Posing While Black: The Impact of Race and Expansive Poses on Trait Attributions, Professional Evaluations, and Interpersonal Relations

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A large literature on nonverbal behavior demonstrates that information from body cues can inform our impressions of others. This work, however, has largely focused on perceptions of White targets. The current experiments extend this research by investigating the impact of body poses on trait attributions, professional evaluations, and interpersonal relations for both White and Black targets. In four studies, participants were presented with images of White and Black targets with expansive and constrictive poses. Not surprisingly, Experiment 1 revealed that expansive relative to constrictive poses increased perceptions of dominance for targets of both races. Furthermore, for White and Black targets, perceptions of dominance from expansive poses were mediated by greater attributions of competence. For Black but not White targets, however, perceptions of dominance from expansive poses were mediated by greater attributions of aggression. Three additional experiments examined the influence of poses on evaluations in professional and interpersonal contexts. Experiment 2 indicated that expansive compared to constrictive poses led to greater expectations of professional success for White than Black targets. Experiments 3 and 4 demonstrated that expansive compared to constrictive poses led to a greater willingness to interact in an interpersonal setting with White but not Black targets. Attributions of aggression related to expansive poses by Black targets reduced the likelihood that they were chosen as interaction partners. The implications of these findings for understanding body perception and race relations are discussed.

Keywords: race, body posture, racial bias, person perception, nonverbal behavior

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When forming impressions of others, two key sources of information are the face and body (Freeman & Ambady, 2011; Freeman et al., 2020; Kawakami et al., 2017). Because these sources provide cues to group membership, intentions, and goals, and determine how we proceed in social interactions, they are critical to understanding person perception (Adams et al., 2010; Johnson & Iida, 2013). The goal of the present research was to explore how information from the face related to racial categories and information from the body related to dominance work together to impact impressions of White and Black targets.

Research on face perception has demonstrated that some basic social categories, such as race, sex, and age, are often perceptually obvious and processed quickly, effortlessly, and spontaneously (Amodio & Bartholow, 2011; Amodio et al., 2014; Cañadas et al., 2013). For example, targets with a darker skin tone and Afrocentric features are more likely to be categorized as Black (Dunham et al., 2015; Krosch & Amodio, 2014). Notably, these features can impact neural responses as early as 122 ms after facial presentation and this process can occur even when participants are instructed to categorize stimuli by gender rather than race (Ito & Urland, 2003). Construing a person as a member of a racial group leads to a host of downstream consequences such as the activation of stereotypes and attitudes, which in turn impact a range of social judgments and behaviors (Freeman & Ambady, 2011; Kawakami et al., 2017).

Once targets are categorized as Black, they are often stereotyped as aggressive, hostile, and threatening (Eberhardt et al., 2004; Karmali & Page-Gould, 2022) and judged in accordance with these associations. For example, compared to White targets, they may be perceived to be more capable of harm (Wilson, Hugenberg, & Rule, 2017) and their behavior may be deemed more aggressive (Duncan, 1976; Sagar & Schofield, 1980). Furthermore, race has been shown

to impact hiring (King et al., 2006), university admission recommendations (Hodson et al., 2002), jury sentencing decisions (Mitchell et al., 2005), medical considerations (Stepanikova, 2012), and perceptions of pain (Deska et al., 2020).

Research on bodily cues has also provided ample evidence for their importance in impression formation processes (Aviezer et al., 2012; Johnson et al., 2007; Reed et al., 2006). The ways that people hold and move their bodies can communicate a wealth of information (Argyle, 1988; Enea & Iancu, 2016; Ravin & Rule, 2016) and just as with faces, body poses can impact perceptions quickly and without intention (Rule et al., 2012). Furthermore, because bodies can be perceived at greater physical distances than faces and because they are particularly informative in signaling threat (Johnson & Iida, 2013), humans may be especially attuned to using body cues to discern friend from foe.

Importantly, judgments related to body gestures, postures, and movements can be used to infer in-the-moment emotions (Ekman & Friesen, 1967; Tracy & Robins, 2007), attitudes (Mehrabian, 1969; Patterson et al., 1984), intentions (de Gelder, 2013), behavioral tendencies (Carney et al., 2005), and personality traits (Aries et al., 1983; Hall et al., 2008; Satchell et al., 2017). They can also impact downstream evaluations and behaviors toward the target (Ellyson & Dovidio, 1985; Johnson & Shiffrar, 2013; Mehrabian, 1969). In one study, for instance, body cues were utilized by observers to make attributions related to the Big Five personality dimensions, as well as self-esteem, loneliness, religiosity, political orientation, and likability (Naumann et al., 2009). Notably, these inferences also influence how perceivers respond to (Azarian et al., 2017; Bernard et al., 2019; Chartrand & Bargh, 1999) and evaluate (Schouwstra & Hoogstraten, 1995) targets in a variety of professional and interpersonal domains (Johnson & Iida, 2013). For example, in a study simulating border security checks, customs inspectors and laypeople were more likely to recommend searching travelers with greater postural body shifts because they were interpreted as a sign of nervousness (Kraut & Poe, 1980).

While research on face perception has often investigated the impact of race on impression formation processes, one limitation of research on bodily cues is that it has concentrated, for the most part, on White targets. The goal of the present research was, therefore, to investigate the interaction between race and body poses. Our focus was on expansive compared to constrictive poses because of their strong connection to dominance, a construct particularly relevant in an intergroup context. Not only does dominance have important social implications but it can take on different meanings in different contexts. Although dominance is typically related to power and leadership, this type of control over others can be achieved through either aggressive means or competence and cooperation (Burgoon et al., 1998; Cheng et al., 2013; Van Vugt, 2006). The goal of the present research was to investigate whether expansive and constrictive poses impact perceptions of White and Black targets as dominant and how this process is related to competence, warmth, and aggression.

To this end, we first review the impact of expansive and constrictive poses on perceptions of dominance. Next, we examine the literature on dominance and trait attributions for White and Black targets, before turning to the impact of expansive body cues in professional and interpersonal contexts. We then present four experiments in which we investigated (a) whether expansive versus constrictive poses differentially increased perceptions of dominance for White and Black targets and whether these perceptions are associated with attributions of aggression, competence, and warmth, (b) whether White compared to Black targets benefit more from expansive compared to constrictive poses in a professional context, and (c) whether White compared to Black targets benefit more from expansive compared to constrictive poses in an interpersonal context. Finally, we discuss the potential implications for divergent body perception processes for White and Black targets.

Expansive Versus Constrictive Body Poses

Expansive versus constrictive poses have been widely investigated (Aries et al., 1983; Burgoon & Dunbar, 2006; Eisenberg, 1937; Tiedens & Fragale, 2003). Expansive poses refer to postures in which the target takes up more space. For example, an expansive pose is when targets erect their posture or extend their limbs out and away from the body. Both primate (de Waal, 1998; van Lawick-Goodall, 1967) and human (Bailey & Kelly, 2015; Burgoon & Dunbar, 2006; Rule et al., 2012) research provide strong evidence that expansive poses are related to perceptions of dominance. Reasons for this association may be that expansiveness not only takes up important resources such as physical space in an environment, but that it also cues dominance by signaling control over others. Specifically, given that the powerful are typically the focus of attention during social interactions and because making ones' physical presence larger can draw visual attention, expansiveness can command others' attention and project a greater sense of supervision (Burgoon & Dunbar, 2006; Ellyson & Dovidio, 1985; Schwartz et al., 1982). Dominance has been associated with characteristics such as assertiveness, determination, and a drive for power, influence, and leadership (Josephs et al., 2006; Yarnold et al., 1985).

Constrictive poses, alternatively, refer to postures in which the target occupies less space. For example, when targets turn inward and hold their limbs close to the body. These poses are typically associated with submission (de Waal, 1998; Rule et al., 2012; van Lawick-Goodall, 1967) and often imply a surrender of physical space, resources, and social control. In contrast to expansive poses, constrictive poses reduce attention during group interactions (Burgoon & Dunbar, 2006). Whereas dominant people are highly motivated to achieve control over their group, nondominant people are unassuming, compliant, and avoid self-assertion (Ellyson & Dovidio, 1985; Emmons & McAdams, 1991; Murray, 1938).

Dominance and Trait Attributions Related to White Targets

Although claims that expansive poses can result in feelings of power and induce hormonal changes (i.e., increased testosterone and reduced cortisol) in people holding these stances are controversial (Carney et al., 2015; Jonas et al., 2017), few people question the existence of associations between expansive poses by others and perceptions of power. At least for White targets, expansive compared to constrictive poses are linked to greater perceived dominance. Furthermore, it is important to note that dominance has been associated with both negative and positive characteristics (Anderson & Kilduff, 2009a, 2009b; Lord et al., 1986). For example, in one study (Burgoon et al., 1998), participants were asked to think of the most dominant and least dominant people they knew and to

subsequently rate them on various trait attributes. Although many dominant people were rated as aggressive (62%), forceful (44%), demanding (46%), and hostile (17%), even greater percentages were rated as friendly (83%), confident (81%), energetic (73%), and intelligent (74%).

Notably, these differences in valanced trait attributions associated with dominance may be related to how people obtain power (Cheng et al., 2013). One strategy to achieving power combines leadership skills with generosity and a willingness to use one's knowledge for the greater good of the group (Cheng & Tracy, 2014; Van Vugt, 2006; Witkower et al., 2020). This tactic not only associates power and dominance with greater competence to lead but also with altruistic tendencies (Anderson & Kilduff, 2009a; Cheng et al., 2013; Hollander & Julian, 1969). Furthermore, extensive research has demonstrated that for White targets, perceptions of dominance can be beneficial. For example, in a meta-analysis of 85 years of research on small group interactions, dominance predicted who emerged as leaders more reliably than any other trait (Lord et al., 1986). Also, the extent to which one's body posture or gestures are erect, take up space, or are perceived as tall, has been used by social perceivers to judge success (Carney et al., 2005). Greater expansiveness is linked to greater perceptions of rank, status, and influence (Blaker & van Vugt, 2014; Holland et al., 2017; Weisfeld & Beresford, 1982). Moreover, expansiveness and interpersonal distance were the only two characteristics from a list of 10 visible nonverbal behaviors that were significantly and positively related to ratings of rank and power (Hall et al., 2005).

