INTERGROUP BIASES IN PERSON PERCEPTION: THE IMPACT OF RACE AND EXPANSIVE POSES ON PERCEIVED TRAIT ATTRIBUTIONS AND EVALUATIONS OF PROFESSIONAL AND INTERPERSONAL SUCCESS

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Abstract

A long history of research demonstrates that when perceiving others, information from bodily cues can inform our impressions, evaluations, and decisions. However, this work has largely focused on perceptions of White targets. The current work, fills this research gap by investigating the implications of body pose for both White and Black targets. In three studies, participants were presented with images of White and Black targets with expansive and constrictive poses. First, while expansive poses relative to constrictive poses increased perceptions of dominance for targets of both races, they increased perceptions of aggression for Black targets only. Furthermore, mediation analyses revealed that although dominance related to expansive poses was associated with greater perceptions of competence for White targets, this was not the case for Black targets. Notably, mediational analysis also revealed that perceptions of aggression related to expansive poses were associated with lower perceptions of warmth for Black but not White targets. The final two experiments examined the impact of poses on evaluations in professional and interpersonal domains. The results demonstrated that expansive compared to constrictive poses led to perceptions of professional success for White targets, but had less impact for Black targets. Moreover, expansive poses also led to a greater willingness to interact with a White target but had no advantage for a Black target in an interpersonal context. The implications of these findings for our understanding of body perception and race are discussed.

234 words, *Keywords:* race, body posture, racial bias, person perception, nonverbal behaviors

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Race is often processed efficiently and automatically when forming impressions of others (Devine, 1986; Dovidio, Evans, & Tyler, 1986). Because Blacks are stereotyped as aggressive, hostile, and threatening (Eberhardt, Goff, Purdie, Davis, & 2004), they are often judged in accordance with these associations. For example, Blacks are considered to be more capable of harm (Wilson, Hugenberg, & Rule, 2017) and their behavior is often perceived to be more aggressiveness when compared to matched Whites (Duncan, 1976; Sagar & Schofield, 1980). Moreover, behaviour toward Blacks compared to Whites reflect these impressions. Race has been shown to affect hiring selection (King, Madera, Hebl, Knight, & Mendoza, 2006), sentencing decisions by juries (Mitchell, Haw, Pfeifer, & Meissner, 2005), medical considerations (Stepanikova, 2012), and even shooting responses (Correll, Park, Judd, Wittenbrink, Sadler & Keesee, 2007). All with negative implications for Blacks. Although racial biases have been widely studied in social psychology, the influence of race on impressions formed from bodies has been largely unexplored. Despite evidence indicating the importance of decoding bodies in general, we know little about how these processes are impacted by race.

Like race, body cues are often used to inform impressions of new people (Ellyson & Dovidio, 1985; Johnson & Iida, 2013; Johnson & Shiffrar, 2013; Hall, Coats, & LeBeau, 2005). Importantly, these judgments can impact downstream evaluations and behaviors toward the target (Mehrabian, 1967; 1968a; 1969; Tiedens & Fragale, 2003; Weisfeld, Bloch, & Ivers, 1983). From advancing ones' career to evolving personal relationships, outcomes in professional and interpersonal domains are impacted by body poses (Johnson & Iida, 2013). Notably, this research, however, has focused on Whites. In the current work, I investigated the interaction of

race and expansive compared to constrictive poses. Because these body cues are associated with important trait information (i.e., dominance, aggression, competence, and warmth) that can impact the professional and social success of targets, they are particularly relevant in an intergroup context (Hall et al., 2005; Tiedens & Fragale, 2003; Vacharkulksemsuk et al., 2016; Weisfeld & Beresford, 1982).

Specifically, the goal of the current research was to investigate whether impressions related to expansive and constrictive poses differ for White and Black targets. To this end, I first review the importance of body perception and how body poses signal dominance and aggression, before considering the different implications of these signals for attributions of two basic dimensions (i.e., competence and warmth) of person perception (Fiske, Cuddy, Glick, & Xu, 2002). Next, I explore whether expansive and constrictive poses have potentially different consequences for each race in professional and interpersonal contexts. Next, I present three experiments in which I investigate (a) whether expansive versus constrictive poses differentially impact perceptions of dominance and aggression for Black and White targets, (b) whether dominance associated with expansive poses differentially affects perceptions of competence for Black and White targets, (c) whether aggression associated with expansive poses differentially affects perceptions of warmth for Black and White targets, and (d) whether White targets benefit more from expansive compared to constrictive poses than Black targets in professional and interpersonal contexts. Finally, I discuss the potential implications for divergent body perception processes for the lives and wellbeing of Black and White targets.

Body Poses and Person Perception

Research has provided evidence for the importance of body perception on impression formation processes (Aviezer, Trope, & Todorov, 2012; Johnson, Gill, Reichman, & Tassinary,

2007; Reed, Stone, Grubb, & McGoldrick, 2006). Specifically, the ways that people hold and move their bodies can communicate a wealth of information about a target (Argyle, 1988; Enea & Iancu, 2016; Ravin & Rule, 2016). Just as with faces, perceiving bodies depend uniquely on configural processing (Azarian, Esser, & Peterson, 2016; Johnson, McKay, & Pollick, 2011; Gliga & Dehaene-Lambertz, 2005; Reed et al., 2007). Unlike faces, however, bodies may be particularily informative because they can be perceived at greater physical distances. Humans may be especially tuned to body cues that signal threat (Johnson & Iida, 2013). Thus, even from afar, body poses may be used to discern friend from foe.

When perceiving others, body gestures, postures, and movements of targets can communicate their in-the-moment emotions (Ekman, 1965; Ekman & Friesen, 1967; Enea & Iancu, 2016; Kana & Travers, 2012; Ricci Bitti, Argyle, & Giovannini, 1979; Tracy & Robins, 2004; 2007), attitudes (Mehrabian, 1968b; 1969; Patterson, Reidhead, Gooch, & Stopka, 1984), and intentions (de Gelder, 2013), which can subsequently influence how we respond (Azarian, Buzzell, Esser, Dornstauder, & Perterson, 2017; Bernard et al., 2019; Chartrand & Bargh, 1999) and evaluate targets (Schouwstra & Hoogstraten, 1995). For example, in a study simulating border security checks, customs inspectors and lay-people were more likely to recommend searching travelers who displayed nervousness through their bodies with greater postural shifts (Kraut & Poe, 1980).

Importantly for the current research, styles of holding and moving bodies also provide social perceivers with information about a targets' stable characteristics, such as personality (Aries, Gold, & Weigel, 1983; Borkenau & Liebler, 1992; Hall et al., 2008; Kudoh & Matsumoto, 1985; Nauman, Vazire, Rentfrow, & Gosling, 2009; Satchell et al., 2017), group membership (Eisenberg, 1937; Johnson et al., 2007; Lick, Johnson, & Gill, 2013), and behavioral

tendencies (Carney, Hall, & Smith LeBeau, 2005). In one study, for instance, body cues were reliably utilized by observers who were asked to make judgments of targets on the Big Five personality dimensions. Body postures were also related to observers' evaluations of targets' self-esteem, loneliness, religiosity, political orientation, and likability (Nauman et al., 2009).

Although a great deal of work has been devoted to determining the accuracy of inferences formed from bodies (Ambady & Rosenthal, 1992; Hall et al., 2008), researchers have provided impressive evidence on the importance of *perceptions*, whether correct or not (Anderson & Kilduff, 2009a; Chen, Jing, & Lee, 2014; Hall et al., 2005; Wilson et al., 2017a). It is now clear that body perceptions matter (McArthur & Baron, 1983; Johnson & Freeman, 2010). The personal characteristics inferred from bodies may be used to guide social perceivers' judgments and evaluations of a target (Weisfeld et al., 1983), which can influence an observers' own behavior, visual attention, decisions, and even their performance (Azarian, Esser, & Peterson 2016; Tiedens & Fragale, 2003). For example, Logel and colleagues (2009), found that female engineering students who interacted with men whose postures indicated sexism and dominance, performed worse on a subsequent math test than females who interacted with men whose body postures were not related dominance and sexist attitudes. Furthermore, dominant or submissive body postures of confederates influenced how participants held their own bodies (de Lemus, Spears, & Moya, 2012) and the extent to which the confederates' body posture complimented their partner, influenced how much participants liked the confederate, how comfortable they felt, and the frequency that they smiled at the confederate (Tiedens & Fragale, 2003). When choosing who to date, body poses of potential partners were related to personality judgments, which were then linked to dating decisions (Vaharkulksemsuk et al., 2016).

Expansive versus constrictive body poses

One set of body poses that has been widely researched because of their important social implications is expansive versus constrictive poses (Aries et al., 1983; Burgoon & Dunbar, 2006; Carney et al., 2005; Eibl-Eibesfeldt, 1974; Eisenberg, 1937; Gifford, 1991; 1994; Hall et al., 2005; Maslow, 1937; Tiedens & Fragale 2003). Expansive poses refer to postures in which the target takes up more space. For example, when targets erect their posture or extend their limbs out and away from the body. 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 (Carney et al., 2005; de Waal, 1998). Primate and human research provides evidence that expansive poses are related to perceptions of dominance, whereas constrictive poses cue the opposite, submission (Bailey & Kelly, 2015; Burgoon & Dunbar, 2006; Carney et al., 2005; de Waal, 1998; Eibl-Eibesfeldt, 1974; Koppensteiner, Stephan, & Jaschke, 2016; Maslow, 1936, 1937; Mehrabian, 1968a, 1981; Rule, Adams, Ambady, & Freeman, 2012; Tiedens & Fragale 2003; van Lawick,-Goodall, 1967).

Preventing a thorough understanding of the influence of expansive compared to constrictive poses on person perceptions, however, are the multiple definitions and operationalizations of dominance (Burgoon, Johnson, Koch, 1998; Ellyson & Dovidio, 1985). Most pertinent to the current work, for example, operationalizations of dominance at times include, are synonymous with, or exclude aggression altogether. In the next section, after defining both dominance and aggression constructs and how they are manifested through expansiveness, I join others (Burgoon et al., 1998; Ellyson & Dovidio, 1985) in arguing that dominance and aggression are two related but distinct concepts that do not necessarily co-occur.

Dominance and Aggression

Dominance. Dominance has generally been conceptualized in two forms: as a social position and as a personality trait. Among ecologist and sociobiologist examining nonhuman primate social behavior, dominance has most often been used to describe an individual's specific social rank within their group (Sebeok, 1962). A dominant position is one that affords the holder disproportionately more power over other members. Specifically, dominant individuals control access and distribution of important survival resources, such as food and mating partners (Liska, 1998). In this way, dominance describes the highest ranking position within the broader social hierarchal structure of groups (Ellyson & Dovidio, 1985).

