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The Beauty Bias and Leader Emergence: A Theoretical Integration, Extension, and Meta-Analysis

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The Beauty Bias and Leader Emergence: A Theoretical Integration, Extension, and Meta-Analysis

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Abstract:	<p>Leader emergence is a critical organizational phenomenon, influenced by various individual attributes. One such attribute—often overlooked by scholars and practitioners—is physical attractiveness. This study provides a comprehensive meta-analysis of the beauty bias and its relationship to leader emergence. We first review implicit leadership and status generalization theories as the dominant frameworks explaining this bias. Next, we assess the magnitude of the physical attractiveness–leader emergence relationship and test the "beauty is beastly" effect by evaluating leader gender as a moderator. We also identify two key mechanisms—perceived warmth and perceived competence—that explain this relationship. Additionally, we explore the robustness of the beauty bias across different contexts, including observer characteristics, leadership roles, and national culture. Our findings confirm that physical attractiveness is significantly related to leader emergence, primarily through perceptions of warmth, but also through perceptions of competence. This relationship holds equally for male and female leaders and is stronger in informal leadership contexts. It is slightly more pronounced among college students than full-time employees and in collectivist rather than individualistic national cultures, yet remains equally strong across executive and non-executive leadership roles. Overall, our findings highlight the strength and consistency of the physical attractiveness-leader emergence relationship, underscoring the need for organizations to mitigate the beauty bias from influencing decisions around leader emergence.</p>

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**The Beauty Bias and Leader Emergence: A Theoretical Integration, Extension, and Meta-
Analysis**

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ABSTRACT

Leader emergence is a critical organizational phenomenon, influenced by various individual attributes. One such attribute—often overlooked by scholars and practitioners—is physical attractiveness. This study provides a comprehensive meta-analysis of the beauty bias and its relationship to leader emergence. We first review implicit leadership and status generalization theories as the dominant frameworks explaining this bias. Next, we assess the magnitude of the physical attractiveness–leader emergence relationship and test the "beauty is beastly" effect by evaluating leader gender as a moderator. We also identify two key mechanisms—perceived warmth and perceived competence—that explain this relationship. Additionally, we explore the robustness of the beauty bias across different contexts, including observer characteristics, leadership roles, and national culture. Our findings confirm that physical attractiveness is significantly related to leader emergence, primarily through perceptions of warmth, but also through perceptions of competence. This relationship holds equally for male and female leaders and is stronger in informal leadership contexts. It is slightly more pronounced among college students than full-time employees and in collectivist rather than individualistic national cultures, yet remains equally strong across executive and non-executive leadership roles. Overall, our findings highlight the strength and consistency of the physical attractiveness–leader emergence relationship, underscoring the need for organizations to mitigate the beauty bias from influencing decisions around leader emergence.

Keywords: leadership, meta-analysis, individual differences, cognition/cognitive processes

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**THE BEAUTY BIAS AND LEADER EMERGENCE: A THEORETICAL
INTEGRATION, EXTENSION, AND META-ANALYSIS**

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Leader emergence—or “the process through which an individual becomes influential to relevant others in a manner that involves the implicit or explicit granting of the leader role” (Badura, Galvin, & Lee, 2022)—is a critically important topic in business and society. The reason is straightforward: the success of any organization depends directly upon the quality of its leaders (Wang, Holmes, Oh, & Zhu, 2016). Indeed, few other phenomena “have as direct an impact on every facet of the organization” as who emerges as leaders (Nadler & Nadler, 1998, p. 229). For that reason, surveys have shown that corporate boards of directors’ foremost human capital concern is filling gaps in leadership roles (Corporate Board Executive, 2013). Moreover, the World Economic Forum (2015) has listed leader selection and development as being among the top 10 issues that will have the biggest impact on the world. As such, understanding what influences the process of leader emergence is vital for organizations and society alike.

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In that vein, prior research confirms that many individuals ascend into leadership roles because they possess certain traits that are predictive of successful leadership, such as intelligence, conscientiousness, and agreeableness (DeRue, Nahrgang, Wellman, & Humphrey, 2011). However, research is also clear that other individuals emerge as leaders—or are kept from such opportunities—because of biases on the part of those granting leadership (Antonakis, 2011). Most often, researchers studying biases in the leader emergence process have focused on gender (Badura, Grijalva, Newman, Yan & Jeon, 2018) and race (Rosette, Leonardelli, & Phillips, 2008), with research showing that individuals often associate surface-level traits (e.g., being male) with leader effectiveness, even though such an association does not actually exist (Paustian-Underdahl, Walker, & Woehr, 2014). However, adding to these well-documented

BEAUTY BIAS AND LEADER EMERGENCE

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2
3 biases is another bias that, while less understood in the context of leadership, is nevertheless
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5 salient in organizational and social contexts: namely, the *beauty bias* (Berry, 2007; Rhode,
6
7 2010), or the tendency to prefer and select physically attractive individuals for leadership roles.