Research has also provided evidence that displays of dominance improve outcomes for targets *because* of a link between perceptions of dominance and competence (Anderson & Kilduff, 2009a; Burgoon & Dunbar, 2000; Livingston & Rosette, 2012). For example, participants' dominance ratings of photographs of faces of U.S. political candidates were associated with higher attributions of competence, which then predicted actual electoral success (Chen et al., 2014). Interestingly, although dominance has been shown to be unrelated to *actual* competence (Anderson & Kilduff, 2009b; Weisfeld & Beresford, 1982; Weisfeld et al., 1983), bodily cues of dominance can increase perceived competence (Rennung et al., 2016).

Though limited, research also indicates that expansive displays of dominance by White men may also be related to warmth (Rosette et al., 2008). For example, high status White male leaders are often believed to be competent *and* warm (Van Vugt, 2006) and targets holding expansive poses have been linked to better outcomes because they are deemed "open and welcoming" (Vacharkulksemsuk et al., 2016). Furthermore, male faces that signal dominance through facial features were seen as both dominant *and* trustworthy (Sutherland et al., 2015), a trait broadly related to warmth (Fiske et al., 2002, 2007).

Dominance and Trait Attributions Related to Black Targets

Although expansive poses have been associated with greater dominance with White targets, it is unclear how expansive versus constrictive poses impact perceptions of Black targets. First, it is unknown whether type of pose influences the construal of White and Black targets to the same extent. It is conceivable that because of Black stereotypes related to threat and physicality (Goff et al., 2014; Wilson, Hugenberg, & Rule, 2017), Black targets may be perceived

to be more dominant than White targets in expansive poses. It is also possible, however, that these same stereotypes reduce the impact of expansive poses for Black targets. Because Black people are already perceived as imposing, expansive poses may not be as impactful on perceptions of dominance.

Alternatively, expansive versus constrictive poses may have a similar impact on perceptions of dominance for both White and Black targets but dominance may take on different forms depending on target race. As noted by Stolier, Hehman, and Freeman (2018) and Stolier, Hehman, Keller, et al. (2018), the extent to which observers believe that two traits co-occur may differ depending on the targets' social category and expectations related to that category. Although targets with expansive poses may be judged as dominant for both races, traits that lead to perceptions of dominance for White and Black targets may be distinct. In the present research, we examined the possibility that perceived dominance related to expansive versus constrictive poses is differentially associated with attributions of competence, warmth, and aggression for White and Black targets.

While power can be achieved through competence and sharing knowledge, as previously noted, it can also be achieved through coercive tactics such as intimidation and a perceived potential for aggression (Buss & Duntley, 2006; Cheng & Tracy, 2014; Witkower et al., 2020). These two types of power or dominance may be differentially linked with race. Although dominance has been associated with competence and potentially warmth in previous research, this relationship may exist because of a focus on White targets. While the prototype of a leader in North America is a White man, Black men are not typically expected to occupy positions of power (Livingston & Pearce, 2009; Rosette et al., 2008). Instead, perceptions of dominance in Black men may be more associated with physical strength and aggression, common stereotypes related to this category (Devine, 1989; Eberhardt et al., 2004; Karmali & Page-Gould, 2022). Because this stereotype has repeatedly been shown to impact impressions of Black targets (Hugenberg & Sacco, 2008; Kawakami et al., 2017; Kunda & Sherman-Williams, 1993) and their behaviors, even when ambiguous (Duncan, 1976; Sagar & Schofield, 1980), aggression may be associated more with Black than White men in expansive poses. Specifically, by increasing the appearance of one's size, dominance related to expansive compared to constrictive displays by Black, but not White, targets may project the capacity for aggression and force that can be used to intimidate (Burgoon & Dunbar, 2006; Burgoon & Hale, 1984; Mehrabian, 1972).

In summary, while expansive poses have often been linked to perceptions of dominance for White targets, it is unclear how these nonverbal body cues will impact targets of other races. It is possible that expansive poses by Black targets lead to increased perceptions of dominance or even a different form of dominance than for White targets. In the present research, therefore, we explore perceptions of distinct types of dominance related to expansive poses by examining the mediating roles of attributions of competence, warmth, and aggression. Although other mediation paths between these traits are possible, we focused on dominance as an outcome because our goal was to test our prediction about different *types* of dominance.[1] Specifically, we propose that while expansive poses by White

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[1] Exploratory results for alternative mediation sequences are provided in Supplemental Materials for interested readers.

targets may result in a positive form of dominance, mediated by attributions of competence and potentially warmth, the same poses by Black targets may result in a less positive form of dominance, mediated by attributions of aggression.

Expansiveness in Professional and Interpersonal Contexts

If expansive poses lead to distinct attributions related to dominance based on target race, then these poses can be expected to have diverging consequences for White and Black targets in a variety of social contexts. In the present experiments, we explored how body poses and race impact impressions in both professional and interpersonal domains. In particular, we explored how expansive versus constrictive poses impacted evaluations of success in a work setting and when choosing an interaction partner for White and Black targets.

In professional contexts, research suggests that perceptions of dominance are beneficial, especially when associated with competence. Specifically, research has demonstrated that greater dominance is related to greater perceived and actual leadership, influence, and control over group members (Heslin & Dunphy, 1964; Judge et al., 2002; Lord et al., 1986; Megargee et al., 1966; Rule & Ambady, 2008) and this link between dominance and professional success is determined in part by associations with competence (Burgoon et al., 1998; Chen et al., 2014). Because in organizational and political contexts, rank and power are conferred to those who appear to provide value to their group (Anderson & Kilduff, 2009b; Cheng & Tracy, 2014; Van Vugt, 2006), competence is weighted heavily in evaluations of emerging leaders (Anderson & Cowan, 2014; Oleszkiewicz & Lachowicz-Tabaczek, 2016; Todorov et al., 2005). For example, in a large review of the literature, 88% of studies demonstrated that greater perceived intelligence, an important component of competence (Cann, 1991; Fiske et al., 2002; Rubin et al., 2002; Walzer & Czopp, 2011), was positively related to leadership abilities (Mann, 1959).

Furthermore, when it comes to deciding who leads, who is promoted, or who has influence, perceptions of warmth are also valuable (Anderson & Cowan, 2014; Cheng et al., 2010; Lord et al., 1986). Because warmth is associated with a communal rather than authoritarian leader (Abele, 2003; Bakan, 1966; Fiske & Stevens, 1993), and the former is typically more admired and successful than the latter, attributions of warmth can be an important precursor to perceived dominance and success in work settings. In contrast, dominance associated with aggression is expected to limit professional success. Because perceptions of aggression are aversive in professional contexts, they can produce avoidant responses in others (Henington et al., 1998; Lansford et al., 2010). For example, groups resist granting leadership to those who try to take high ranking positions by force or aggression (Anderson & Kilduff, 2009b; Cheng & Tracy, 2014; Van Vugt, 2006).

A similar pattern may be found in interpersonal domains, such as social interactions, forming friendships, and romantic relationships. In these contexts, perceptions of competence are deemed beneficial (Andersen et al., 2008). Specifically, research demonstrates a clear link between perceived and actual competence and liking, approaching, and befriending others (Helmreich et al., 1970; Hughes & Zhang, 2007; Oleszkiewicz & Lachowicz-Tabaczek, 2016). This link may be due to the fact that general intelligence and cognitive abilities are related to better social skills, such as more accurate decoding of a partners' emotions, traits, and intentions (Murphy et al., 2001). Indeed, relationships between competent people tend to be more successful (Buhrmester et al., 1988), which may lead people to expect less miscommunication and more harmonious interactions with people who are perceived to hold this characteristic.

Furthermore, judgments of warmth are often prioritized when forming impressions and when deciding whether to interact with others (Asch, 1946; Kenworthy & Tausch, 2008). Because warmth provides information about a targets' motivation to help or harm (Fiske et al., 2007), targets projecting high warmth are more likely to be perceived as potential partners. As in professional contexts, perceptions of aggression, however, can limit success in an interpersonal context. Research has demonstrated that high compared to low aggressive behavior when interacting with others leads to lower ratings of liking and attraction (Hendrick & Taylor, 1971). Even children as young as 3 years old show clear disliking for friends who are aggressive, either physically or through rule violation behaviors (Hayes, 1978). In general, targets projecting aggression and low warmth may be perceived as a personal threat and avoided (Fiske et al., 2007).

Because research related to White targets indicates that dominance related to expansive poses is associated with more competence and potentially warmth, we expect that these types of poses will benefit White individuals in both professional and interpersonal contexts. Specifically, we expected that White targets in expansive compared to constrictive poses will be perceived as more successful in their jobs and their social interactions with others. However, the impact of expansive compared to constrictive body poses on dominance is unknown for Black targets and it is unclear which traits will be associated with dominance for Black targets. Will dominance related to expansive poses for this group be associated with competence, warmth, or aggression, and do expansive poses differentially impact outcomes for Black targets in professional and interpersonal contexts?

Overview of the Present Research

The primary goal of the present research was to examine the impact of expansive poses for White and Black targets. Although researchers have demonstrated that target race can impact impression formation processes (Burgoon et al., 1998; Ellyson & Dovidio, 1985; Hall et al., 2005; Wilson, Hugenberg, & Rule, 2017), no studies to our knowledge have explored the influence of race on attributions related to body poses. In four experiments, we investigated the effect of expansive versus constrictive poses on trait attributions, perceptions of professional success, and interpersonal relations. The focus of this research is on responses by non-Black participants to Black compared to White targets. This decision was based on the possibility that Black participants may respond differently to poses by their own racial group members. Given that non-Black participants stereotypically associate Black people with aggression (Wilson, Hugenberg, & Rule, 2017) and may be especially vigilant of potential threat from Black targets (Miller et al., 2010), we focused on this participant group in these initial experiments. We strongly encourage future research, however, to not only recruit Black participants but to also examine the impact of poses on other target groups.

In Experiment 1, we tested whether expansive versus constrictive poses impact dominance ratings for White and Black targets. We also examined whether these perceptions of dominance would be mediated by greater attributions of competence, warmth, and/or aggression for White and Black targets. In Experiment 2, we explored the influence of expansive poses by White and Black targets on expectations in a professional context. Specifically, we tested whether White compared to Black targets would be perceived as more professionally successful in expansiveness compared to constrictive poses. In Experiments 3 and 4, we examined the impact of expansive poses by White and Black targets in an interpersonal context. Specifically, we tested whether White compared to Black targets would be more preferred as partners in expansiveness compared to constrictive poses and whether this relationship was due to greater attributions of competence, warmth, and aggression.