Among social and personality psychologists, alternatively, dominance is more often described as a personality trait. Specifically, dominance has been associated with characteristics such as assertiveness, determination, and a drive for power, influence, and leadership (Burgoon & Dunbar, 2006; Burgoon et al., 1998). Although not necessarily in a position of power, a dominant person has a preference for possessing authority and has a tendency to behave assertively (Josephs, Sellers, Newman, & Mehta, 2006; Yarnold, Mueser, & Grimm, 1985). Whereas dominant people are highly motivated to achieve control over their group, nondominants are unassuming, compliant, insecure, and avoidant of self-assertion (Emmons & McAdams, 1991; Ellyson & Dovidio, 1985; Jackson, 1984; Lowry, 1973; Murray, 1938). Because of this, dominance is often measured by the presence or absence of verbal and nonverbal behavior specific to controlling communication. For example, behaviors such as interruptions, speaking time, initiation of touch, and telling others what to do have been used to measure dominance (Anderson & Kilduff, 2009a; Fromme & Bean, 1974; Keating, Mazur, & Segall, 1977; Strongman & Champness, 1968; Sundstrom & Altman, 1974).

Notably, expansive poses are used reliably by social perceivers to infer dominance (Rule et al., 2012; Hall et al., 2005). For example, when participants were asked to rate photographs of men in expansive and constrictive poses, they were able to infer dominance at rates better than chance even when stimuli were displayed for only 40 ms (Rule et al., 2012). Performance was also accurate when only outlines of bodies were presented, supporting the claim that body information alone is sufficient to cue dominance.

Because power is associated with the possession of resources, expansiveness can signal dominance by actually taking up more physical space in an environment. Expansiveness can also cue dominance by signaling control over others. Specifically, given that the powerful are typically the focus of attention during social interactions and because making oneself larger can draw visual attention, expansiveness can command others' attention. Also, by making oneself tall and elevated, one can project a greater sense of supervision and control over others (Burgoon & Dunbar, 2006; Ellyson & Dovidio, 1985; Schwartz, Tesser, & Powell, 1982). In contrast, constrictiveness can signal submission through implying a surrender of space, resources, and social control. For example, in contrast to expansive poses, constrictive poses reduce attention during group interactions (Burgoon & Dunbar, 2006).

Aggression. Compared to dominance, definitions of aggression are more consistent and uniform. Aggression refers to attacking and destructive behaviors acted out with the intent to harm (Anderson & Bushman, 2002; Buss, 1961). An aggressive person is an individual with a greater tendency towards acting hostile in social situations, which may include verbal abuse, physical abuse, and displays of hostility (Ridgeway, Berger, & Smith, 1985). Notably, among nonhuman primates, the dominant individual of a group often provides protection from antagonistic outsiders. Therefore, to the extent that the group benefits from physical strength,

those in powerful positions tend to be physically formidable and possess capabilities to aggress, even among humans in some contexts (Savin-Williams, 1977; Sluckin & Smith, 1977; Sundstorm & Altman, 1974; Weisfield et al., 1983). Furthermore, in many nonhuman and some human groups, positions of dominance are achieved and maintained through physical competition (Daly & Wilson, 1978; Trivers, 1972, 1985). Therefore, to the extent that groups organize social rank through physical competitions, the powerful would need to have some proclivity towards aggression (Griskevicius et al., 2009).

The communication of aggression from body expansiveness, which has been primarily studied with primates (Maslow, 1937; Schaller, 1963; van Lawick-Goodll, 1967) suggests that that individuals, including humans, can convey their capability to physical control and aggress against others through expansive poses (Tinbergen, 1953, 1968). For example, by increasing the appearance of one's size, expansive displays project physical capabilities and toughness that can be used to intimidate and suggest the potential for harm (Mehrabian, 1972; Weisfeld & Beresford, 1982). Constrictive poses in contrast, project harmlessness and non-combativeness (Gifford, 1994; Holland, Wolf, Looser, & Cuddy, 2017; Mehrabian, 1968a; 1969; 1981). For example, fright displays, such as lowering and constricting one's body, signal that the target does not intend to challenge others in dominant positions, whereas threat displays, such as expanding one's body, can signal challenge (Burgoon & Dunbar, 2006; Burgoon & Hale, 1984; Mehrabian, 1981).

Differentiating Dominance and Aggression. Although dominance and aggression are distinct constructs, they are often used interchangeably, perhaps because both fall under the "social control" or "vertical dimension" aspect of human personality (Hall et al., 2005; Burgoon & Dunbar, 2006). Another reason why these traits may often be conflated is because of their

evolutionary roots in which dominance, as an outcome, can be achieved through aggression, leading some to describe aggression and dominance as coinciding (Dabbs & Moirris, 1990; Ehrenkarnz, Bliss, & Sheard, 1974). For example, Ridgeway (1987) describes dominance as threatening behavior used to control others.

More recent work conceptualizes dominance, not as an outcome or personality characteristic, but as a *strategy* to attain high ranking positions, that includes intimidation and forceful coercion. Dominance, in contrast to a prestigious strategy in which skills and knowledge are used to attain power, is related to aggressive tactics (Cheng & Tracy, 2013, 2014; Cheng, Tracy, & Henrich, 2010; Cheng, Tracy, Foulsham, Kingstone, & Henrich, 2013; Witkower, Tracy, Cheng, & Henrich, 2019). When dominance is defined as a personality trait, however, aggressive behavior is not a necessary component of dominance (Cheng & Tracy, 2014).

Others have argued that aggression and dominance are distinct and provide evidence that a representation of dominance intertwined with aggression is too restrictive and creates a more negative depiction than is warranted (Dabbs & Hargrove, 1997; Burgoon & Dunbar, 2000; Burgoon et al., 1998). These researchers highlight the many positive and non-violent traits that are reliably associated with dominance (Anderson & Kilduff, 2009a, 2009b; Chen et al., 2014; Lord, de Vader, & Alliger, 1986; Megargee, Bogart, & Anderson, 1966; Smith & Foti, 1998). In one study for example, participants were asked to think of the most dominant and least dominant people they know and to subsequently rate them on various trait attributes. Although many dominant people were rated as aggressive (62%), even greater percentages were reported for such positive traits as friendly (83%), confident (81%), energetic (73%), and intelligent (74%). Fewer dominant people were reported to be forceful (44%), demanding (46%), and hostile (17%)

than would be expected if aggression was a necessary component of dominance (Burgoon et al., 1998).

In the current work I measured dominance and aggression as separate constructs because aggression, but not dominance is a common racial stereotype associated with Blacks (Devine, 1989; Eberhardt et al., 2004). I can explore whether race differences exist when inferring aggression from expansive and constrictive poses. Indeed, multiple researchers have suggested that perceptions of bodies depend on target relevant content such as race, sex, and age (Burgoon et al., 1998; Ellyson & Dovidio, 1985; Hall et al., 2005). Relatively little research, however, has explored the impact of such factors on inferences related to body poses and no research to my knowledge has systematically examined the influence of race on the implications of expansiveness.

Expansive Poses and Race

Aggressive racial stereotypes can have negative consequences for person perception (Freeman & Ambady, 2011; Hugenberg & Sacco, 2008; Kawakami, Hugenberg, & Amodio, 2017; Kunda & Sherman-Williams, 1993; Kunda & Thagard, 1996). In classic work by Duncan (1976), for example, when a Black compared to a White actor committed an ambiguous shove, it was perceived to be more aggressive and violent. Also, Sagar and Schofield (1980) found similar effects demonstrating that the same behavior performed by a White or Black target was perceived differently based on cultural stereotypes.

Although the influence of race on perceptions of expansive compared to constrictive poses has not been examined, prior research indicates that other social categories, *can* influence impressions generated from bodies. Investigations into the influence of a target's sex has received the most research attention (Williams & Tiedens, 2016). For example, inversion effects

from one study suggest that the bodies of male targets in swimsuits were processed in a more configural manner than female bodies in swimsuits, suggesting that sex influenced the extent to which these bodies were objectified (Bernard, Gervais, Allen, Campomizzi, & Klein, 2012). Sex also influenced which body motion or body shape impacted decisions about targets' sexual orientation (Johnson et al., 2007).

Crucially, the social category of a target can influence inferences from their bodies in ways consistent with expectations about that category. For example, sex stereotypes ascribe females to lower status positions in relation to men (Koenig & Eagly, 2014) and these expectations can influence perceptions of bodies (Campbell, 1967). In one study (Henley & Harmon, 1985), participants viewed photographs of female and male targets in different dominance displays. Specifically, targets were pointing at, touching the arm, standing over, and/or invading the space of another actor in the photograph. Notably, these relational bodily displays were chosen because prior research has established them as dominance signaling (Goffman, 1967; Henley, 1977; Hall, 1966; Sommer & Becker, 1969; Williams, 1974). Results indicated higher ratings of dominance for men displaying these poses than women. Also, women received higher ratings of sexuality than men, suggesting that target sex may have influenced the construal of bodily displays. That is, while these poses may communicate higher dominance for men, it communicated sexuality for women. In short, social category membership moderated the impact of body cues on impressions.

The present research, investigated whether social categorization processes change how expansive compared to constrictive body poses are perceived. Because Black people are not stereotyped as dominant, targets with expansive poses should be perceived as more dominant than with constrictive poses to the same extent for both races. Rating of dominance from body

pose, that is, should be independent of race. However, because Black but not White people are stereotyped as aggressive, perception of aggression in expansive compared to constrictive poses should be facilitated for Black but not White targets.

The Impact of Expansive Poses on Competence and Warmth

Given that I expect expansive versus constrictive poses to have different implications for dominance and aggression between Black and White targets, a primary goal of the current work was to examine the implications of these differences on more fundamental trait impressions. Specifically, I investigate the impact of expansive poses on two of the most central traits in person perception, competence and warmth (Abele & Wojciszke, 2007; Fiske, Cuddy, & Glick, 2007; Fiske et al., 2002; Glick & Fiske, 1996; Kervyn, Yzerbyt, & Judd, 2010; Phalet & Poppe, 1997; Rosenberg, Nelson, & Vivekananthan, 1968). Decades of research has observed competence and warmth dimensions, in various forms (e.g., agency/communality, intellectual good-bad/social good-bad), to reliably account for variability among numerous traits ratings or characteristics in a variety of research areas (Abele & Wojciszke, 2007; Judd, James-Hawkins, Yzerbyt, & Kashima, 2005; Rosenberg et al., 1968; Zanna & Hamilton, 1972). For example, competence and warmth dimensions have explained variance in trait perceptions in face perception (Montepare & Dobish, 2003; Oosterhof & Todorov, 2008) and intergroup relations (Fiske et al., 2002, 2007; Glick & Fiske, 1996).

Whereas warmth refers to the extent to which a target is perceived as a threat and reliably includes traits such as friendliness, helpfulness, sincerity, trustworthiness, and morality, competence represents a target's general intelligence, capabilities, or abilities to act on their intentions (Fiske et al., 2002, 2007; Wojciszke, 1994; 2005). Thus, an important characteristic of competence and warmth is that they can provide information related to a target's potential to act

on and achieve their social goals (Read & Miller, 1989). A target perceived as high in competence but low in warmth, for example, is perceived to have harmful intentions and possess the ability to successfully implement them (Oosterhof & Todorov, 2008). As I outline below, dominance and aggression can have implications for perceptions of competence and warmth, respectively. Specifically, past research has linked dominance with greater competence, and aggression with lower warmth. Whether these links are moderated by race of a target, however, has yet to be determined.

