reviewer’s suggestion, we also controlled for participants’ attire. We recruited a team of five undergraduate research assistants to rate participants’ attire: 1 = *Very casual*, 2 = *Casual*, 3 = *Business casual*, 4 = *Business professional*, and 5 = *Business formal*. We provided detailed definitions of each category (e.g., “Business formal: The most conservative style of professional attire. Traditionally involves a black, gray, or navy suit, worn over a button-down dress shirt in a solid color (often white or light blue). Men wear ties in a solid color or subtle pattern; women wear minimal jewelry.”); see BARS questions in online supplement. Hypothesized results for both studies remained unchanged when we specified effects of attire on both nonverbal presence and hirability.

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## SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

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## APPENDIX

### Interview Prompts

You are applying for a position in a student career development program at Atlantic Southern, a Fortune 500 company that specializes in consumer products. This program is not tied to a specific functional area of the company (such as marketing, finance, or human resources); instead, people in this program rotate around different areas to gain experience throughout the company. Those who do well typically continue on to full-time roles at Atlantic Southern after they complete the program, and often rise quickly in the company. Many of Atlantic Southern's managers once participated in the career development program!

Atlantic Southern has recently begun a new selection process for the career development program. Because successful leaders must be able to influence others effectively, the company makes its first round of hiring decisions by having applicants record a video demonstrating why they should be selected for the program. The company has done research that suggests that an applicant's potential peers are the best judges in hiring situations, so your primary audience will be current members of the career development program.

Your task today is to record a brief video convincing the company that you are the right candidate for the career development program. You will need to decide how you can best influence them to pick you for this position. This will require you to do more than just listing your credentials for your audience—you should try to make them see you as a potential leader in Atlantic Southern in the years ahead. Your ultimate goal is to be selected for this prestigious career development program.