Experiment 1

The primary aim of Experiment 1 was to investigate whether expansive versus constrictive poses impact perceptions of dominance for White and Black targets and whether these perceptions are mediated by differences in trait attributions. To accomplish this goal, participants were asked to rate images of White and Black targets in expansive and constrictive poses on dominance, aggression, competence, and warmth. We first tested whether White compared to Black targets with expansive poses would be perceived as more or less dominant than targets in constrictive poses. Next, we explored whether greater perceptions of dominance from expansive poses would be driven by higher ratings of competence, warmth, and aggression and whether this pattern differed for White and Black targets.

Method

Participants and Design

One hundred fifteen White undergraduates participated in an online experiment for course credit in a 2 (target race: White vs. Black) × 2 (target pose: expansive vs. constrictive) within-subjects design. Four participants were removed from analyses because they did not complete the study, leaving a final sample size of 111 participants (84 females, M_{age} = 20.29 years, SD = 4.50). A sensitivity analysis using G*Power (Faul et al., 2007, 2009) found that our final sample could detect effects of f = 0.11 (η_p^2 = 0.01) for the Target race × Target pose interaction on perceptions of dominance (power = .80, α = .05, assumed correlation among repeated measures, r = .50). Data and code are available at https://osf.io/69hkv/?view_only=232577c2020a4cacbd271f63c0f416a4.

Stimuli Creation

Before investigating the primary hypotheses, we first created and standardized the stimuli in three phases.

Phase 1. Our initial goal was to photograph at least 35 male targets of each race in 10 poses. We were successful in recruiting 40 White and 32 Black undergraduate students as models. We decided to focus on male targets because (a) the Black-aggressive stereotype is particularly strong and consequential for men (Sellers & Shelton, 2003); (b) Black men represent the prototypical member of the Black race (Johnson & Ghavami, 2011); and (c) one of our primary attributions was dominance, a trait that is typically associated with male targets (Koenig & Eagly, 2014). A focus on White and Black men, therefore, is a good starting point because it had the potential to initially provide us with strong effects related to race and racial stereotypes. Each target was instructed to pose in five different positions (i.e., standing behind a desk, standing in front of a desk, standing without a desk, sitting behind a desk, and sitting without a desk) in both expansive and constrictive stances. For expansive poses, the targets' arms and legs were spread out and held away from their body. For constrictive images, the targets' arms and legs were drawn in and held close to their body (Carney et al., 2005; de Waal, 1998). Targets were instructed to maintain neutral facial expressions and to hold their head straight. After photographing all targets, Photoshop was used to standardize the image size (278 × 450 pixels) and to convert color images to black and white.

Phase 2. The goal of Phase 2 was to select images based on four primary criteria from the set of 720 photographs (10 poses by 72 targets). Specifically, 14 research assistants (10 females, 4 males; 57% White, 29% South Asian, 7% Middle Eastern, and 7% East Asian) were recruited to judge each photograph on a yes or no basis, as to whether (a) the target in the photograph was racially unambiguous (i.e., obviously White or Black); (b) the target's pose was unambiguous (i.e., obviously expansive or constrictive); (c) the target appeared natural in their position (i.e., not awkward); and (d) the target's facial expression was neutral (i.e., no obvious emotion). Photographs were excluded if more than one research assistant responded no to any of these items. Individual targets who had at least two expansive and two constrictive photographs from the remaining images were selected, leaving a total of 37 White and 30 Black male targets.

Phase 3. The aim of Phase 3 was to select a subset of images based on objective measures of target size and perceptions of age and attractiveness. For an index of size, PsychoMorph was used to measure the height and width (in inches) of each of the 67 individuals. We chose to measure targets in an expansive, standing position because these poses best reflected the target size. Furthermore, 25 undergraduates (15 females, 10 males; 32% South Asian, 24% Black, 20% Middle Eastern, 20% White, and 4% East Asian) rated each target on attractiveness (1 = *not at all attractive* to 9 = *extremely attractive*) and estimated the target's age (open ended) in an online study for course credit. Although these types of ratings are more subjective, we recruited a diverse sample of evaluators to reduce biased evaluations.

Our goal was to select 20 White and 20 Black targets with comparable ratings of age, attractiveness, and objective size. Analyses indicated that the final selection of White and Black targets did not differ on estimates of age (M = 22.50 and 22.62, respectively), $t(38)$ = .29, p = .775, d = 0.10, 95% CI [−.75, .99], perceived attractiveness (M = 4.22 and 4.32, respectively), $t(38)$ = .89, p = .379, d = 0.28, 95% CI [−.13, .34], height (M = 24.85 and 24.97, respectively), $t(38)$ = .46, p = .651, d = 0.14, 95% CI [−.41, .65], or width (M = 5.75 and 5.88, respectively), $t(38)$ = 1.08, p = .287, d = 0.34, 95% CI [−.12, .39]. From these images, two sets of 80 images were created. Set 1 included one expansive pose and one constrictive pose from each target and Set 2 included one expansive and constrictive poses in different positions from the same targets, see Figure 1.

Figure 1

Examples of Black and White Targets in Five Expansive and Constrictive Poses
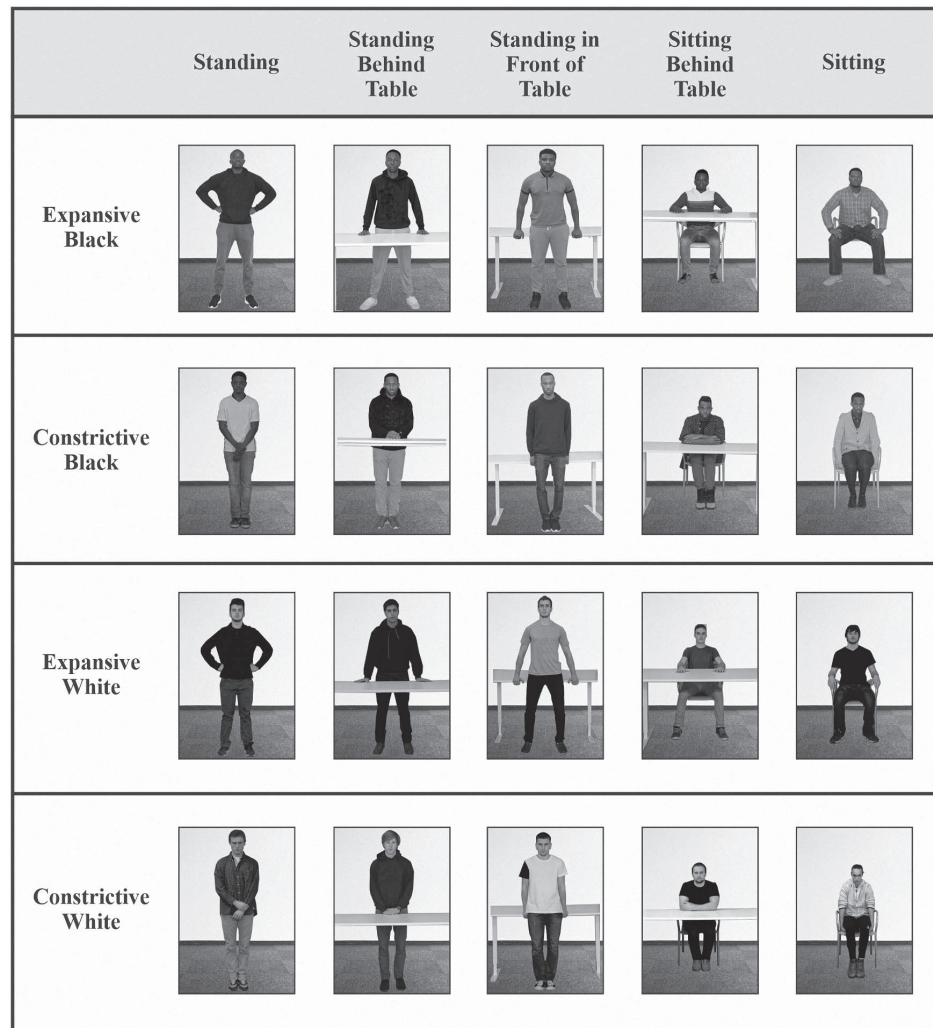
Procedure

In the main study, participants were informed that the purpose of the experiment was to investigate their ability to estimate various characteristics of others on the basis of minimal information. Participants were presented with either Set 1 or Set 2 and instructed to rate all targets on four traits using a 9-point Likert scale. Specifically, participants rated each target on dominance (from *extremely submissive* to *extremely dominant*), aggression (from *extremely aggressive* to *extremely harmless*), competence (from *not at all competent* to *extremely competent*), and warmth (from *not at all warm* to *extremely warm*). After responding to all 80 targets, participants completed demographic questions related to age, ethnicity, and gender.

Results and Discussion

Before analyzing the data, the aggressive item was reversed scored. Higher scores indicate higher ratings of dominance, aggression, competence, and warmth.

Direct Effect of Target Pose on Perceptions of Dominance

Given that participants provided responses to both Black and White targets in expansive and constrictive poses in a within-subjects design and that the same target was rated multiple times, we applied a multilevel modeling approach to dominance ratings in R using the "linear mixed-effects models" (lme) function from the linear and nonlinear mixed-effects models package (nlme; Pinheiro et al., 2022). In this model, the fixed effects were target race (Black vs. White), target pose (expansive vs. constrictive), and their interaction. In the same model, we also specified random intercepts for participant and target variables to account for their nonindependence. This model revealed significant main effects of target race and target pose. Black targets ($M = 5.34$, $SD = 0.69$) were judged as more dominant than White targets ($M = 4.87$, $SD = 0.72$), $b = -0.48$ (.04), $t(4,438) = -11.56$, $p < .001$, 95% CI $[-0.56, -0.40]$. Targets in expansive poses ($M = 5.63$, $SD = 0.78$) were judged as more dominant than targets in constrictive poses ($M = 4.58$, $SD = 0.80$), $b = 1.06$ (.03), $t(4,438) = 30.23$, $p < .001$, 95% CI $[0.99, 1.12]$.

Notably, the Target race × Target pose interaction was not significant, $b = -0.11$ (.07), $t(4,438) = -1.63$, $p = .10$, 95% CI [−0.25, 0.02], see Figure 2.[2] However, given our theorizing, it is important to examine whether type of pose impacted both White and Black targets separately. Indeed, we found that White targets in expansive poses ($M = 5.37$, $SD = 0.92$) were judged as more dominant than White targets in constrictive poses ($M = 4.37$, $SD = 0.86$), $b = 1.00$ (.05), $t(4,438) = 20.23$, $p < .001$, 95% CI [0.90, 1.10]. Similarly, Black targets in expansive poses ($M = 5.90$, $SD = 0.79$) were perceived as more dominant than Black targets in constrictive poses ($M = 4.79$, $SD = 0.94$), $b = 1.11$ (.05), $t(4,438) = 22.53$, $p < .001$, 95% CI [1.02, 1.21].