Expansive poses can cue dominance and relatedly greater competence

Recent work by Stolier and colleagues (2018) suggest that physical cues, or channels (faces, bodies, voices) used to signal one trait, will also signal another trait to the extent that social observers believe that these two traits co-occur (Asch, 1946; Stolier, Hehman, Keller, Walker, & Freeman, 2018). According to this theorizing, while conceptual trait spaces refer to an observer's beliefs about how various traits correlate within people (e.g., someone who is kind, must also be trustworthy), face trait spaces refer to the specific traits that are gleaned from physical facial cues (e.g., inferences of trustworthiness from babyfaceness). These researchers proposed a structural overlap between the two types of trait spaces and provide evidence that personality traits that are believed to correlate share physical facial characteristics that are used to infer those traits. Faces that are judged to be kind, for example, are physically similar to faces that are perceived as trustworthy to the extent that kindness and trustworthiness are believed to co-occur in people. Although these researchers have tested their theorizing with facial features, the same logic should apply to other physical cues that are used to channel information related to a person's personality, including bodies. Applying this reasoning to the communication of dominance and competence through body poses, expansive body poses may be judged as

dominant and then also competent, to the extent that observers believe dominance and competence co-occur in people. That is, the same physical feature of the body (i.e., body expansiveness), should be used to infer dominance *and* competence to the extent that people believe these traits occur together.

Importantly, however, the extent to which an observer believes two traits correlate within a target may differ depending on the targets' social category (Stolier, Hehman, & Freeman, 2018). People may believe that two traits are related, in part, because of expectations about a target's social category. Similarly, social group expectations may also guide beliefs that some traits are less likely to occur in a target. For example, perhaps because of stereotypes that men are dominant and women are submissive, people may believe dominance co-occurs with other traits cued by physical features for male but not female targets. In support of this view, whereas male faces displaying trustworthy features were associated with greater ratings of trustworthiness *and* dominance, these same facial features on females' faces were associated with greater trustworthiness rating, but not dominance (Sutherland, Young, Mootz, & Oldmeadow, 2015). Likewise, if social perceivers believe dominance and competence to co-occur for White but not Black people, targets with expansive poses may be judged as dominant to the same degree for both races, but as more competent for White but not Black targets.

Indeed, extensive research has demonstrated that for Whites, perceptions of dominance can have beneficial implications and that this may be because of its connection with perceptions of competence. In a meta-analysis of 85 years of research on small group interactions, for instance, dominance predicted who emerged as leaders more reliably than any other trait examined, including objectively measured competence (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, have been

used by social perceivers to judge success (Carney et al., 2005). For example, greater expansiveness is linked to greater perceptions and the actual attainment of rank, status, and influence (Blaker & van Vugt, 2014; Hall et al., 2005; Holland et al., 2017; Spiegel & Machotka, 1974; von Rueden, 2014; Weisfeld & Beresford, 1982). Moreover, in a recent meta-analysis, expansiveness and interpersonal distance were the only two characteristics from a list of 10 visible nonverbal behaviors that showed significant positive relationships with actual ratings of rank and power (Hall et al., 2005).

Some studies have provided evidence that bodily displays of dominance improve outcomes for targets *because* of a link between perceptions of dominance and competence (Anderson & Kilduff, 2009a; Burgoon & Dunbar, 2000; Chen et al., 2014; Livingston & Rosette, 2012; van Vugt, 2006). For example, participants' dominance ratings of photographs of U.S. political candidate faces were associated with higher perceptions of competence, which then predicted actual electoral success (Chen et al., 2014). Interestingly, although dominance has been shown to be unrelated to *actual* competence (Weisfeld & Beresford, 1982; Weisfeld et al., 1983; Anderson & Kilduff, 2009b), bodily cues of dominance can create the *perception* of competence (Rennung, Blum, & Goritz, 2016). Because people associate dominance with high rank, status, and leadership, and because competence is an important quality for these roles, people who are dominant may often be assumed to also be competent (Anderson & Kilduff, 2009a; Chen et al., 2014).

However, this assumption may not apply to Blacks. While, dominance may be associated with competence in previous research, in part, because White males exemplify the prototypical leaders, Blacks are not expected to occupy high status positions (Rosette, Leonardelli, & Phillips, 2008). When a White male uses body displays that convey dominance, he may also be perceived

as competent because others expect dominance and competence to co-occur in White males. Compared to Blacks, Whites are perceived and evaluated as better leaders (Beatty, 1973, Carlton & Rosette, 2011; Knight, Hebl, Foster, & Mannix, 2003; Ratcliff, Vescio, & Dahl, 2015) and their leadership success is attributed to greater ability and less luck (Yarkin, Town, & Wallston, 1982). Furthermore, Blacks are expected to fill low status positions within society such as service workers or criminals (Koenig & Eagly, 2014) and are perceived as incompetent (Block, Aumann, & Chelin, 2012; Hall, Phillips, & Townsend, 2015; McKown & Weinstein, 2003; Rowley, Kurtz-Costes, Mistry, & Feagans, 2007; Steele, 1997; Walzer, & Czopp, 2011). Therefore, observers may not associate dominance and competence for Black targets and although Black males may be perceived as more dominant in expansive poses, this dominance may not necessarily translate to greater perceptions of competence. A primary goal of the present research was to examine whether dominance communicated from expansive body poses was associated with perceptions of competence for White but not Black targets.

Expansive poses can cue aggression and relatedly lower warmth

Unlike dominance, which can take on positive connotations (Burgoon et al., 1998), aggression is unambiguously negative. Research suggests that aggression signifies motivation and attributions that directly oppose warmth. Whereas aggressiveness is related to the intent to harm (Anderson & Bushman, 2002; Buss, 1961), warmth is related to qualities such as friendliness, helpfulness, and perceived positive intent (Fiske et al., 2007). A recent meta-analysis of over a decade of research found a reliably significant negative correlation between aggression and warmth, such that greater aggressive behavior and trait aggression were associated with lower warmth scores (Jones, Miller & Lynam, 2011).

Notably, research indicates that although Black targets, in general, are perceived as neither high or low on perceptions of warmth, Black targets who are likely to be perceived as aggressive (e.g., poor, young, Black targets) score lower on warmth measures relative to Blacks in general and to Black subcategories less associated with aggression (e.g., professionals, elderly Black targets) (Fiske et al., 2002, 2007; Kang, Chasteen, Cadieux, Cary, & Syeda, 2014). If expansive body poses lead to more perceived aggression for Black but not White targets, then Black targets in expansive poses will be rated as lower in warmth. Taken together, this theorizing suggests that differential perceptions of dominance and aggression from expansive poses may lead to divergent implications for Black and White targets for such basic attributes as competence and warmth. Importantly, both competence and warmth can play prominent roles in determining success in important life outcomes, two of which I turn to next.

Expansiveness in Professional and Interpersonal Contexts

In professional and interpersonal contexts, perceptions of high competence and warmth are linked to perceived and actual success in these domains (Anderson & Kilduff, 2009ab; Burgoon & Dunbar, 2000; Chen et al., 2014; Livingston & Rosette, 2012; Rule & Ambady, 2009; van Vugt, 2006). Attributions of competence and warmth are important because they provide decision makers with expectations about a target's behavioral tendencies and inform responses and evaluations (Freeman & Ambady, 2011). Based on previous research described above, I expect expansive compared to constrictive poses to lead to greater perceptions of dominance and therefore, competence for White but not Blacks targets, and that Black but not White targets would be perceived as aggressive, and therefore, less warm. If race leads to these distinct competence and warmth implications from expansive poses, then expansive poses may also have different consequences for races in contexts in which these traits impact outcomes. In

particular, in professional and interpersonal domains, expansive versus constrictive poses may result in more positive outcomes for White versus Black targets.

Professional success

In professional contexts, for example, in organizational or political domains, research suggests perceived dominance and competence are beneficial. As noted earlier, greater dominance is related to greater perceived and actual leadership, influence, and control over group members (Judge, Bono, Illies, & Gevhardt, 2002; Lord et al., 1986; Megargee et al., 1966; Smith & Foti, 1998) and this link between dominance and success may be determined by perceptions of competence (Burgoon et al., 1998; Chen et al., 2014). Indeed, in professional contexts, competence is critical. Because rank and influence in these contexts are conferred to those who appear to provide some value to their group (Anderson & Kilduff, 2009b; Cheng & Tracy, 2014; van Vugt, 2006), perceptions of competence are weighted heavily in evaluations of emerging leaders (Anderson & Cowan, 2014; Lord et al., 1986; Oleszkiewicz & Lachowicz-Tabaczek, 2016; Todorov, Mandisodza, Goren, & Hall, 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, Bartels, & Bommer, 2002; Walzer & Czopp, 2011), was positively related to leadership abilities (Mann, 1959). Also, greater perceptions of competence predict *actual* success in professional contexts (Heslin & Dunphy, 1964, for review; Rule & Ambady, 2008).

To the extent that perceptions of dominance communicate competence, targets who are attempting upward mobility would benefit from expansive compared to constrictive poses. Indeed, work suggests that only when dominance is related to increased competence attributions will it be associated with greater professional success. For example, when ratings of perceived

competence were controlled in a mediation analysis in one study, high scores on dominance no longer predicted group influence (Anderson & Kilduff, 2009a). Similarly, when perceptions of the candidates' competence were controlled, greater facial dominance no longer predicted better electoral outcomes for political candidates (Chen et al., 2014).

Furthermore, when it comes to deciding who leads, who is promoted, or who has influence, perceptions of aggression and low warmth may disadvantage targets ascribed with these traits (Anderson & Cowan, 2014; Lord et al., 1986). That is, groups resist granting higher rank or leadership to those who compete by bullying or intimidation and may even punish those who try to take high ranking positions by force or aggression (Anderson & Kilduff, 2009b; Cheng & Tracy, 2014; van Vugt, 2006). Perceptions of warmth may suggest a communal leader whereas low warmth may project an authoritarian leader (Abele, 2003; Bakan, 1966; Fiske & Stevens, 1993), and importantly, the former is typically more admired and successful than the latter. For example, people rated aggressively dominant peers as leaders, but not well liked. Agentic peers who were not perceived as aggressive were also seen as leaders, but were also well liked, sought after for advice, and experienced other positive outcomes (Cheng et al., 2010).

Because high perceptions of competence are beneficial and low warmth is not, Whites may benefit from expansive displays more than Blacks in a professional context. Notably, a large research literature suggests that Blacks face many barriers to upward mobility in professional contexts (Morrison & Von Glinow, 1990). Evidence that body poses can have different professional implications for Blacks and Whites suggests that biases in perceptions of bodies may contribute to the numerous obstacles that Blacks encounter in professional contexts.

Interpersonal success

In interpersonal domains (e.g., social interactions, forming friendships, and romantic relationships), perceptions of dominance and competence may also be valuable. For example, in a study examining the posture of men and women during speed dating sessions, when potential partners were holding expansive compared to constrictive postures, they were perceived as more dominant and this dominance mediated the likelihood of being selected for a second date (Vaharkulksemsuk et al., 2016). In a second study, photographs of confederates in expansive or constrictive poses were posted on an online dating platform. During the first 48-hours, the number of viewers' Yes/No responses were recorded. Across both genders, potential romantic partners in expansive compared to constrictive postures were perceived as more dominant and this dominance led to more "yes" responses.