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10 Social scientists have long shown that people render judgments of other individuals'
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12 physical attractiveness (e.g., Dion, Berscheid, & Walster, 1972) and that these judgments are
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14 used to make inferences about their deep-level characteristics and future success (Feingold,
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16 1992). In turn, this explains why physical attractiveness affects various life and work-related
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18 outcomes (Eagly, Ashmore, Makhijani, & Longo, 1991)—primarily because physically attractive
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20 individuals are assumed to “possess almost all of the virtues known to humankind” (Hatfield &
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22 Sprecher, 1986, pg. xix). When it comes to the workplace, for example, physically attractive
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24 individuals are seen as having greater employment potential (Barrick, Shaffer, & DeGrassi,
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26 2009; Hosoda, Romero, & Coats, 2003) because people implicitly believe that “what is beautiful
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28 is good” (Dion et al., 1972; Eagly et al., 1991). Thus, in conjunction with other biases that exist
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30 in organizations, a beauty bias also appears to influence organizational decision making.
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35 Yet, while the literature is clear that the beauty bias affects job-related outcomes in non-
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37 managerial populations, its impact on leader emergence is currently more ambiguous and
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39 arguably more complex. For example, a counterpoint to the simpler “beauty is good”
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41 perspective—which assumes that physical attractiveness is universally associated with leader
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43 emergence—is a gender-based perspective of this relationship often called the “beauty is
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45 beastly” effect (Heilman & Saruwatari, 1979; Johnson, Podratz, Dipboye, & Gibbons, 2010;
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47 Paustian-Underdahl & Walker, 2016). This perspective argues that when it comes to male-typed
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49 or managerial jobs, physical attractiveness is only predictive of leader emergence for men and
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51 that beauty can in fact penalize women. The theoretical tensions between the “beauty is good”
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3 and “beauty is beastly” perspectives suggest the usefulness of meta-analysis to determine across
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5 a body of literature whether men or women are equally susceptible targets of the beauty bias.
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8 Another tension in the literature that a meta-analysis can help resolve centers on *how* the
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10 beauty bias operates in the leader emergence process. In particular, the two dominant theories
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12 explaining the physical attractiveness-leader emergence relationship—implicit leadership theory
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14 (Lord & Maher, 1991; ILT) and status generalization theory (SGT; Webster & Driskell, 1983)—
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16 propose that individuals use the observable attribute of physical attractiveness to judge whether
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18 others possess desirable but less-observable attributes that are predictive of leadership
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20 effectiveness. However, the existing empirical literature is less clear on what these stereotypes
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22 are—in other words, what attributions people make of physically attractive individuals. As such,
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24 it is presently ambiguous whether there is a primary attribution that explains the physical
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26 attractiveness-leader emergence relationship or if there are multiple attributions at play.
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31 Finally, there is very little consensus in the literature on contextual contingencies that
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33 may impact the strength and consistency of a physical attractiveness-leader emergence
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35 relationship. First, it is unclear whether the characteristics of leadership “observers” in an
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37 organization—i.e., those granting leadership roles (DeRue & Ashford, 2010)—impact the
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39 physical attractiveness-leader emergence relationship. For example, given the effects of time and
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41 work experience in reducing stereotypes (Badura et al., 2018; Eagly & Karau, 1991), is the
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43 beauty bias potentially more prevalent in contexts where observers are college students vs. full-
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45 time employees? Moreover, there may also be certain leadership roles for which physical
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47 attractiveness is more valued. For instance, is physical attractiveness less influential when it
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49 comes to emergence into formal managerial positions versus informal leadership roles?
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51 Likewise, as “faces” of an organization, is attractiveness more valued for executive roles vs. non-
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BEAUTY BIAS AND LEADER EMERGENCE