The Relationship Between Poses and Dominance as Mediated by Attributions of Competence, Warmth, and Aggression for White and Black Targets

To examine the unique roles of attributions of competence, warmth, and aggression in the relationship between body poses and perceptions of dominance, we tested the fit of a multilevel moderated multiple mediation model using the lavaan.survey package in R (Oberski, 2014).[3] Because our primary theoretical focus was on poses and dominance, in describing this analysis, we concentrated on the impact of expansive versus constrictive poses on attributions of competence, warmth, and aggression, the moderating role of target race, and the indirect effects of these attributions on dominance. Although not included in our predictions, we also provide estimates for the paths between mediators and dominance perceptions. Notably, when our primary hypothesized model included the direct path (i.e., from body pose to dominance), the model was just identified with 0 degrees of freedom. Therefore, to reduce the number of parameters to be estimated in the model, we excluded the direct path.

To account for the nonindependence of responses related to the repeated measures design, we specified random intercepts for participant and target variables. Our model included perceptions of dominance (Y_4) as a function of expansive versus constrictive body poses (X_1) simultaneously through attributions of the three mediators: competence (Y_1), warmth (Y_2), and aggression (Y_3), with target race as a moderator (W), see Figure 3. Model fit statistics for our model indicated a close fit, see Table 1.

Figure 2
Ratings of Dominance for White and Black Targets in Expansive and Constrictive Poses in Experiment 1
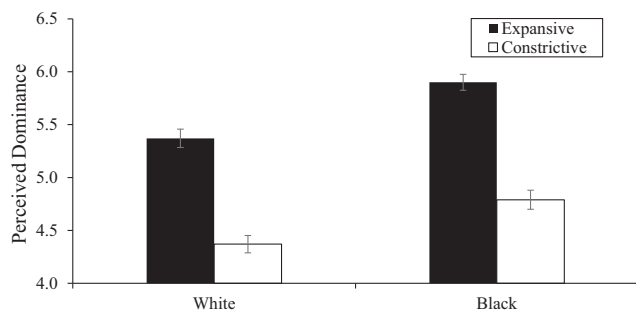
Note. Error bars reflect standard errors.

To examine overall moderation by target race, we compared our moderated model to a model in which all parameter estimates were constrained to be equal across target race. The analysis revealed the moderated model as having superior fit compared to the constrained model, $\chi^2_{\text{diff}}(6) = 14.81$, $p = .022$, indicating that the relationship between body pose and dominance through attributions of competence, warmth, and aggression was significantly different for White compared to Black targets. Next, we present parameters estimates for our model effects. In these analyses, b represents the unstandardized path estimate and the number in parentheses is the standard error.

Competence

The findings indicate that both White targets, $b = 0.24$ (.06), $Z = 3.72$, $p < .001$, and Black targets, $b = 0.24$ (.05), $Z = 4.59$, $p < .001$, in expansive versus constrictive poses were rated as more competent. Furthermore, the size of this effect did not differ by target race, $\chi^2_{\text{diff}}(1) = 0.0005$, $p = .983$. Greater attributions of competence, in turn, were associated with greater perceptions of dominance for both White targets, $b = 0.23$ (02), $Z = 10.75$, $p < .001$, and Black targets, $b = 0.31$ (.02), $Z = 13.67$, $p < .001$, and this effect was stronger for Black compared to White targets, $\chi^2_{\text{diff}}(1) = 6.15$, $p = .013$. Furthermore, competence ratings mediated the impact of expansive versus constrictive poses on perceptions of dominance for both White and Black targets. Specifically, the indirect effect of expansiveness on greater perceptions of dominance through greater attributions of competence was significant for White targets, $b = 0.05$ (.01), $Z = 3.65$, $p < .001$, and Black targets, $b = 0.07$ (.02), $Z = 5.39$, $p < .001$.

Warmth

Expansive compared to constrictive poses did not significantly impact attributions of warmth for both White, $b = 0.24$ (.13), $Z = 1.82$, $p = .069$, and Black targets, $b = -0.009$ (.12), $Z = -0.08$, $p = .937$. Greater attributions of warmth, however, were associated with lower perceptions of dominance for Black targets, $b = -0.08$ (.02), $Z = -3.41$, $p = .001$, but not White targets, $b = 0.02$ (.02), $Z = 0.90$, $p = .371$, and these effects significantly differed, $\chi^2_{\text{diff}}(1) = 9.56$, $p = .002$. Warmth ratings, however, did not mediate the impact of expansive versus constrictive poses on perceptions of dominance for either White targets, $b = 0.004$ (.006), $Z = 0.76$, $p = .447$, or Black targets, $b = 0.001$ (.01), $Z = 0.08$, $p = .937$.

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[2] Although understanding the impact of participant gender in the current processes was not a primary goal of these experiments and many more female ($n = 98$) compared to male ($n = 13$) participants were fortuitously recruited in the present study, to explore whether participant gender qualified the present pattern of results, we ran an additional multilevel model that included participant gender. The Target race × Target pose × Participant gender interaction was not significant, $b = 0.32$ (.22), $t(4,436) = 1.47$, $p = .141$, 95% CI [−0.11, 0.75], indicating that gender did not impact dominance ratings.

[3] To deal with complex sampling, such as clustering (e.g., observations within participants), the R lavaan.survey package (Oberski, 2014) uses pseudo-maximum likelihood point and variance estimations (Asparouhov, 2005, 2006; Muthén & Satorra, 1995), where maximum likelihood statistics are estimated and then further adjusted for complex designs using the Satorra–Bentler adjustment (Satorra & Bentler, 1994).

Figure 3

Mediational Pathway From Pose (Expansive vs. Constrictive) to Dominance in Experiment 1 and Partner Choice in Experiment 4 Through Competence, Warmth, and Aggression, With Target Race as a Moderator
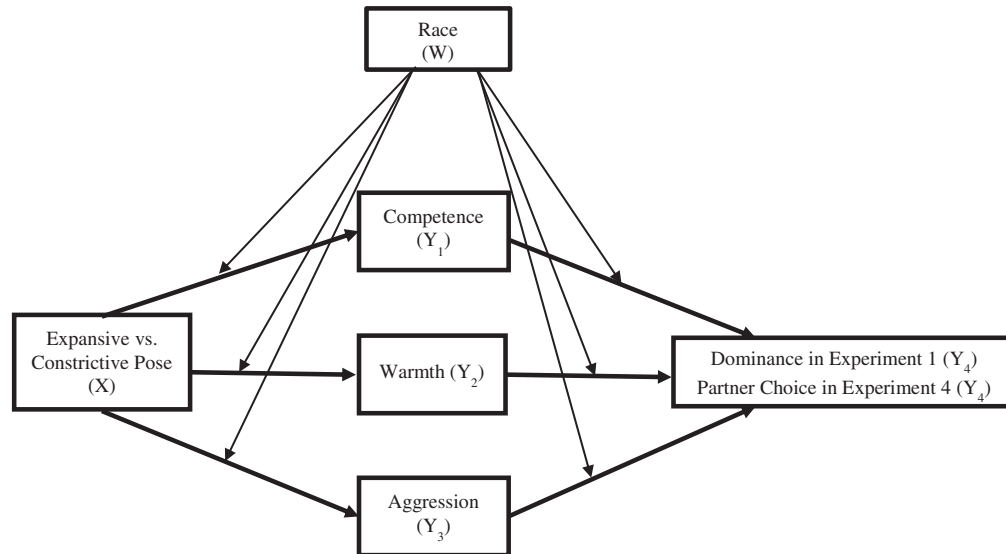
Aggression

Although body pose was unrelated to attributions of aggression for White targets, $b = 0.14$ (.13), $Z = 1.06$, $p = .289$, Black targets in expansive compared to constrictive poses were rated as more aggressive, $b = 0.36$ (.12), $Z = 2.95$, $p = .003$. Greater attributions of aggression were in turn associated with greater perceptions of dominance for both White targets, $b = 0.57$ (.03), $Z = 20.32$, $p < .001$, and Black targets, $b = 0.52$ (.05), $Z = 27.48$, $p < .001$, and the size of these effects did not differ, $\chi^2_{\text{diff}}(1) = 2.48$, $p = .116$. Importantly, aggression ratings mediated the relationship between expansive versus constrictive poses and perceptions of dominance for Black but not White targets. Specifically, the indirect effect of expansiveness on greater perceptions of dominance through greater attributions of aggressions was significant for Black, $b = 0.19$ (.06), $Z = 2.94$, $p < .001$, but not White targets, $b = 0.08$ (.08), $Z = 1.05$, $p = .296$.

In summary, the results related to White targets indicate that while increased competence related to expansive versus constrictive poses is associated with perceptions of dominance, ratings of warmth and aggression are not. The results related to Black targets, alternatively,

indicate that while increased competence and aggression related to expansive versus constrictive poses is associated with perceptions of dominance, ratings of warmth are not. Together, these findings suggest that although expansive poses may increase solely positive competence associations with dominance for White targets, they may have positive as well as negative associations related to competence and aggression with dominance for Black targets.

While the present results demonstrate that White and Black targets were perceived to be more dominant in expansive compared to constrictive poses, perceptions of dominance related to expansive poses were associated with different attributions for White and Black targets. Notably, strong leadership in general is often perceived as a combination of both competence *and* interpersonal skills (Cheng et al., 2013; Van Vugt, 2006). In Experiment 1, competence was found to be associated with increased dominance related to expansive poses for both White and Black targets. Although perceptions of warmth were not associated with dominance for all targets, aggression was associated with increased dominance related to expansive poses for Black but not White targets. Together these results indicate that expansive body poses may cue distinct forms of

Table 1

Model Fit for the Proposed Target Race Moderated Mediation Model (Model 1) and the Model That Constrained Target Race Moderation (Model 2) in Experiments 1 and 4

Experiment	*df*	ACI	CFI	RMSEA	SRMR	TLI
Experiment 1						
Model 1: Hypothesized moderated mediation	1	134,044	1.00	0.000, 90% CI [0.00, 0.02], $p = 1.00$	0.000	1.002
Model 2: No moderated mediation	7	134,071	0.996	0.032, 90% CI [0.02, 0.04], $p = .999$	0.014	0.989
Experiment 4						
Model 1: Hypothesized moderated mediation	1	98,642	1.00	0.000, 90% CI [0.00, 0.03], $p = .996$	0.001	1.003
Model 2: No moderated mediation	7	98,663	0.994	0.031, 90% CI [0.02, 0.04], $p = .998$	0.016	0.984

Note. *df* = degrees of freedom; AIC = Akaike information criterion; CFI = comparative fit index; RMSEA = root-mean-square error of approximation; SRMR = standardized root-mean-square residual; TLI = Tucker–Lewis index.

dominance depending on target race, which may produce greater benefits for White compared to Black targets. In the next three experiments, we explore how these different forms of dominance related to expansive poses can have significant downstream consequences in professional and interpersonal contexts.