Moreover, an abundance of work draws clear positive links between measures of perceived and actual competence with ratings of liking, and decisions about approaching or befriending others (Baron, 1970; Helmreich, Aronson, & LeFan, 1970; Hughes & Zhang, 2007; Oleszkiewicz & Lachowicz-Tabaczek, 2016; Rosenblood & Goldstein, 1969). The link between competence and interpersonal success is likely 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, Hall, & LeBeau 2001). Therefore, people may generally expect less miscommunication and more harmonious interactions with people who they perceive as competent compared to incompetent. Indeed, relationships between competent people tend to be more successful (Buhrmester, Furman, Wittenberg, & Reis, 1988) and competent partners are more likely to be mimicked during interactions (Baron, 1970), which in turn facilitates liking and smooth interactions (Chartrand & Bargh, 1999).

Furthermore, both aggression and low warmth are aversive in interpersonal contexts and can produce avoidant responses (Henington, Hughes, Cavell, & Thompson, 1998; Lansford, Malone, Dodge, Pettit, & Bates, 2010). 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). Warmth, alternatively, is intimately tied to affective and behavioral responses to others. Indeed, judgments of warmth are often prioritized when forming impressions (Kenworthy & Tausch, 2008) and when deciding whether to interact with others. Because warmth provides information about a targets' motivation to help or harm (Fiske et al., 2007), targets projecting low warmth may be perceived as a personal threat.

Because high perceptions of competence and low warmth promote interpersonal success, Whites compared to Blacks may benefit from expansive displays more in these types of contexts. Notably, one classic index of racial discrimination is a willingness to approach and interact with Blacks (Allport, 1954; Byrne & McGraw, 1964; Byrne & Wong, 1962). Research has demonstrated that White participants are faster to avoid and slower to approach Black compared to White targets (Kawakami, Phills, Steele, & Dovidio, 2007; Phills, Kawakami, Tabi, Nadolny, & Inzlicht, 2011; Remedios, Chasteen, Rule, & Plaks, 2011), and often chose to work with a White over a Black target (Karmali, Kawakami, & Page-Gould, 2017; Kawakami, Dunn, Karmali, & Dovidio, 2009). Racial biases in impressions formed from bodies may at times contribute to more positive interpersonal outcomes for Whites compared to Blacks.

Overview of Current Research

The primary goal of the present research was to examine the differential impact of expansive poses for White and Black targets. Specifically, I investigated the effect of expansive

versus constrictive poses on perceptions of trait attributions and professional and interpersonal success. Before addressing these goals, however, in Study 1, I describe the process used to collect, standardize, and test the stimuli in Studies 2-4.

In Study 2, I investigated the impact of expansive versus constrictive poses on perceptions of dominance and aggression for Black and White targets and further examined whether these qualities are differentially related to attributions of competence and warmth. I expected that expansive compared to constrictive poses would lead to greater perceptions of dominance for both White and Black targets, but that dominance would then be associated with greater perceptions of competence for White but not Black targets. I further predicted that expansive compared to constrictive poses would lead to greater perceptions of aggression for Black but not White targets and that Black aggression would be associated with lower warmth.

In Study 3, I examined the influence of expansive versus constrictive poses by White and Black targets on perceptions of professional success. I expected that both races would benefit from expansive poses when compared to constrictive poses, since perceptions of dominance is more positive than submission in a professional context. Importantly, however, given that in professional contexts, high competence is especially valued but low warmth is not (Lord et al., 1986), I expected that White compared to Black targets would benefit *more* from expansiveness in professional contexts. Finally, in Study 4, I investigated the impact of expansive versus constrictive poses on interpersonal interactions, specifically, the willingness to work with a White versus Black partner on an intimate task. Because, greater competence is beneficial in interpersonal contexts and low warmth is not (Oleszkiewicz & Lachowicz-Tabaczek, 2016), I expected expansive compared to constrictive poses to increase participants' preferences for interacting with White targets more than for Black targets.

Study 1

Before investigating the primary hypotheses, my first goal was to create and test a standardized set of stimuli to use for proposed studies. Past research suggests that Blacks may be perceived to be larger in size than matched Whites (Wilson et al., 2017a) and that targets in expansive compared to constrictive poses should be perceived to be larger than with constrictive poses (Burgoon & Dunbar, 2006; Marsh, Yu, Schechter, & Blair, 2009). Therefore, after creating and standardizing a set of stimuli containing Black and White males in expansive and constrictive poses, I tested these stimuli by measuring perceptions of each targets' size. Although I expected this new stimulus to replicate past work and predicted independent main effects of target race and target pose on various measures of size perceptions, in contrast to the next three experiment, I did not expect race to interact with target pose to impact size perceptions.

Phase 1: Creating Stimuli

Step 1. To create stimuli for the present research, 10 distinct images of 35 Black and 53 White male targets were photographed. I initially collected more White than Black males because Blacks were more difficult to recruit at the University and I did not stop photographing White males as I continued to reach my goal of 35 Black males. Each target depicted, one expansive and one constrictive 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; See Appendix). For expansive poses, the targets' arms and legs were spread out and held away from their body and their posture was erect. For constrictive poses, the targets' arms and legs were drawn in and held close to their body and their posture was turned inward (Carney et al., 2005; de Waal, 1998). Targets were instructed to maintain neutral facial expressions and hold

their head straight and level for all poses. After collecting the images, Photoshop was used to standardize the size of the photographs and to convert all color images to black and white.

Step 2. The goal of step 2 was to select the best images from the set of 880 photographs (10 poses by 88 targets) based on a set of 4 criteria. Specifically, 14 research assistants 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., clearly Black or White), b) the target's pose was unambiguous (i.e., clearly expansive or constrictive), c) the target appeared natural (not awkward) in their position, and d) the target's facial expression was neutral. Photographs were excluded if more than one research assistant responded yes 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.

Step 3. The goal of step 3 was to obtain objective measures of size and perceptions of age and attractiveness of each target. For measures of size, the software PsychoMorph was used to measure the height and width (in inches) of each of the 67 individuals when in an expansive, standing position image. Because in expansive poses, targets erect their posture, these poses are more likely to reflect the height of each target. To obtain measures of perceived age and attractiveness, 61 nonBlack undergraduates rated each of the targets in an online study for course credit. Specifically, they evaluated each target on attractiveness (1 - not at all attractive to 9 - extremely attractive) and estimated the age (open ended).

Twenty White and 20 Black targets were selected based on comparable ratings of age, attractiveness, and objective size across races. Subsequent analysis indicated no difference between the final 20 White and 20 Black targets on estimates of age (*Ms* = 22.50 and 22.62, respectively, $t(38) = .287$, $p = .78$, 95% CI [-.75, .99]), attractiveness (*Ms* = 4.22 and 4.32,

respectively, $t(38) = .89$, $p = .38$, 95% CI [-.13, .34]), objective height, (*Ms* = 24.85 and 24.97, respectively, $t(38) = .46$, $p = .65$, 95% CI [-.41, .65]), or objective width (*Ms* = 5.75 and 5.88, respectively, $t(38) = 1.08$, $p = .29$, 95% CI [-.12, .39]). From these 40 individuals, two sets of stimuli containing 80 images each were created. Specifically, each individual contributed 4 images, 2 images for each set. Specifically, set 1 was comprised of one expansive pose and one constrictive pose from each target and set 2 was comprised of different positions of another expansive and constrictive pose from each target. In total, each set included 40 images of the same targets (20 Black and 20 White) posed once in a constrictive and once in an expansive pose.

Phase 2: Testing Stimuli

Method.

Participants and design. One hundred MTurk workers (48 females, $M_{age} = 36.50$) were recruited for an online study and presented with 80 images of Black and White targets in two poses in a 2 (Target Race: Black vs. White) x 2 (Target Pose: Expansive vs. Constrictive) within-subjects design. Two participants failed to follow study instructions, leaving 98 participants in the final analyses. A sensitivity analysis using G*Power (Faul, Erdfelder, Lang & Buchner, 2007; Faul, Erdfelder, Buchner, & Lang, 2009) found that our final sample could detect effects of $f = 0.12$ ($\eta p^2 = 0.01$) for the main effects and 2-way Target Race x Target Pose interaction (power = .80, $\alpha = .05$, assumed correlation among repeated measures, $r = .50$).

Procedure. Before beginning the study, all participants were informed that the goal of the experiment was to gauge peoples' ability to estimate various personal characteristics on the basis of minimal information. On each trial, a single target was presented on a computer screen and participants rated the target on height (in feet and inches), width at the shoulders (in feet and

inches), weight (in pounds), and general size of the target on a scale from 1 (very small) to 100 (very large). Participants were randomly assigned to view the 80 photographs in Set 1 or Set 2. Images were presented in 10 randomly ordered blocks. In each block, participants viewed 8 targets (4 White and 4 Black) in one type of body pose and position combination (e.g., constrictive sitting). Upon completion of the ratings, participants completed a demographic questionnaire related to their age, ethnicity, and gender and were debriefed.

Results and Discussion. Before analyzing the data, height and width estimates were converted from feet and inches to inches. Participants' mean estimates for all four size estimates (height, width, weight, and general size) were calculated for Black and White targets with expansive and constrictive poses separately. To compare perceptions of size among White and Black males with expansive or constrictive poses, a 2 (Target Race: Black vs White) x 2 (Target Pose: Expansive vs. Constrictive) repeated-measures ANOVA was conducted on each size measure.

Target height ratings. As expected, main effects of Target Race and Target Pose on estimates of height were significant. Black targets (M = 71.06, SD = 1.61) were estimated to be taller than White targets (M = 70.45, SD = 1.61), $F(1, 97) = 27.96$, $p < .001$, $\eta p^2 = .22$, 95% CI [0.35, 0.76], and targets with expansive poses (M = 70.96, SD = 1.59) were estimated to be taller than targets with constrictive poses (M = 70.50, SD = 1.66), $F(1, 97) = 16.68$, $p < .001$, $\eta p^2 = .15$, 95% CI [-0.67, -0.23]. The Target Race x Target Pose interaction was not significant, $F(1, 97) = 0.02$, $p = .89$, $\eta p^2 < .001$.

Target weight ratings. Main effects of Target Race and Target Pose were also found on estimates of weight. Specifically, Black targets (M = 174.03, SD = 17.20) were estimated to be heavier than White targets (M = 169.45, SD = 17.06), $F(1, 97) = 11.00$, $p = .001$, $\eta p^2 = .10$, 95%

CI [1.84, 7.32], and expansive targets (M = 173.51, SD = 17.00) were estimated to be heavier than targets with constrictive poses (M = 170.00, SD = 16.58), $F(1, 97) = 8.72$, $p = .004$, $\eta p^2 = .08$, 95% CI [-5.92, -1.16]. As expected, the Target Race x Target Pose interaction was not significant, $F(1, 97) = 1.06$, $p = .31$, $\eta p^2 = .01$.

Target width ratings. For width, although the main effect for Target Race was not significant, $F(1, 97) = 2.20$, $p = .14$, $\eta p^2 = .02$, 95% CI [-0.11, 0.77], and Black targets (M = 23.79, SD = 7.68) did not differ from White targets (M = 23.46, SD = 7.52) in perceived width, the main effect of Target Pose was close to significant. Targets with expansive poses (M = 23.85, SD = 7.48) were estimated to be wider than targets with constrictive poses (M = 23.40, SD = 7.71), $F(1, 97) = 4.14$, $p = .05$, $\eta p^2 = .04$, 95% CI [-0.88, -0.01]. The Target Race x Target Pose interaction was not significant, $F(1, 97) = 0.003$, $p = .96$, $\eta p^2 < .001$.