Experiment 2

The goal of Experiment 2 was to investigate the implications of expansive compared to constrictive poses on expectations related to professional success for White and Black targets. Research indicates that perceived competence is related to attributions of success in organizational contexts (Anderson & Cowan, 2014; Anderson & Kilduff, 2009a, 2009b; Lord et al., 1986) and aggression hinders professional mobility (Anderson & Kilduff, 2009b; Van Vugt, 2006). Given the results from Experiment 1 that White targets in expansive compared to constrictive poses were perceived as more competent and that Black targets in expansive compared to constrictive poses were perceived as more competent and aggressive, we predicted that expansive poses would be more beneficial for White compared to Black targets. In particular, we expected that targets in expansive compared to constrictive poses would be attributed more professional success and that this difference would be larger for White compared to Black targets.

Method

Participants and Design

Although we only recruited White participants in Experiment 1, in the present and subsequent studies other non-Black students were also recruited to increase the generalizability of our findings. Despite this greater diversity, we expected that because participants would have the same associations with dominance for members of these target groups (Vingilis-Jaremko et al., 2020), expansive poses would impact White and Black targets in a similar way to Experiment 1. In the present online study, 113 non-Black (19.5% White, 33.6% South Asian, 26.5% East Asian, 12.4% Middle Eastern, 6.2% Latinx, and 1.8% other) undergraduates (84 females, $M_{age} = 19.33$ years, $SD = 1.98$) participated for course credit in a 2 (target race: White vs. Black) × 2 (target pose: expansive vs. constrictive) within-subjects design. A sensitivity analysis using G*Power (Faul et al., 2007, 2009) found that our final sample could detect effects of $f = 0.11$ ($\eta_p^2 = 0.01$) for the predicted Target race × Target pose interaction on perceptions of professional success (power = .80, $\alpha = .05$, assumed correlation among repeated measures, $r = .50$). Data and code are available at https://osf.io/69hkv/?view_only=232577c2020a4cacbd271f63c0f416a4.

Procedure

Upon entering the laboratory, participants were told that they would be presented with a series of images of business school students who were completing paid internships. They were told that the goal of the research was to examine accuracy when forming impressions of others based on minimal information. Specifically, participants were provided with the following instructions:

> The York Business School Committee places hundreds of business students in various corporations for summer internships each year.

Based on summer internship evaluations, some students are offered the opportunity to continue on at the corporation with a paid internship after the summer. All individuals shown in the photographs are business students who have completed their summer internships and have been offered paid internships for the next academic year. However, some have been offered higher-ranking internships than others. Salaries for the ranked internships range from $2,000-$18,000, which reflects the level of responsibilities given to each business student. Your task will be to estimate, as quickly as possible, each student's summer internship performance evaluation score and predict their new internship salary.

Participants were then randomly assigned to view 80 images in Set 1 or Set 2. The photographs were presented in a random order in 10 blocks. For each image, participants provided an estimate of the target's internship performance on a scale that ranged from 1 = poorest score) to 9 = highest score). They were also instructed to estimate the target's internship salary on a scale that increased in increments of $2,000 and ranged from 1 = $2,000 to 9 = $18,000. After completing the estimates for all targets, participants answered demographic questions related to age, ethnicity, and gender.

Results and Discussion

Because the performance ratings and salary estimates were highly correlated ($r = .64$, $p < .001$), these scores were combined at the level of participant to create a professional success composite score of each photograph. As in Experiment 1, given that participants provided responses to both Black and White targets in expansive and constrictive poses in a within-subjects design and that the same target was rated multiple times, we applied a multilevel modeling approach to success composite scores in R using the lme function in the nlme package (Pinheiro et al., 2022). In this model, the fixed effects were target race (Black vs. White), target pose (expansive vs. constrictive), and their interaction. In the same model, we also specified random intercepts for participant and target variables to account for their nonindependence. The analysis revealed a significant main effect of target race and target pose. White targets ($M = 4.98$, $SD = 1.05$) were rated as more professionally successful than Black targets ($M = 4.90$, $SD = 1.09$), $b = 0.08$ (.03), $t(4,519) = 2.42$, $p = .016$, 95% CI [0.02, 0.14]. Targets with expansive poses ($M = 5.31$, $SD = 1.06$) compared to constrictive poses ($M = 4.56$, $SD = 1.15$) were judged to be more successful, $b = 0.76$ (.03), $t(4,519) = 25.44$, $p < .001$, 95% CI [0.70, 0.81].

Importantly, these main effects were qualified by the predicted Target race × Target pose interaction, $b = 0.18$ (.06), $t(4,518) = 2.99$, $p = 0.003$, 95% CI [0.06, 0.29], see Figure 4.[4] Simple effects analyses demonstrated that White targets in expansive poses ($M = 5.40$, $SD = 1.13$) compared to constrictive poses ($M = 4.55$, $SD = 1.16$) were

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[4] To explore whether participant race qualified the present pattern of results, we ran an additional multilevel model that included White ($n = 23$) or non-White ($n = 90$) participants as a variable. The Target race × Target pose × Participant race interaction was not significant, $b = -0.14$ (.16), $t(4,516) = -0.89$, $p = .374$, 95% CI [−0.44, 0.17], indicating that participant race did not significantly impact success ratings.

Although many more female ($n = 89$) compared to male ($n = 23$) participants were fortuitously recruited in the present study, to explore whether participant gender qualified the present pattern of results, we ran an additional multilevel model that included participant gender. The Target race × Target pose × Participant gender interaction was not significant, $b = -0.03$ (.15), $t(4,366) = -0.21$, $p = .834$, 95% CI [−0.32, 0.26], indicating that participant gender did not significantly impact success ratings.

Figure 4

Perceived Professional Success for White and Black Targets in Expansive and Constrictive Poses in Experiment 2
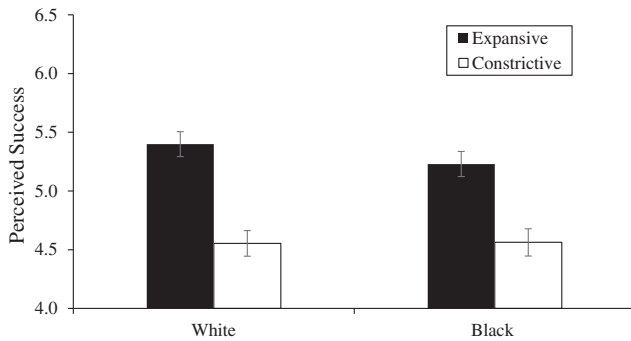
Note. Error bars reflect standard errors.

perceived to be more successful, $b = 0.84$ (.04), $t(4,518) = 20.12$, $p < .001$, 95% CI [0.76, 0.93]. Although Black targets in expansive poses ($M = 5.23$, $SD = 1.14$) compared to constrictive poses ($M = 4.56$, $SD = 1.23$) were also rated as more successful, $b = 0.67$ (.04), $t(4,518) = 15.89$, $p < .001$, 95% CI [0.58, 0.75], as indicated by the significant two-way interaction and the effect sizes, the impact of expansive poses was significantly larger for White than Black targets.

In summary, the results from Experiment 2 provide further evidence for the beneficial effects of expansive compared to constrictive poses on perceptions of professional success (Carney et al., 2005; Hall et al., 2005; Holland et al., 2017). While targets of both races with expansive compared to constrictive poses were perceived to be more dominant in Experiment 1, this relationship was associated with more competence for White targets and more competence and aggression for Black targets. The results from the current experiment extended these findings by demonstrating that White compared to Black targets received a greater boost in estimated ability and future success from expansive poses.

Experiment 3

The primary goal of Experiment 3 was to examine the implications of expansive compared to constrictive poses for White and Black targets in an interpersonal context. Given the dominance associations related to race in Experiment 1 and prior research suggesting that competence in interpersonal domains is beneficial (Andersen et al., 2008; Baron, 1970; Oleszkiewicz & Lachowicz-Tabaczek, 2016), and aggression can hinder the development of social relationships (Fiske et al., 2007; Hendrick & Taylor, 1971), we again predicted that expansive poses would be more beneficial for White compared to Black targets. Specifically, we expected that participants would be more willing to interact with targets in expansive compared to constrictive poses, and that this difference would be larger for White compared to Black targets.

Method

Participants and Design

One hundred five non-Black (15.2% White, 39% South Asian, 17.1% East Asian, 18.1% Middle Eastern, 6.7% Latinx, 3.8%

other/mixed) undergraduates (90 females, $M_{age} = 19.20$ years, $SD = 1.86$) participated in an in-person study for course credit in a 2 (target race: White vs. Black) × 2 (target pose: expansive vs. constrictive) within-subjects design. A sensitivity analysis using G*Power (Faul et al., 2007, 2009) found that our final sample could detect effects of $f = 0.11$ ($\eta_p^2 = 0.01$) for the predicted Target race × Target pose interaction on partner choice (power = .80, $\alpha = .05$, M correlation among repeated measures, $r = .50$). Data and code are available at https://osf.io/69hkv/?view_only=232577c2020a4cacbd271f63c0f416a4.

Procedure

Participants were informed that in an upcoming task, they would be paired with a partner to complete a 45 min self-disclosure and relationship building task (Aron et al., 1997; Kawakami et al., 2014). Specifically, they were told that the goal of the task was to get close to their partner by asking and sharing answers to increasingly intimate questions. As part of the cover story, participants were informed that a further aim of the study was to explore accurate assessments of partners and whether having a choice in partner selection can influence closeness on the intimacy task. Therefore, they would be provided with the opportunity to choose potential partners for the relationship building task.