Target size ratings. Main effects of Target Race and Target Pose were also found on more general estimates of size. Specifically, Black targets (M = 55.60, SD = 6.14) were estimated to be larger than White targets (M = 53.13, SD = 5.78), $F(1, 97) = 23.79$, $p < .001$, $\eta p^2 = .20$, 95% CI [1.46, 3.47], and targets with expansive poses (M = 55.58, SD = 6.05) were estimated as larger than targets with constrictive poses (M = 53.14, SD = 5.32), $F(1, 97) = 45.49$, $p < .001$, $\eta p^2 = .32$, 95% CI [-3.16, -1.72]. The Target Race x Target Pose interaction was not significant, $F(1, 97) = 0.87$, $p = .35$, $\eta p^2 = .01$.

Overall Size Composite. Because all size measures except width were correlated with each other (height and weight, $r = .43$, $p < .001$, height and size, $r = .32$, $p = .001$, weight and size, $r = .36$, $p < .001$), height, weight, and size ratings were standardized using log transformations and averaged to create a composite related to perceptions of overall size for Black and White targets with expansive and constrictive poses separately. As expected, main

effects of Target Race and Target Pose on estimates of overall size were highly significant. Black targets (M = 1.94, SD = 0.03) were estimated to be overall larger than White targets (M = 1.93, SD = 0.03), $F(1, 97) = 26.19$, $p < .001$, $\eta p^2 = .21$, 95% CI [0.01, 0.02], and targets with expansive poses (M = 1.94, SD = 0.03) were estimated to be overall larger than targets with constrictive poses (M = 1.93, SD = 0.02), $F(1, 97) = 45.70$, $p < .001$, $\eta p^2 = .32$, 95% CI [.007, 0.013]. The Target Race x Target Pose interaction was not significant, $F(1, 97) = 0.001$, $p = .97$, $\eta p^2 < .001$.

Consistent with expectations, and replicating past intergroup research (Wilson et al., 2017a), despite using images in which Black and White targets did not differ on perceptions of age, attractiveness, and measures of objective size, Black targets were *perceived* to be taller, heavier, and generally larger than White targets. In accordance with previous theorizing (Burgoon & Dunbar, 2006), targets were rated larger when in expansive compared to constrictive poses, despite being the same people. Notably, target race and type of body pose did not interact to influence perceptions of size. Thus, with standardized sets of stimuli that have been confirmed to replicate past work, I was ready to use these stimuli to test our primary hypotheses.

Study 2

The primary aim of Study 2 was to investigate whether perceptions of dominance and aggression are differentially impacted by expansive compared to constrictive poses for White compared to Black targets. A further aim was to test implications of these differences for assessments of competence and warmth. To accomplish these goals, participants were presented with the selection of pretested images of White and Black targets with expansive and constrictive poses and instructed to rate dominance, aggression, competence, and warmth for each target. I expected that both Black and Whites targets with expansive poses would be perceived as more

dominant than targets in constrictive poses. I also expected, however, that for Black but not White targets, expansive compared to constrictive targets would be perceived as more aggressive.

I further predicted that these perceptions would have different implications for attributions of competence and warmth. Specifically, I hypothesized that greater perceptions of dominance from expansive poses would be related to higher ratings of competence for White but not Black targets. I also hypothesized that because expansive poses would be associated with greater perceptions of aggression for Black but not White targets, Black but not White targets would be rated as lower in warmth.

Method

Participants and design. One hundred and fifteen nonBlack undergraduates participated online for course credit in a 2 (Target Race: Black vs. White) x 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 $f = 0.11$ ($\eta p^2 = 0.01$) for the Target Race x Target Pose interaction (power = .80, $\alpha = .05$, assumed correlation among repeated measures, $r = .50$).

Procedure. Participants were instructed to judge targets on four personality traits using 9-point scales. Specifically, participants were informed that the goal of the experiment was to gauge peoples' ability to estimate various characteristics of others on the basis of minimal information. Participants were randomly assigned to view the 80 photographs in Set 1 or Set 2 described earlier. For each image, participants rated the extent to which they perceived the target in the image as a) submissive (1) to dominant (9), b) aggressive (1) to harmless (9), c) not at all

competent (1) to extremely competent (9), and d) not at all warm (1) to extremely warm (9). After responding to all targets, participants completed the same set of demographic questions used in the pilot and were subsequently debriefed.

Results and Discussion

Before analyzing the data, the aggressive - harmless item was reversed scored. Then participants' mean estimates for dominance, aggression, competence, and warmth were calculated for Black and White targets with expansive and constrictive poses separately, with higher scores indicating more dominance, aggression, competence, and warmth.

Effect of target pose on perceptions of dominance and aggression.

Dominance. Mean ratings of dominance were subjected to a 2 Target Race (Black vs. White) X 2 Target Pose (Expansive vs. Constrictive) repeated measures ANOVA. Main effects of Target Race and Target Pose were significant. Black targets (M = 5.34, SD = 0.69) were judged to be more dominant than White targets (M = 4.87, SD = 0.72), $F(1, 110) = 55.55$, $p <$ .001, $\eta p^2 = .34$, 95% CI [0.35, 0.60]. Expansive targets (M = 5.63, SD = .78) were judged to be more dominant than constrictive targets (M = 4.58, SD = .80), $F(1, 110) = 123.98$, $p < .001$, $\eta p^2 = .53$, 95% CI [-1.24, -0.87]. As expected, the Target Race x Target Pose interaction was not significant, $F(1, 110) = 2.87$, $p = .09$, $\eta p^2 = .03$, see Figure 1. Among White targets, those with expansive poses (M = 5.37, SD = 0.92) were judged as more dominant than targets with constrictive poses (M = 4.37, SD = 0.86), $F(1, 110) = 99.60$, $p < .001$, $\eta p^2 = .48$, 95% CI [0.80, 1.20]. Similarly among Black targets, those with expansive poses (M = 5.90, SD = 0.79) were perceived as more dominant than targets with constrictive poses (M = 4.79, SD = 0.94), $F(1, 110) = 121.28$, $p < .001$, $\eta p^2 = .52$, 95% CI [0.91, 1.31].

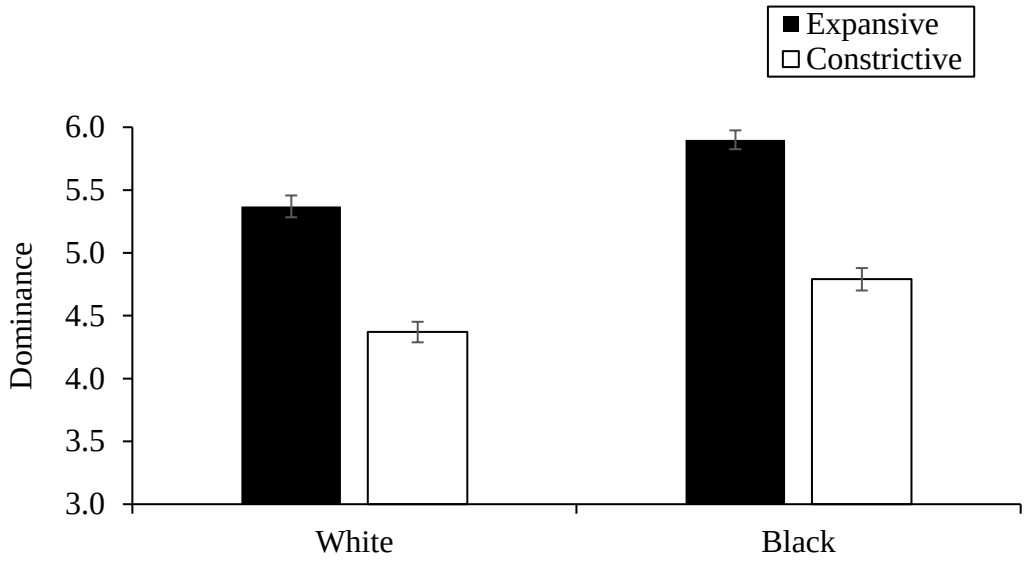


Figure 1. Ratings of dominance for Black and White targets in expansive and constrictive poses in Study 2. Error bars reflect standard errors.

Aggression. Mean ratings of aggression were subjected to a 2 Target Race (Black vs. White) X 2 Target Pose (Expansive vs. Constrictive) repeated measures ANOVA. Main effects of Target Race and Target Pose were significant. Black targets (M = 4.79, SD = 0.78) were judged to be more aggressive than White targets (M = 4.60, SD = 0.70), $F(1, 110) = 6.95$, p = .01, ηp^2 = .06, 95% CI [0.50, 0.40]. Targets with expansive poses (M = 4.82, SD = .75) were judged to be more aggressive than targets with constrictive poses (M = 4.57, SD = .72), $F(1, 110) = 12.46$, p = .001, ηp^2 = .10, 95% CI [-0.39, -0.11]. The Target Race x Target Pose interaction was also significant, $F(1, 110) = 9.06$, p = .003, ηp^2 = .08, see Figure 2. Among White targets, aggressive ratings did not differ for targets with expansive (M = 4.67, SD = 0.84) versus constrictive (M = 4.53, SD = 0.80) poses, $F(1, 110) = 2.87$, p = .09, ηp^2 = .03, 95% CI [-0.02, 0.30]. Among Black targets, however, those with expansive poses (M = 4.97, SD = 0.86) were perceived as more aggressive than targets with constrictive poses (M = 4.61, SD = 0.90), F(1,

110) = 21.78, $p < .001$, $\eta p^2 = .17$, 95% CI [0.21, 0.51].

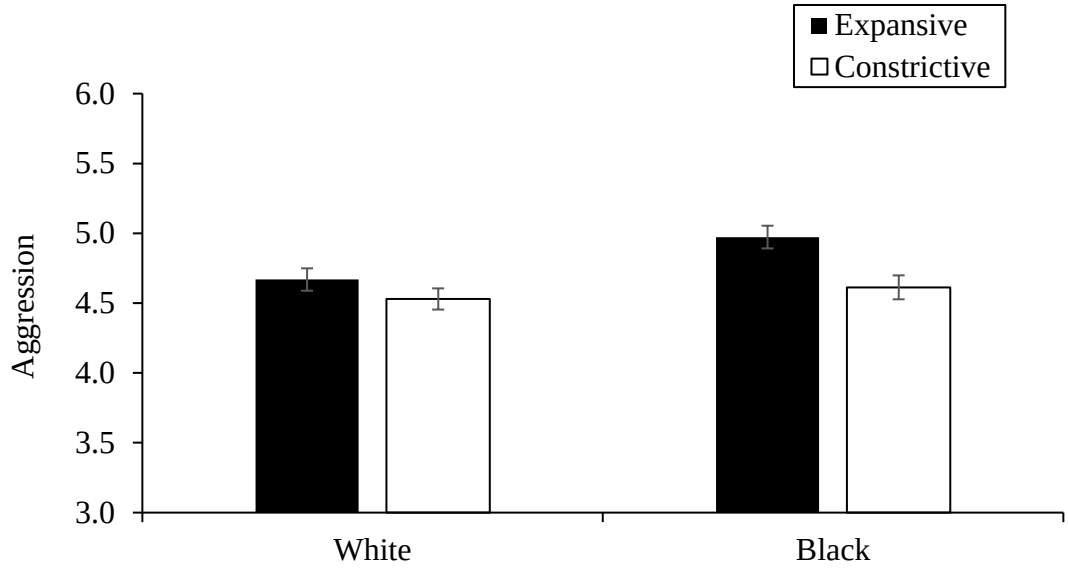


Figure 2. Ratings of aggression for Black and White targets in expansive and constrictive poses in Study 2. Error bars reflect standard errors.

Implications of dominance and aggression for ratings of competence and warmth.

Competence. To investigate whether perceived dominance associated with expansive poses was related to higher ratings of competence, I tested the effect of body pose on perceptions of competence through the proposed mediator dominance using the MEMORE (Mediation and Moderation analysis for Repeated measures designs) SPSS macro procedure (Montoya & Hayes, 2017)[1] separately for White and Black targets. For White targets, an analysis with 5,000

[1] MEMORE uses a path analytic framework and difference-score pairs to test mediation in two-condition within-subjects designs. Montoya and Hayes (2017) recommend MEMORE over the Judd, Kenny, and McClelland (2001) method for testing within-subjects mediation because the procedure uses path analysis to conduct a single test of the indirect effect rather than using multiple discreet hypothesis tests about individual paths, thus reducing the likelihood of inferential errors.

bootstrapped resamples generated an indirect effect estimate of .184 with a 95% CI [-0.40, -0.01]. As expected, this interval did not contain 0 suggesting that perceptions of dominance mediated the relationship between expansive poses and greater perceptions of competence. These results suggest that White targets with expansive compared to constrictive poses were perceived to be more dominant and this dominance was associated with higher competence ratings.

For Black targets, however, this procedure resulted in an indirect effect estimate of -.119 with a 95% CI [-0.35, 0.07] that contained 0, indicating a nonsignificant mediation. Although expansive poses were associated with greater perceptions of dominance for Black targets, this dominance was not related to higher competence ratings, see Figure 3.

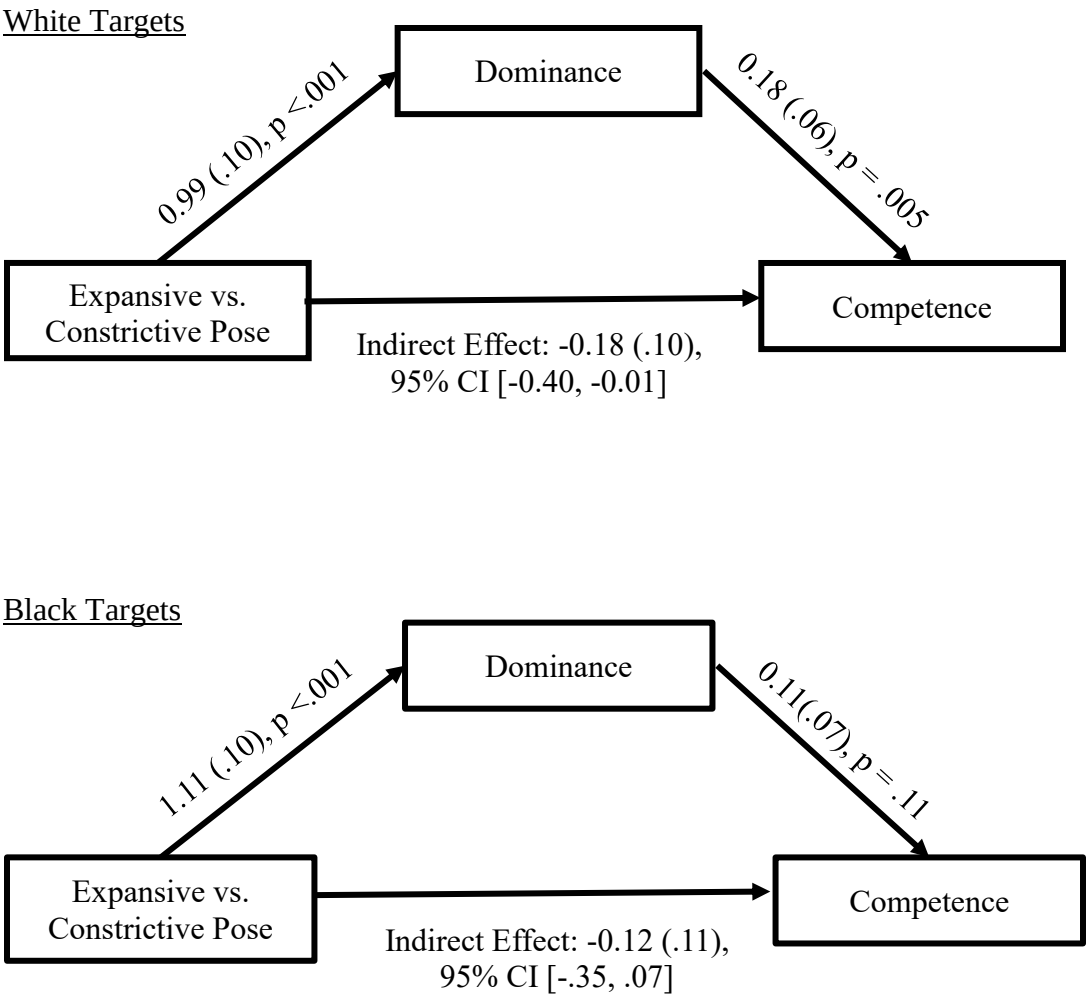
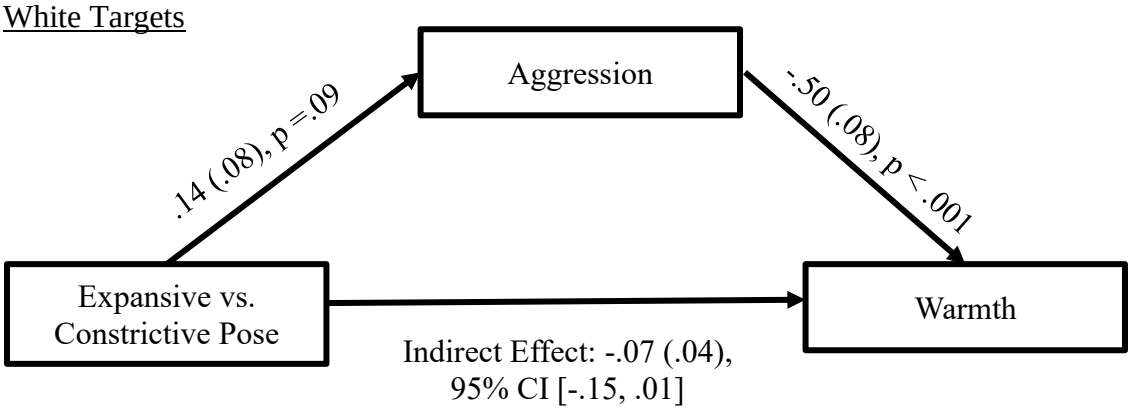


Figure 3. Mediational pathway from Pose (expansive vs. constrictive) to Dominance to Competence for White (top) and Black (bottom) targets in Study 2. Parentheses contain standard errors.

Warmth. To test whether perceived aggression associated with expansive poses was related to lower ratings of warmth, I tested the effect of body pose on perceptions of warmth through the proposed mediator aggression using the MEMORE macro procedure with 5,000 bootstrapped resamples (Montoya & Hayes, 2017) separately for White and Black targets. As expected, for White targets the analyses generated an indirect effect estimate of -.07 with a 95% CI [-0.15, 0.01] containing 0, indicating a nonsignificant mediation.

For Black targets, however, the same procedure resulted in an indirect effect estimate of -.18 with a 95% CI [-0.30, -0.07], suggest that perceptions of aggression mediated the relationship between expansive poses and lower perceptions of warmth. Specifically, the results indicate that Black targets with expansive compared to constrictive poses were perceived as more aggressive, which was associated with lower perceptions of warmth, see Figure 4.



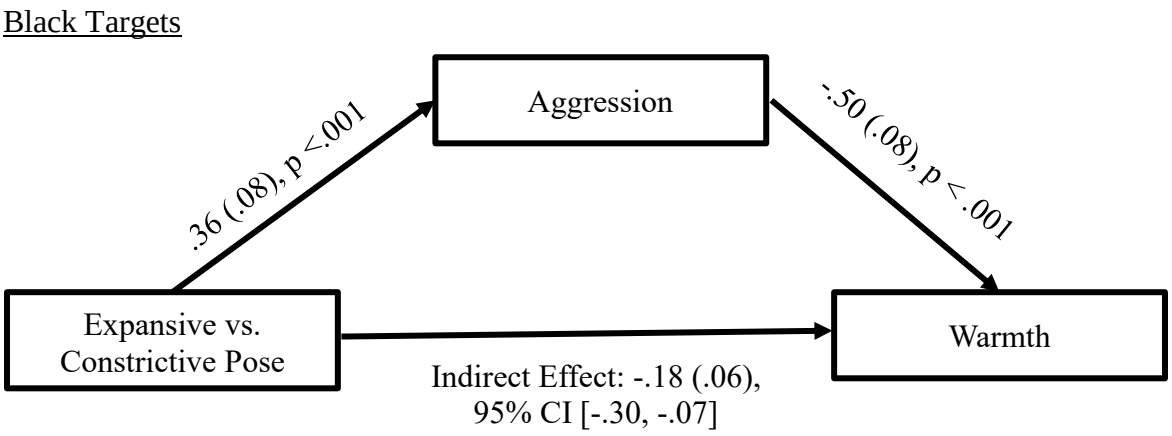


Figure 4. Mediational pathway from Pose (expansive vs. constrictive) to Aggression to Warmth for White (top) and Black (bottom) targets in Study 2. Parentheses contain standard errors.

Together, these results demonstrate that expansive poses were perceived to be more dominant than constrictive poses for both White and Black targets. As expected however, Black but not White targets with expansive poses were rated to be more aggressive than constrictive poses. The implications of these attributions for ratings of competence and warmth were different for White and Black targets. While expansive relative to constrictive poses benefited White targets, these benefits did not extend to Black targets. Specifically, greater perceived dominance was associated with higher competence ratings for White but not Black targets. Moreover, for Black but not White targets expansive compared to constrictive poses increased perceptions of aggression, which was then linked to lower perceptions of warmth.

Study 3

The goal of Study 3 was to investigate the downstream consequences of expansive compared to constrictive poses on perceptions of professional success for White and Black targets. Given the results from Study 2 and research that indicates perceived competence increase attributions of success in organizational contexts (Anderson & Cowan, 2014; Anderson & Kilduff, 2009ab; Lord et al., 1986) and aggression and low warmth may hinder upward mobility (Anderson & Kilduff, 2009b; van Vugt, 2006), I expected the positive effect of expansive poses to be larger for White than Black targets. Specifically, I predicted that targets in expansive compared to constrictive poses would be perceived to be more professionally successful and that this effect would be larger for White compared to Black targets.