Participants were randomly assigned to view 80 photographs from either Set 1 or Set 2 used in the previous studies and were asked to choose potential partners in 20 randomly ordered trials. On each trial, participants were presented with four targets, one expansive White, one expansive Black, one constrictive White, and one constrictive Black, arranged in a quadrant. Targets were labeled "Person 1" to "Person 4." The position of the four types of targets were randomized across trials. Each target in the quadrant was in a different pose (e.g., standing, sitting behind table, standing in front of desk, sitting). On each trial, participants were asked to choose the person with whom they would most like to work. After selecting one of the four targets, the next trial was presented until all 20 trials were completed. After completing the partner choice task, all participants completed a questionnaire related to their age, ethnicity, gender, and the intended goals of the study.

Results and Discussion

At the level of participant, each photograph in each trial was coded as chosen or not (yes = 1, no = 0). Given that participants provided responses to both Black and White targets in expansive and constrictive poses in a within-subjects design and completed multiple trials, we applied a multilevel modeling approach to participants' partner choices in R using the "fitting generalized linear mixed-effects models" (glmer) function in the linear, generalized linear, and nonlinear mixed models (lme4) package (Bates et al., 2015). In this model, the fixed effects were target race (Black vs. White), target pose (expansive vs. constrictive), and their interaction. In the same model, we also specified random intercepts for participant and trial variables to account for their nonindependence. The analysis revealed a significant main effect of target race and target pose. White targets ($M = 5.52$, $SD = 1.14$) were chosen more often than Black targets ($M = 4.48$, $SD = 1.14$), log odds = 0.28 (.05), $Z(8,400) = 5.54$, $p < .001$, 95% CI [0.18, 0.38]. Targets with expansive poses ($M = 5.42$, $SD = 1.39$) were chosen more

often than targets with constrictive poses ($M = 4.58$, $SD = 1.39$), log odds = 0.23 (.05), $Z(8,400) = 4.49$, $p < .001$, 95% CI [0.13, 0.33].

Importantly, these main effects were qualified by the predicted Target race × Target pose interaction, log odds = 0.25 (.10), $Z(8,400) = 2.47$, $p = .013$, 95% CI [0.05, 0.45], see Figure 5.[5] Simple effects analyses revealed that White targets with expansive ($M = 6.21$, $SD = 2.29$) compared to constrictive ($M = 4.84$, $SD = 2.15$) poses were chosen more often, log odds = 0.34 (.07), $Z(8,400) = 4.96$, $p < .001$, 95% CI [0.21, 0.48]. In contrast, type of pose did not impact choice of Black partners, log odds = 0.09 (.07), $Z(8,400) = 1.26$, $p = .208$, 95% CI [−0.05, 0.24]. The choice of Black targets in expansive poses ($M = 4.64$, $SD = 2.10$) compared to constrictive poses ($M = 4.31$, $SD = 1.90$) did not significantly differ.[6]

In summary, the results from Experiment 3 provide further evidence that expansive compared to constrictive poses benefit White more than Black targets. Specifically, participants were more willing to interact with and get to know White targets in expansive compared to constrictive poses. In contrast, expansive versus constrictive poses did not influence participants' willingness to interact with Black targets. Although we assumed that these benefits are due to the distinct trait attributions related to dominance as indicated in Experiment 1, with White target in expansive poses associated more with competence and Black targets in expansive poses associated more with both competence and aggression, in Experiment 4, we tested this assumption.

Experiment 4

The primary goal of Experiment 4 was to replicate the pattern of findings in Experiment 3 and to further examine the mediating role of attributions of competence, warmth, and aggression in processes related to the impact of expansive poses when choosing White or Black partners. We expected that while participants would be more likely to choose partners with expansive compared to restrictive poses, this difference would be smaller for Black compared to White partners. Furthermore, we predicted that attributions of competence would mediate the relationship between body pose and partner choice for White and Black targets, and that attributions of aggression would mediate this relationship for Black but not White targets.

Figure 5

Frequency of Partner Choice for White and Black Targets in Expansive and Constrictive Poses in Experiment 3
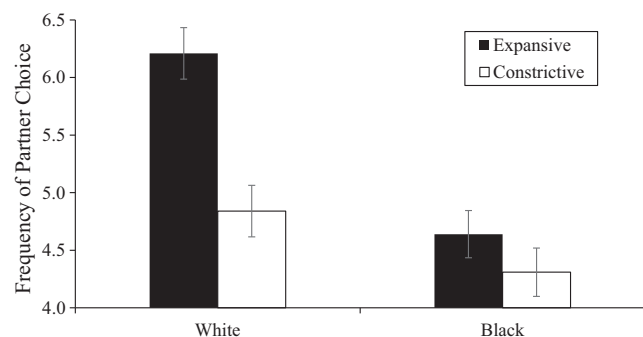
Note. Error bars reflect standard errors.

Method

Participants and Design

One hundred ninety-six non-Black (18.9% East Asian, 1.0% Indigenous, 5.1% Latinx, 17.9% Middle Eastern, 26.5% South Asian, 27.0% White, and 3.6% other/mixed) undergraduates (122 females, $M_{age} = 20.43$ years, $SD = 3.77$) participated in an online study for course credit in a 2 (target race: White vs. Black) × 2 (target pose: expansive vs. constrictive) within-subjects design. To increase the power and reliability of the results, we decided to stop recruiting after 200 participants, approximately double the sample size in Experiment 3. However, we were only able to recruit 196 participants before the end of the semester. A sensitivity analysis using G*Power (Faul et al., 2007, 2009) found that our final sample could detect effects of $f = 0.11$ ($\eta_p^2 = 0.01$) for the predicted Target race × Target pose interaction on partner choice (power = .80, $\alpha = .05$, M correlation among repeated measures, $r = .50$). Data and code are available at https://osf.io/69hkv/?view_only= 232577c2020a4cacbd271f63c0f416a4.

Procedure

Before beginning the experiment, all participants were informed that the purpose of the experiment was to investigate their ability to

[5] To explore whether participant race qualified the present pattern of results, we ran an additional multilevel model that included White ($n = 14$) or non-White ($n = 91$) participants as a variable. The Target race × Target pose × Participant race interaction was not significant, log odds = 0.44 (.30), $Z(8,400) = 1.45$, $p = .147$, 95% CI [−0.15, 1.02], indicating that participant race did not significantly impact partner choice.

Although many more female ($n = 90$) compared to male ($n = 15$) participants were fortuitously recruited in the present study, to explore whether participant gender qualified the present pattern of results, we ran an additional multilevel model that included participant gender. The results demonstrated a significant Target race × Target pose × Participant gender interaction, log odds = 0.63 (.29), $Z(8,400) = 2.15$, $p = .032$, 95% CI [0.06, 1.21]. Among male participants, the Target pose × Target race interaction was not significant, log odds = −0.29 (.27), $Z(1,200) = −1.08$, $p = .282$, 95% CI [−0.83, 0.24]. Among female participants, however, the Target pose × Target race interaction was significant, log odds = 0.34 (.11), $Z(7,200) = 3.09$, $p = .002$, 95% CI [0.12, 0.55]. Simple effects analyses revealed that White targets with expansive ($M = 5.80$, $SD = 2.26$) compared to constrictive ($M = 4.58$, $SD = 2.01$) poses were chosen more often, log odds = 0.37 (.08), $Z(7,200) = 4.92$, $p < .001$, 95% CI [0.22, 0.52]. In contrast, type of pose did not impact choice of Black partners, log odds = 0.03 (.08), $Z(7,200) = 0.40$, $p = .690$, 95% CI [−0.12, 0.17]. The choice of Black targets in expansive poses ($M = 4.78$, $SD = 2.33$) compared to constrictive poses ($M = 4.84$, $SD = 2.31$) did not differ.

[6] To confirm that participants did not suspect that we were interested in the influence of race on their partner choices, we examined responses on two open-ended exit items that probed participant's perceptions of (a) the purpose of the experiment and (b) the expectations of the experimenters. The frequency that participants mentioned race or racial issues on either item was very low (14 of 105, or 13%).

Removing the responses of participants who mentioned race when describing the purpose of the study or who identified the hypotheses from the analyses did not significantly change the predicted pattern of results. Specifically, the Target race × Target pose interaction remained significant, log odds = 0.26 (.11), $Z(7,280) = 2.35$, $p = .019$, 95% CI [0.04, 0.47]. White targets with expansive ($M = 6.16$, $SD = 2.35$) compared to constrictive ($M = 4.84$, $SD = 2.10$) poses were chosen more often, log odds = 0.33 (.07), $Z(7,280) = 4.48$, $p < .001$, 95% CI [0.19, 0.48]. The choice of Black targets in expansive ($M = 4.64$, $SD = 2.09$) compared to constrictive ($M = 4.36$, $SD = 1.94$) poses did not differ, log odds = 0.08 (.08), $Z(7,280) = 0.99$, $p = .321$, 95% CI [−0.08, 0.23].

estimate various characteristics of others on the basis of minimal information. Participants were randomly assigned to view either Set 1 or Set 2 and instructed to rate all targets on aggression, competence, and warmth using the same 9-point Likert scale described in Experiment 1. After rating all 80 targets, participants completed the same procedure used in the partner choice task described in Experiment 3. After this final task, participants reported their age, ethnicity, gender, and perceptions of the study's purpose.

Results and Discussion

As in Experiment 3, at the level of participant, each photograph in each trial was coded as chosen or not (yes = 1, no = 0). Given that participants provided responses to both Black and White targets in expansive and constrictive poses in a within-subjects design and completed multiple trials, we applied a multilevel modeling approach to participants' partner choices in R using the glmer function in the lme4 package (Bates et al., 2015). In this model, the fixed effects were target race (Black vs. White), target pose (expansive vs. constrictive), and their interaction. In the same model, we also specified random intercepts for participant and trial variables to account for their nonindependence. The analyses revealed a significant main effect of target pose, log odds = 0.14 (.04), $Z(15,680) = 3.87$, $p < .001$, 95% CI [0.07, 0.22]. Targets with expansive poses ($M = 5.27$, $SD = 1.30$) were chosen more often than targets with constrictive poses ($M = 4.73$, $SD = 1.30$). The main effect of target race was not significant, log odds = −0.008 (.04), $Z(15,680) = −0.22$, $p = .825$, 95% CI [−0.08, 0.06], indicating no difference in the choice of Black ($M = 5.02$, $SD = 1.39$) and White ($M = 4.99$, $SD = 1.39$) targets.

Importantly, replicating the pattern of results in Experiment 3, the Target race × Target pose interaction was significant, log odds = 0.18 (.07), $Z(15,680) = 2.41$, $p = .016$, 95% CI [0.03, 0.32], see Figure 6.[7] Simple effects analyses revealed that White targets with expansive ($M = 5.42$, $SD = 2.40$) compared to constrictive ($M = 4.55$, $SD = 2.06$) poses were chosen more often, log odds = 0.23 (.05), $Z(15,680) = 4.43$, $p < .001$, 95% CI [0.13, 0.33]. In contrast, type of pose did not impact choice of Black partners, log odds = 0.05 (.05), $Z(15,680) = 1.04$, $p = .297$, 95% CI [−0.05, 0.16]. The choice of Black targets in expansive poses ($M = 5.12$, $SD = 2.33$) compared

Figure 6

Frequency of Partner Choice for White and Black Targets in Expansive and Constrictive Poses in Experiment 4

Note. Error bars reflect standard errors.

to constrictive poses ($M = 4.91$, $SD = 2.26$) did not significantly differ.[8]

The Relationship Between Poses and Partner Choice, as Mediated by Attributions of Competence, Warmth, and Aggression for White and Black Targets

To examine the unique roles of attributions of competence, warmth, and aggression in the relationship between body poses and partner choice, we tested the fit of a multilevel moderated multiple mediation model using the lavaan.survey package in R (Oberski, 2014). Because our primary focus was on poses and partner choice, in describing this analysis, we concentrated on the impact of expansive versus constrictive poses on attributions of competence, warmth, and aggression, the moderating role of target race, and the indirect effects of these attributions on partner choice. Although not included in our predictions, we also provide estimates for the paths between mediators and partner choice. As in Experiment 1, to avoid just identification of the model, we reduced the number of parameters to be estimated in the model by excluding the direct path.

To account for nonindependence, we specified random intercepts for participant and trial variables. Our primary model included partner choice (Y_4) as a function of expansive versus constrictive body poses (X_1) simultaneously through attributions of the three

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[7] To explore whether participant race qualified the present pattern of results, we ran an additional multilevel model that included White ($n = 53$) or non-White ($n = 143$) participants as a variable. The Target race × Target pose × Participant race interaction was not significant, log odds = −0.12 (.17), $Z(15,680) = −0.74$, $p = .460$, 95% CI [−0.45, 0.20], indicating that participant race did not significantly impact partner choice.

Although many more female ($n = 122$) compared to male ($n = 73$) participants were fortuitously recruited in the present study, to explore whether participant gender qualified the present pattern of results, we ran an additional multilevel model that included participant gender. The Target race × Target pose × Participant gender interaction was significant, log odds = 0.45 (.15), $Z(15,600) = 2.97$, $p = .003$, 95% CI [0.15, 0.75]. Among male participants, the Target pose × Target race interaction was not significant, log odds = −0.10 (.12), $Z(5,840) = −0.83$, $p = .407$, 95% CI [−0.34, 0.14]. Among female participants, however, the Target pose × Target race interaction was significant, log odds = 0.35 (.09), $Z(9,760) = 3.77$, $p < .001$, 95% CI [0.17, 0.54]. Simple effects analyses revealed that White targets with expansive ($M = 5.80$, $SD = 2.26$) compared to constrictive ($M = 4.58$, $SD = 2.01$) poses were chosen more often, log odds = 0.32 (.07), $Z(9,760) = 4.81$, $p < .001$, 95% CI [0.19, 0.45]. In contrast, type of pose did not impact choice of Black partners, log odds = −0.04 (.07), $Z(9,760) = −0.53$, $p = .596$, 95% CI [−0.17, 0.09]. The choice of Black targets in expansive poses ($M = 4.78$, $SD = 2.33$) compared to constrictive poses ($M = 4.84$, $SD = 2.31$) did not differ.

[8] We examined responses on two open-ended exit items that probed participant's perceptions of (a) the purpose of the experiment and (b) the expectations of the experimenters. The frequency that participants mentioned race or racial issues on either item was very low (28 of 196, or 14%).

Removing the responses of participants who mentioned race when describing the purpose of the study or who identified the hypotheses from the analyses did not significantly change the results. Specifically, the Target race × Target pose interaction was significant, log odds = 0.16 (.08), $Z(13,440) = 2.00$, $p = .045$, 95% CI [0.00, 0.32]. White targets with expansive ($M = 5.30$, $SD = 2.42$) compared to constrictive ($M = 4.63$, $SD = 2.11$) poses were chosen more often, log odds = 0.18, $Z(13,440) = 3.19$, $p = .001$, 95% CI [0.07, 0.29]. The choice of Black targets in expansive ($M = 5.07$, $SD = 2.33$) compared to constrictive ($M = 4.99$, $SD = 2.29$) poses did not differ, log odds = 0.02 (.06), $Z(13,440) = 0.37$, $p = .715$, 95% CI [−0.09, 0.13].
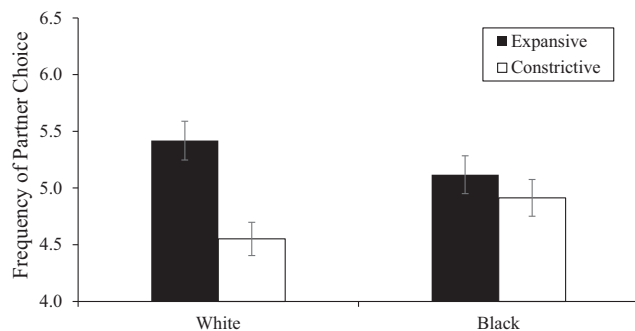
mediators: competence (Y_1), warmth (Y_2), and aggression (Y_3), with target race as a moderator (*W*), see Figure 3. Model fit statistics for our model indicated a close fit, see Table 1.

To examine overall model moderation by target race, we compared our moderated model to a model in which all parameter estimates were constrained to be equal across target races. This analysis revealed the moderated model as having superior fit compared to the constrained model, $\chi^2_{\text{diff}}(6) = 18.47$, $p = .005$, indicating that the relationship between body pose and partner choice through attributions of competence, warmth, and aggression is significantly different for White compared to Black targets. Next, we present the parameter estimates for our model. As with Experiment 1, *b* represents the unstandardized path estimate and the number in parentheses is the standard error.

Competence

The findings indicate that although participants rated White targets in expansive versus constrictive poses as more competent, $b = 0.11 \ (.05)$, $Z = 2.07$, $p = .039$, body pose was unrelated to attributions of competence for Black targets, $b = -0.04 \ (.06)$, $Z = -0.70$, $p = .486$. Greater attributions of competence, in turn, were associated with greater likelihood of being chosen as a partner for White targets, $b = 0.01 \ (004)$, $Z = 3.81$, $p < .001$, but not Black targets, $b = 0.004 \ (.004)$, $Z = 0.94$, $p = .349$. These effects, however, did not significantly differ from each other, $\chi^2_{\text{diff}}(1) = 3.15$, $p = .076$. Furthermore, competence ratings did not mediate the impact of expansive versus constrictive poses on partner choice for White targets, $b = 0.001 \ (.001)$, $Z = 1.87$, $p = .062$, or Black targets, $b = -0.000 \ (.000)$, $Z = -0.53$, $p = .595$.

Warmth

Expansive compared to constrictive poses were unrelated to attributions of warmth for both White targets, $b = 0.09 \ (.13)$, $Z = 0.70$, $p = .485$, and Black targets, $b = -0.19 \ (.11)$, $Z = -1.80$, $p = .072$. Greater attributions of warmth were not associated with partner choice for White, $b = 0.008 \ (.005)$, $Z = 1.75$, $p = .08$, or Black targets, $b = -0.006 \ (.005)$, $Z = -1.21$, $p = .225$. These effects, however, were significantly different, $\chi^2_{\text{diff}}(1) = 4.32$, $p = .038$. Furthermore, warmth ratings did not mediate the impact of expansive versus constrictive poses on partner choice for White targets, $b = 0.001 \ (.001)$, $Z = 0.67$, $p = .502$, or Black targets, $b = 0.001 \ (.001)$, $Z = 1.16$, $p = .246$.

Aggression

Although body pose did not impact attributions of aggression for White targets, $b = -0.16 \ (.14)$, $Z = -1.08$, $p = 0.277$, Black targets in expansive compared to constrictive poses were rated as more aggressive, $b = 0.23 \ (.10)$, $Z = 2.31$, $p = .021$. Greater attributions of aggression were associated with a lower likelihood of being chosen as a partner for Black, $b = -0.02 \ (.004)$, $Z = -3.87$, $p < .001$, but not for White targets, $b = 0.003 \ (.004)$, $Z = 0.663$, $p = .507$, and these effects were significantly different, $\chi^2_{\text{diff}}(1) = 9.47$, $p = .002$. Moreover, aggression ratings did not mediate the impact of expansive versus constrictive poses on partner choice for White targets, but it did for Black targets. Specifically, the indirect effect of expansiveness on a decreased likelihood of choosing Black partners

through greater attributions of aggressions was significant, $b = -0.004 \ (.002)$, $Z = -2.39$, $p = .017$, but the indirect effect of expansiveness on choosing a White partner was not significant, $b = -0.000 \ (.001)$, $Z = -0.70$, $p = .487$.

In summary, the results of Experiment 4 replicate the pattern of findings in Experiment 3 related to partner choice. Specifically, participants were more willing to interact with and get to know White targets in expansive compared to constrictive poses. In contrast, expansive versus constrictive poses did not influence participants' willingness to interact with Black targets. In addition, our results suggest that while attributions of aggression related to expansive poses did not influence the choice of White partners, it did reduce the choice of Black partners. While posing in expansive ways can be beneficial for White targets, it may have no benefit for Black targets because of associations of such dominant poses with aggression.

General Discussion

In four studies, we investigated the impact of expansive body poses on perceptions of White and Black targets. The results from Experiment 1 demonstrated that expansive compared to constrictive poses increased perceptions of dominance for both racial groups. However, while dominance ascribed to White targets in expansive poses was associated with more competence, dominance ascribed to Black targets in expansive poses was associated with more competence as well as aggression.