Method

Participants and design. One hundred and thirteen nonBlack undergraduates (84 females, *M* age =19.33 years, *SD* = 1.98) participated in an online study for course credit in a 2 (Target Race: Black vs. White) x 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 Target Race x Target Pose interaction (power = .80, $\alpha = .05$, assumed correlation among repeated measures, $r = .50$).

Procedure. All participants were presented with the same stimuli used in the previous studies. Before seeing the photographs, however, participants were told that the individuals depicted in each image were business school students who were completing paid internships. They were then told that the researchers were interested in accurate assessments of others based on minimal information. Specifically, participants read:

> *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 the 80 photographs in Set 1 or Set 2. The photographs were presented in 10 blocks and in a random order. For each image, participants provided their estimates of the target's internship performance score on a scale from 1 (poorest score) to 9 (highest score) and internship salary, which increased in increments of $2,000 on a scale from 1 ($2,000) to 9 ($18, 000). After completing the estimates for all targets, participants answered the same demographic questions used in the previous studies and were debriefed.

Results and Discussion

Because the performance ratings and salary estimates were highly correlated ($r = .61$, $p < .001$), these scores were combined to create a business success composite for evaluations of White and Black targets with expansive and constrictive poses separately. A 2 (Target Race: Black vs. White) x 2 (Target Pose: Expansive vs. Constrictive) repeated-measures ANOVA on success evaluations was conducted. The main effect for Target Pose was significant, $F(1, 112) = 79.61$, $p < .001$, $\eta p^2 = .42$, 95% CI [0.59, 0.92]. Targets in expansive poses ($M = 5.31$, $SD =$

1.06) were judged to be more successful than targets in constrictive poses (M = 4.56, SD = 1.15).

This main effect, however, was qualified by the predicted Target Race x Target Pose interaction, F (1, 112) = 15.02, $p < .001$, $\eta p^2 = .12$, see Figure 5. Simple effects analyses demonstrated that although targets in expansive poses were always perceived as more professionally successful than targets in constrictive poses, this difference was significantly larger for White targets ($M_{expansive}$ = 5.39, SD = 1.13 , $M_{constrictive}$ = 4.55, SD = 1.16), F(1, 112) = 92.72, $p < .001$, $\eta p^2 = .45$, 95% CI [0.67, 1.02] relative to Blacks targets ($M_{expansive}$ = 5.23, SD = 1.14, $M_{constrictive}$ = 4.56, SD = 1.23), F(1, 112) = 57.72, $p < .001$, $\eta p^2 = .34$, 95% CI [0.49, 0.84].

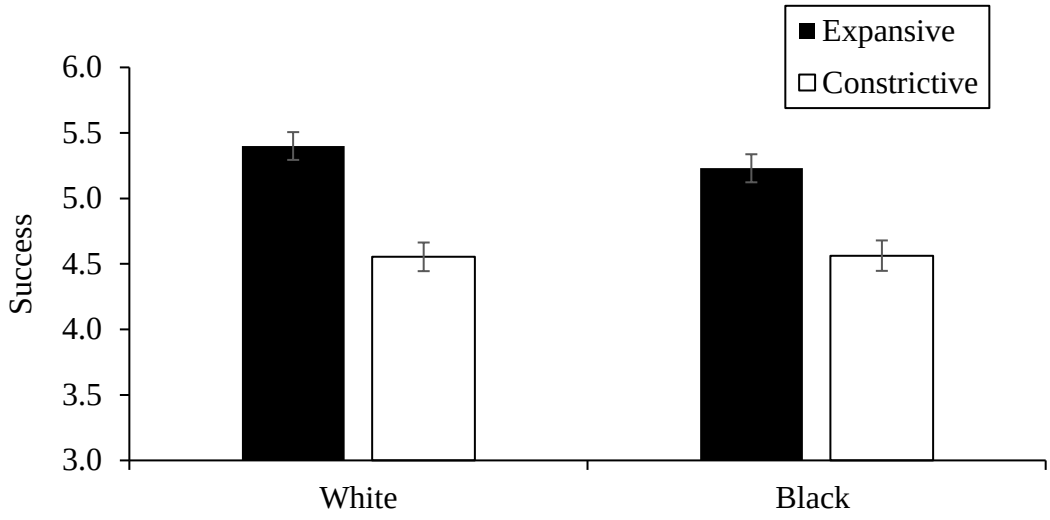


Figure 5. Business success composite for Black and White targets in expansive and constrictive poses in Study 3. Error bars reflect standard errors.

Results from Study 3 suggest that the beneficial effects of expansive compared to constrictive poses on perceptions of success in a business context are greater for White than Black targets. Compared to Black targets, White targets received a greater boost in estimated

internship evaluations and future earnings from expansive poses. Black targets, however, did receive some benefits from expansive compared to constrictive poses in the current business context. Because both Blacks and Whites with expansive poses are perceived to be more dominant, and therefore assertive and bold, they are perceived to be more successful in a business context. However, because expansive poses by Blacks are not associated with greater competence but are associated with greater aggression and less warmth, Black targets may experience fewer professional advantages from this body pose.

Study 4

The goal of Study 4 was to examine the implications of expansive compared to constrictive poses in an interpersonal context for White and Black targets. Given the results from Study 2 and prior research suggesting that competence in interpersonal domains is beneficial (Baron, 1970; Helmreich, et al., 1970; Oleszkiewicz & Lachowicz-Tabaczek, 2016), and aggression and low warmth can thwart interpersonal relationships (Fiske et al., 2007; Hendrick & Taylor, 1971), I expected expansive compared to constrictive poses to increase participants' choices to partner more for White than Black targets.

Method

Participants and design. One hundred and five non-Black undergraduates (90 females, *M* age = 19.20 years, *SD* = 1.86) participated in an in-lab study for course credit in a 2 (Target Race: Black vs. White) x 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 Target Race x Target Pose interaction (power = .80, $\alpha = .05$, *M* correlation among repeated measures, $r = .50$).

Procedure. Participants were informed that in an upcoming task, they would be paired with a partner to complete a 45 minute self-disclosure and relationship building task. They were told that the goal of the task would be to get close to their partner by asking and sharing answers to questions, which would grow increasingly intimate. As part of the cover story[2], participants were told that the researchers were also interested in 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 the same 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 Black, one expansive White, one constrictive Black, and one constrictive White, arranged in quadrants. 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 were presented with the same set of demographic questions used in the previous studies and were debriefed.

Results and Discussion

[2] To confirm that participants did not suspect that I was interested in the influence of race on their partner choices, I examined responses on an exit questionnaire item that probed participant's thoughts on the purpose of the experiment. Indeed, the frequency that participants reported race (or related terms, e.g., racism) as part of the purpose, was very low (10 of 105, or 10%).

To create an index of willingness to interact, the number of times during the 20 trials that participants selected a White target with an expansive pose, a White target with a constrictive pose, a Black target with an expansive pose, and a Black target with a constrictive pose as a potential partner were totaled.

To examine the impact of Target Pose on willingness to interact with White compared to Black targets, a 2 (Target Race: Black vs. White) x 2 (Target Pose: Expansive vs. Constrictive) repeated-measures ANOVA on partner choice totals was performed. This analysis revealed a main effect of Target Race such that Black targets (M = 4.48, SD = 1.14) were chosen less often than White targets (M = 5.52, SD = 1.14), $F(1, 104) = 22.08$, $p < .001$, $\eta p^2 = .18$, 95% CI [-1.49, -0.60]. The main effect of Target Pose was also significant $F(1, 104) = 9.81$, $p = .002$, $\eta p^2 = .09$, 95% CI [0.31, 1.38]. 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).

As predicted, however, these main effects were qualified by a significant Target Race x Target Pose interaction, $F(1, 104) = 5.74$, $p = .02$, $\eta p^2 = .05$, see Figure 6. Simple effects analyses revealed that White targets with expansive poses (M = 6.21, SD = 2.29) were chosen as a partner significantly more than White targets with constrictive poses (M = 4.84, SD = 2.15), $F(1, 104) = 13.57$, $p < .001$, $\eta p^2 = .12$, 95% CI [0.63, 2.11]. In contrast, type of pose did not impact partner choices for Black targets, $F(1, 04) = 1.01$, $p = .32$, $\eta p^2 = .01$, 95% CI [-0.31, 0.96]. Among Black targets, targets in expansive poses (M = 4.64, SD = 2.10) were chosen no more often than targets with constrictive poses (M = 4.31, SD = 1.90).

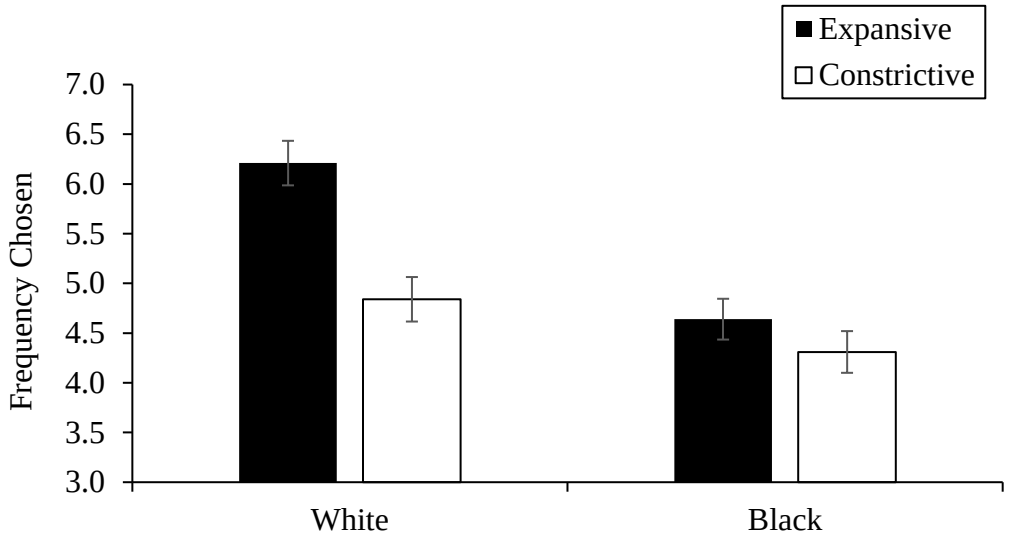


Figure 6. Frequency of partner choice for Black and White targets in expansive and constrictive poses in Study 4. Error bars reflect standard errors.

The results from Study 4 provide further evidence for the impact of race and body poses in person perception. In particular, these findings indicate that expansive compared to constrictive pose may be interpersonally beneficial for White more than for Black targets. Specifically, participants were more willing to interact and get to know White targets who held their bodies in expansive compared to constrictive poses. In contrast, expansive versus constrictive poses did not influence participants' readiness to interact with Black targets during a closeness task. Notably, interpersonal success may be boosted by perceptions of dominance when associated with competence (Baron, 1970; Vacharkulksemsuk et al., 2016). Because White targets are rated as more dominant and competent when in expansive poses, they may have benefited interpersonally when expanding their bodies. Alternatively, aggression and lack of warmth may hinder interpersonal success. Because Black targets are rated as higher in aggression leading to lower ratings of warmth, they may not accrue any social advantages from

expansive poses.