The results from Experiments 2 through 4 examined the professional and interpersonal implications of racial differences in the impact of expansive versus constrictive poses. Although the results from Experiment 2 indicated that both White and Black targets with expansive compared to constrictive poses were expected to be more successful in a professional context, this advantage was significantly stronger for White targets. The results from Experiments 3 and 4 demonstrated that while White targets in expansive compared to constrictive poses were chosen more often as partners in a social context, Black targets did not benefit in this setting from expansive poses. One reason why Black targets did not benefit from expansive poses was because these poses were associated with more aggression. Despite the fact that White and Black targets were presented in the same poses, and matched on objective size, age, and attractiveness, in two distinct contexts, White targets in expansive compared to constrictive poses profited more than Black targets.

Although across all four experiments, White targets benefited more from expansive poses, there were several inconsistencies in trait attributions across experiments. In particular, while in Experiments 1 and 4, Black targets were always rated as more aggressive in expansive compared to constrictive poses (and White targets were not), and expansive versus constrictive poses did not significantly influence attributions of warmth for targets of either race, there were differences in the results related to attributions of competence. Specifically, in Experiment 1, expansive versus constrictive poses increased attributions of competence and these attributions were found to mediate the relationship between type of pose and *perceptions of dominance* for both White and Black targets. In Experiment 4, however, expansive poses only increase attributions of competence for White and not Black targets and attributions of competence were *not* found to significantly mediate the relationship between type of pose and *partner choice* for targets of either race. These

inconsistencies indicate that further research is necessary to better understand the impact of expansive poses on attributions of competence for White and especially Black targets and how these attributions are related to perceived dominance and partner choice. Examining the relationship between attributions of competence related to expansive poses and perceptions of professional success is also recommended.

Although not our primary goal, we also conducted additional analyses probing for participant gender effects in each experiment (see Footnotes 2, 4, 5, and 7). Notably, the results from these analyses varied. Specifically, participant gender did not qualify the main findings in Experiments 1 and 2, but a differential pattern of effects was found for male and female participants in Experiments 3 and 4. Notably, both of the latter effects were related to an interpersonal context. These results, however, should be interpreted with extreme caution. We did not predict a participant gender effect and the sample sizes were not sufficient to provide a powerful test of the three-way interactions and the ratio of men to women was markedly unequal. We call for future work to examine the relationship between participant gender, target race, and body pose on trait attributions in a variety of settings. An additional avenue for further investigation could also include Black participants to explore if they respond in similar ways to non-Black participants.

Research that explores the impact of expansive versus constrictive poses with other social categories is another important avenue for the future. While the present experiments focused on White and Black men, because of the strong relationship between dominance, aggression, race, and maleness (Johnson & Ghavami, 2011; Koenig & Eagly, 2014; Sellers & Shelton, 2003) studies examining this pattern with female targets is clearly necessary. Recent research linking stereotypes of violence and aggression with Black targets (Thiem et al., 2019) indicates that faces of Black people, regardless of age or gender, are associated more with threat than faces of White people. Although the magnitude of this bias was smaller for Black female versus Black male targets, Black women are commonly viewed as hostile, aggressive, and unfeminine (Galinsky et al., 2013; Ghavami & Peplau, 2013; Johnson et al., 2012; Weitz & Gordon, 1993). Therefore, one might expect that the link between expansive poses, dominance, and aggression found for Black men may generalize to Black women. However, given gendered stereotypes on leadership, positive associations of women in general with warmth, and negative associations of women with competence, further research is warranted to examine if the present pattern of data replicates with female Black and White targets. Besides examining female targets, future research should also examine other categories that are and are not stereotypically associated with aggression. For example, how do expansive poses impact trait attributions of Middle Eastern, Asian, elderly, or gay men targets?

In addition to the professional and interpersonal domains in the present research, there may be a variety of other contexts in which racial biases related to body perception may occur (Johnson & Iida, 2013; King et al., 2006; Mitchell et al., 2005). For example, in a job interview, if a Black candidate attempts to show confidence and competence by posing in expansive ways, this strategy may be less effective than for White candidates. Likewise, during a criminal trial, a self-assured Black defendant may stand tall and hold his body in an expansive pose that he hopes will project his innocence. Such displays, however, may not signal self-assurance, but rather aggression, potentially resulting in greater perceptions of guilt among non-

Black jury members. While during altercations with police, decisions to shoot should be related to perceptions of threat by the officer, expansive poses by Black suspects may be related to a greater risk of danger. Notably, when officers instruct people to raise their hands and to spread their arms and legs, these expansive poses may increase racial biases. Even in contexts in which establishing a sense of dominance might be desirable, Black people may be vulnerable to being misperceived. During political activism, for example, in Black Lives Matter protests, Black activists may wish to portray assertiveness to emphasize a need for change. To the extent that they communicate this objective with their bodies, however, they may be perceived as more aggressive. These perceptions may lead to a greater pushback from non-Black observers and police who feel threatened. Thus, in contexts in which dominance is beneficial, expansiveness and other related poses may have a positive impact for White people but have little effect or even a negative impact for Black people.

The present results highlight a need for further research aimed at developing interventions (e.g., implicit bias awareness seminars, perspective taking, evaluative conditioning) to reduce racial biases related to body perception (Bezrukova et al., 2016; Kawakami et al., 2017; Phills et al., 2019; Todd et al., 2011). In the past, people have been instructed on how to use bodily cues to form impressions of others. For example, in some police training materials, officers learn that certain body cues (e.g., pacing, eye contact, and invading personal space) might signal impending violence (Johnson, 2019). People using these techniques, however, may not realize how racial discrimination unfolds in these contexts. Future research can explore the efficacy of bias interventions that include efforts to promote awareness that certain social categories, such as those related to race, have an impact on perceptions of common body cues.

Notably, the present research also contributes to the current literature on how target characteristics can moderate race effects. In particular, research indicates that increasing perceptions of Black targets as nonthreatening through disarming mechanisms, or characteristics that oppose stereotypes of Black targets as aggressive, may lead to more positive outcomes for Black lives (Livingston & Pearce, 2009). For example, stereotypes of gay men as warm may work to disarm Black stereotypes related to aggression for gay Black men (Clausell & Fiske, 2005). In accordance with this possibility, research has demonstrated that although White straight men were approached faster and liked more than White gay men, for Black men, this pattern was reversed (Remedios et al., 2011). Black gay men were approached more quickly and liked more than Black straight men. Likewise, while White straight men were rated as better leaders than White gay men, Black gay men were rated as better leaders than Black straight men (Wilson, Remedios, & Rule, 2017). Research has also provided evidence in support of other mechanisms that may defuse perceptions of Black targets as threatening, including increasing age (Kang & Chasteen, 2009), babyfaceness (Livingston & Pearce, 2009), and disarming behavior (Karmali et al., 2022; Neel et al., 2013). For example, Livingston et al. (2012) found that when participants read that a White Chief Executive Officer (CEO) of a Fortune 500 company reacted communally or dominantly toward an employee, their evaluations did not differ. However, participants gave a Black CEO higher leadership ratings when he was communal rather than dominant.

Given this literature and the results of the current experiments, in which expansiveness leads to more positive perceptions of and

responses to White than Black targets, one potential avenue for future work is to investigate types of body poses or dynamic nonverbal behaviors that benefit Black people in leadership and interpersonal domains. For example, immediacy behaviors (e.g., leaning toward your partner), smiling, and other bodily signals by Black targets that can communicate warmth and liking may reduce biased responding toward Black people (Neel et al., 2013). Given that such behaviors tend to be reciprocated (Word et al., 1974), instructing Black people in ways to use these nonverbal cues to their advantage may facilitate intergroup interactions.

Although a great deal of work has been devoted to determining the accuracy of inferences from bodies (Ambady & Rosenthal, 1992; Hall et al., 2008), *perceptions*, whether correct or not, matter (Anderson & Kilduff, 2009a; Hall et al., 2005; Johnson & Freeman, 2010; McArthur & Baron, 1983). The personal characteristics inferred from bodies may not only be used to guide social perceivers' judgments and evaluations of a target (Weisfeld et al., 1983) but can also influence an observers' own behavior, visual attention, decisions, and performance (Azarian et al., 2016; Tiedens & Fragale, 2003; Word et al., 1974). For example, dominant and submissive body postures of confederates influenced how participants held their own bodies (de Lemus et al., 2012). Furthermore, Logel et al. (2009) found that female engineering students, who interacted with men whose postures indicated sexism and dominance compared to more neutral stances, performed worse on a subsequent math test. Although we did not investigate in the present experiments how Black participants respond to perceptions of expansive poses as aggressive, this is also clearly an important avenue for future research.

Besides informing racial biases, the current work also contributes in important ways to the literature on body perception by presenting additional evidence that social factors can impact the perception and implications of body cues. While past research indicates that the same body cues may have different meanings in different cultures and different cultures manifest personality traits and intention with different body cues (Peng et al., 1993; Wang et al., 2009), the present findings indicate that even within the same culture, target race can moderate perceptions of and associations with body cues.

In conclusion, the present research highlights a sad reality for Black people—that to navigate successfully in North American society, they may have to adjust their behaviors or monitor the reactions of others to their actions. Adjusting one's behavior to induce airness in others, however, can be a taxing process. For example, research suggests that controlling body movements may be cognitively demanding because these habits have been developed over years and are largely habitual (DePaulo et al., 1992). In a job interview, for example, exerting control over body position can deplete cognitive resources and hinder candidates' performance. With practice, however, Black people may become efficient at moderating threatening perceptions related to body cues so that it does not impinge on their task at hand (e.g., answering job interview questions, meeting new acquaintances). A future avenue of research may be to use naturalistic observational methods to investigate whether some Black people use different body poses, gestures, or nonverbal behaviors to disarm themselves when interacting with White compared to Black people and the effectiveness of this strategy in reducing bias.

The current work suggests that Black people may benefit from practicing such skills. Indeed, many Black people have already intuited the effects of their nonverbal behavior on White observers. For instance, in the opening scene of "The Hate U Give" (Tillman et al., 2018), a film based on the real-world experiences of interactions between Black citizens and the police, a Black man and woman are sitting at a table in their home with their children having "the talk." In this conversation, Black parents teach their children to present themselves as least threatening as possible, for example, by keeping their hands visible when in a precarious interaction with police (Peters, 2002). As the film's director, George Tillman Jr., points out, this conversation is "very normal in a lot of African American families" (The New York Times, 2018). The present research suggests that this talk may be necessary not only when interacting with police but in various scenarios in which body language and postures may be perceived in biased ways. Thus, while one aspect of White male privilege is that White men are allowed to act bold, and may even be rewarded for this boldness, Black men do not benefit to the same extent or are even be penalized for such nonverbal behaviors and may therefore carry the burden of disarming themselves to receive fair treatment.

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