General Discussion

In four studies, I investigated the impact of expansive versus constrictive body poses by White and Black targets on person perception. In Study 1, I created standardized stimuli and tested the stimulus sets by replicating past work related to independent effects of race and body pose on size perceptions. Specifically, the new stimuli created in the current work also demonstrated that Black male targets were perceived to be larger in size than matched White male targets and that targets in expansive poses are perceived to be larger than in constrictive poses (Burgoon & Dunbar, 2006; Marsh et al., 2009; Wilson et al., 2017a). Notably, results from this initial study provide evidence against perceptions of size as an alternative explanation for the interactive results in subsequent studies. Specifically, the race and body pose of targets did *not* interact to influence size perceptions, suggesting that this variable is unlikely driving differences in outcomes described later, such as trait aggression, and professional and interpersonal success.

In Study 2, expansive compared to constrictive poses increased perceptions of dominance for both racial groups but only increased perceptions of aggression for Black targets. Moreover, dominance and aggression communicated by expansive poses had different trait implications for the two races. While perceived dominance from expansiveness was associated with greater competence for White but not Black targets, perceived aggression related to expansive poses was associated with lower warmth for Black but not White targets.

Although the results from Study 3 indicated that both White and Black targets with expansive compared to constrictive poses were expected to be more successful in a professional context, the advantage was significantly stronger for White targets. Furthermore, the results from Study 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 from expansive poses. Thus, in two distinct contexts, one professional and the other social domains, Whites in expansive compared to constrictive body poses benefited more than Blacks. Sadly, this research reveals another domain in which Blacks face bias, that is, in body perception. Specifically, even though White and Black targets were presented in the same poses, and matched on objective size, age, and attractiveness, expansive compared to constrictive Whites were perceived more positively than Blacks.

These findings highlight one of many racially biased processes that advantage White compared to Blacks. Specifically, Whites may have more liberty to act boldly (Duncan, 1976; Sagar & Schofield, 1980) and may even evade backlash for behavior that may otherwise be interpreted as aggressive. In a series of studies (Karmali et al., 2017; Kawakami et al., 2009), for example, when White male confederates in the lab uttered a staged racist comment, nonBlack participants were no more likely to avoid the White male when choosing partners for a subsequent task than when he was not aggressive. While such dominant actions may be more related to competence for White men, it may be less appealing when attached to members of stigmatized races. The current work substantiates this view in the realm of body perception; White maleness may provide advantages associated with displaying bold body poses that are unavailable to Black males. The possibility that the path to success may be different for Black compared to White males is a potential avenue for future research.

Because body perception is used to help form impressions in a large variety of contexts, the negative effects of expansive body cues for Black targets may be related to other racial biases as well (Johnson & Iida, 2013). For example, race has been shown to negatively affect hiring decisions, jury sentencing, and shooting decisions (Correll et al., 2007; King et al., 2006;

Mitchell et al., 2005). It is possible that body poses may interact with racial cues in these contexts to create different outcomes for Whites and Blacks. During a criminal trial, for example, a self-assured Black defendant may stand tall and hold his body in an expansive pose that he hopes projects confidence in his innocence. Such displays, however, may not signal his self-assurance, but rather aggression, resulting in a more detrimental impression among nonBlack jury members. Similarly, during police altercations, decisions to shoot are related to perceptions of threat by the officer. The present work suggests that expansive poses by Blacks result in greater perceptions of aggressiveness and concerningly, may increase misperceptions of danger. Notably, when officers instruct suspects to raise their hands and to spread their arms and legs, these expansive poses may increase racial biases. In other contexts, in which establishing a sense of dominance might be desirable, Blacks may be especially vulnerable to being misperceived. During political activism, for example in Black Lives Matter protests, Blacks may wish to portray assertiveness to emphasize a need for change. To the extent that they communicate this through their bodies, however, they may be perceived as more aggressive than competent. These perceptions may lead to a greater push-back from nonBlacks who feel threatened. Thus, in contexts in which dominance is beneficial, Black may be punished, whereas Whites may be rewarded for the same behavior.

This research highlights a need for those in power to enact change that would help combat the inequalities that Blacks face in body perception. That is, those in power must take responsibility in preventing their biases from negatively influencing the lives of Blacks. Further research should aim to develop interventions (e.g., bias awareness training, perspective-taking, evaluative conditioning) that reduce racial biases related to body perception (Bezrukova, Spell, Perry, & Jehn, 2016; Kawakami et al., 2017; Todd, Bodenhausen, Richeson, & Galinski, 2011).

From managerial hiring to police work, bodily cues have been used in training resources as a way to help those in power form impressions of others. For example, in some police training materials, officers learn about various behavioral cues from the body (e.g., pacing, eye contact, invading personal space) that might signal impending violence (Johnson, 2018). The, current bias reduction programs, however, may not be fully understanding how racial discrimination unfolds in these contexts. Future research can explore whether bias interventions should include efforts to promote awareness that social categories *can* impact our perceptions of common body cues used and how these influences can further impact intergroup relations.

Notably, the present research also contributes to the current literature on how characteristics of the target can moderate race effects. In particular, research indicates that increasing perceptions of Blacks as nonthreatening through disarming mechanisms, or characteristics that oppose hostile stereotypes of Blacks, may lead to more positive outcomes for Blacks (Livingston & Pearce, 2009). For example, stereotypes of gays as warm (Clausell & Fiske, 2005) and less aggressive may work to disarm the Black stereotype for gay Black men. In accordance with this possibility, although for White targets, straight men were approached faster and liked more than gay men, for Blacks, this pattern was reversed (Remedios et al., 2011). Black gay men were approached more quickly and liked more than straight men. Similarly, in another study, straight White men were rated as better leaders than gay White men, but for Blacks, gay rather than straight men were rated as better leaders (Wilson, Remedios, & Rule 2017). Further studies have provided evidence in support of other mechanisms that help defuse perceptions of Blacks as threatening, including old age (Kang & Chasteen, 2009), babyfaceness (Livingston & Pearce, 2009), and disarming behavior (Karmali, Kawakami, & Khoury, 2019). For example, when participants read that a White CEO of a Fortune 500 company reacted

communally or dominantly towards an employee, their evaluations did not differ. However, when the CEO was Black, participants gave him higher leadership ratings when he gave a communal versus a dominant response (Livingston, Rosette, & Washington, 2012).

Together, this research suggests that for Black but not White leaders, disarming qualities and behaviors are important. Given this literature and the results of the current research, in which expansiveness led to more negative perceptions of Black than White targets (i.e., more aggressive, less warm), future work should investigate what type of body poses or other types of dynamic nonverbal behaviors might work to benefit Blacks in leadership and interpersonal domains. For example, immediacy behaviors (e.g., leaning toward your partner), smiling, and other bodily signals that can communicate warmth and liking may increase unbiased responses toward Blacks.

An additional avenue for future research may be to investigate whether constrictive poses function to disarm Black targets. Although the current work suggests that constrictive poses may reduce perceptions of aggression for Black targets, closed body poses may not provide benefits for Blacks in contexts in which body signals of submission and meekness are cause for rejection (e.g., professional leadership). However, in contexts in which negating perceptions of aggression is more valuable than portraying dominance, constrictive body poses may benefit Blacks. For example, when hiring the leader for a new project, constrictive poses may eliminate reasons to avoid a Black candidate (too aggressive) but would not contribute to reasons to hire him. When hiring a babysitter, alternatively, constrictive poses may accomplish both goals for Black targets, not only reducing perceptions of aggression but also projecting valued qualities of a babysitter (more warmth and less dominance). Thus, in domains in which soft and communal qualities are prized, Black targets may benefit from constrictive poses.

The current work contributes in important ways to the body perception literature. In particular, my findings suggest that the implications of body cues can be moderated by factors such as race. Past research indicates that gender and culture influence the decoding of bodies the and the ways in which our personalities, feelings, and intentions are encoded (Wang, Toosi, & Ambady, 2009; Peng, Zebrowitz, & Lee, 1993). For example, the same body cues may mean different things in different cultures and different cultures manifest their traits with body cues in different ways. The present results, however, indicate that even within the same culture, differences in target race can moderate the inferences associated with body cues. Specifically, the current results suggest that the same body pose can result in different trait attributions and perceptions of professional and interpersonal success for White and Black targets. More work is needed, however, to further our understanding of how other social categories (e.g., other ethnic groups, religious groups, and gender) are related to the impact of body cues on person perceptions.

Notably, some research has investigated how various body and facial cues may combine to create meaningful nonverbal *patterns* that may signal more specific inferences of others. For example, although expansive body poses cue dominance, research suggests that when coupled with a downward head tilt and neutral facial expression, targets are perceived as particularly aggressive (Tracy & Robins, 2007; Witkower et al., 2019). The same expansive pose, however, can cue perceptions of pride and prestige when coupled with the head tilted upward and a small smile. How might race change the inferences gleaned from these and other patterns of physical cues? Perhaps body pose patterns that lead to inferences of pride for White targets, nevertheless leave Black targets perceived as aggressive.

Another important area to investigate further is the process by which expansive poses leads to different evaluations for each race. One key mechanism may be threat. In the current context, the biopsychosocial model of challenge and threat (Blascovich & Mendes, 2000) may be useful to investigate this mechanism. Specifically, in this model, threat responses are triggered when social perceivers appraise a situation as having potential for individual or group harm or loss. Applications of this model to interracial interactions have demonstrated that Whites interacting with Blacks produced cardiac patterns indicative of threat, whereas patterns consistent with challenge characterize Whites interacting with other Whites (Blascovich, Mendes, Hunter, & Lickel, 2000). Future research related to the present theorizing might examine whether Whites and nonBlacks experience more threat when interacting with Blacks in expansive compared to constrictive poses.

Importantly, the present research also highlights a sad reality for Blacks - that to navigate successfully in North American society, Blacks may have to adjust their behaviors to appease others. Adjusting one's behavior to shape fairness in others, however, can be a taxing process. For example, research suggests that controlling body movements and positioning may be cognitively demanding (DePaulo, Blank, Swaim, & Hairfield, 1992) because these habits have been developed over years and become largely habitual. In a job interview, for example, exerting control over one's pose may take away cognitive resources, a disadvantage that could ultimately hinder a candidate's performance. With practice, however, Blacks may become efficient at moderating threatening perceptions related to body cues so that when they need to use this strategy it does not impinge on the tasks at hand (e.g., answering job interview questions). A potentially productive future avenue of research may be to use naturalistic observational methods to investigate whether some Blacks use different body poses, gestures, or nonverbal behaviors to

disarm themselves when interacting with Whites and the effectiveness of this strategy in reducing bias.

Indeed, the current work suggests that Blacks may benefit from practicing such skills and that many Blacks may have already intuited the effects of their nonverbal behavior on Whites. For instance, in the opening scene of "The Hate U Give" (Tillman, Bowen, Godfrey, & Teitel, 2018), a film based on the real-world experiences of Blacks' interactions with police, a Black man and woman are sitting at the 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. According to the film's director George Tillman Jr., 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 Black's 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 may have to carry the burden of disarming themselves to receive fair treatment.

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APPENDIX

Examples of stimuli for all studies

	Standing x4	Standing behind table x4	Standing in front of table x4	Sitting behind table x4	Sitting x4
Black					
White					

	Standing x4	Standing behind table x4	Standing in front of table x4	Sitting behind table x4	Sitting x4
Black					
White