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3 executive roles? Finally, even though beauty judgments are made across different cultures
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5 (Cunningham, Roberts, Barbee, Druen, & Wu, 1995), do certain national cultures value physical
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7 attractiveness more when it comes to selecting leaders?
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10 In sum, the lack of conclusive evidence around these important tensions and questions
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12 suggests both a need and an opportunity for a meta-analysis of the physical attractiveness-leader
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14 emergence relationship. Chan and Arvey (2012) argue that meta-analyses are ideally suited for
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16 (1) increasing the precision of a paradigm by clarifying the nature, strength, mediating
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18 mechanisms, and moderators of the relationship between two variables); and (2) broadening the
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20 scope of a paradigm by examining the robustness of the relationship across different contexts. In
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22 that sense, our study is not only intended to clarify and take stock of the literature, but also to
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24 broaden what we currently know while strategically guiding future research. Thus, we begin our
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26 paper by providing a brief overview of ILT and SGT as dominant theoretical perspectives around
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28 the beauty bias. Based on these theories, we then evaluate the magnitude of the physical
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30 attractiveness-leader emergence relationship while also testing the “beauty is beastly” effect (i.e.,
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32 examining leader gender as a moderator). Next, to further clarify the literature, we integrate ILT
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34 and SGT with the stereotype content model (Cuddy, Fiske, & Glick, 2008) to identify two
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36 mediating mechanisms that explain the physical attractiveness-leader emergence relationship—
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38 namely, perceived warmth and perceived competence—and we examine the relative explanatory
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40 power of these mechanisms. Finally, we broaden the scope of current research by examining the
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42 robustness of the beauty bias across different contexts. Specifically, we explore how observer
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44 characteristics, leadership role characteristics, and national culture impact the relationship
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46 between physical attractiveness and leader emergence.
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Our study makes several contributions to theory and practice. First, we extend the leadership literature by highlighting physical attractiveness as an important yet overlooked correlate of leader emergence. Indeed, even in large scale reviews of leader emergence, physical traits like beauty are rarely given attention, especially relative to demographic and psychological traits (e.g., Badura et al., 2022; Galvin, Badura, LePine, & LePine, 2024; Hanna, Smith, Kirkman, & Griffin, 2021). Hence, our study provides an opportunity to shine a light on the beauty bias and illuminate whether, how, and when physical attractiveness matters for leader emergence. Second, within the beauty bias literature, there are several theoretical and practical tensions in need of resolution that we address in our study. For example, using a comprehensive set of studies, we examine whether the beauty bias provides more of an advantage to men than to women when it comes to attaining leadership roles. We also clarify the key mechanisms by which the physical attractiveness-leader emergence relationship operates. In that sense, our study serves to “mop up” (Chan & Arvey, 2012) the literature by reconciling conflicting perspectives while identifying areas that merit scholarly focus. Third and finally, our study extends the literature by investigating several unexplored contextual contingencies surrounding the physical attractiveness-leader emergence relationship. Indeed, by comparing the strength of this relationship across different observer, role, and cultural contexts, we examine the generalizability of the beauty bias in situations of leader emergence. In turn, a contextual perspective of this relationship—which is far more difficult to test with a primary study relative to a meta-analysis with heterogenous samples—adds much-needed knowledge and nuance to the literature.

THEORETICAL FOUNDATIONS

Implicit Leadership Theory (ILT)

BEAUTY BIAS AND LEADER EMERGENCE

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ILT is derived from implicit personality theory, which argues that in order to make sense of complex social contexts, individuals sort people into social categories and formulate judgments about them using a number of characteristics exhibited by the target individuals (R. G. Lord & Maher, 1991; Offermann, Kennedy Jr, & Wirtz, 1994; Shondrick, Dinh, & Lord, 2010). Applying this process to judgments of leadership, ILT states that individuals formulate cognitive categories, or schemas, regarding the types of traits, behaviors and other attributes that a leader should (i.e. prototypical) or should not (i.e. anti-prototypical) possess or exhibit (Lord, Foti, & Devader, 1984). This schematic judgment process essentially simplifies the cognitive demands required to categorize individuals as leaders or non-leaders (Shondrick, Dinh, & Lord, 2010).

The schemas that individuals generate and apply in making judgments of others are socially constructed, both from information gained through social sense-making as well as from their own experience. Thus, ILT suggests that the content of an ideal leader prototype will vary across individuals. In addition, the concept of what denotes a *leader* is not a unitary construct, but rather exists at multiple levels of abstraction, ranging from a broad view of what differentiates leaders and non-leaders down to more fine-grained differences in prototypes that vary across leadership contexts (Lord et al., 1984; Lord et al., 1982). As such, ILT explicitly acknowledges that judgments regarding whether one is fit for leadership are vulnerable to several biases, including the beauty bias (Offerman, Kennedy & Wirtz, 1994; Shondrick et al., 2010).

Status Generalization Theory (SGT)

SGT is based upon the fundamental assumption that within groups, people organize themselves into status hierarchies (Hogan, 1983). As such, individuals evaluate other people they interact with in order to formulate judgments as to their own position, and the position of others, within these status hierarchies (Anderson & Kilduff, 2009; Blader & Chen, 2012). In this

manner, SGT is similar to ILT in that it describes how people use observable personal characteristics, including physical attractiveness, to render judgments about others. However, rather than using such characteristics to evaluate whether someone fits or does not fit a schematic leader prototype, SGT suggests that at the heart of the judgement (i.e., the degree of status conferral) are presumptions regarding the target's future value to the social group.

SGT scholars have found that the characteristics used to form these judgments can either be *specific*, meaning directly related to the task in question (e.g. intelligence), or *diffuse*, meaning the characteristic is not directly related to the task, but it carries some expectation or assumption that it is indicative of some other competency that *is* related to the task (Hochschild Jr & Borch, 2011; Webster Jr & Driskell, 1983). Scholars have shown that physical attractiveness is one of several diffuse status characteristics used in status conferral judgments (Webster Jr & Driskell, 1983). Thus, individuals are granted a certain level of status based on their attractiveness, and, as such, beauty represents an advantage that individuals have in terms of being judged to have the ability to function effectively in capacities of social importance, including leadership roles.

HYPOTHESES

Direct Effects: “Beauty is Good” vs. “Beauty is Beastly”

At a foundational level, both ILT and SGT suggest that physical attractiveness is associated with leader emergence. The fundamental reason for this relationship rests on the same “beauty is good” stereotyping processes mentioned earlier—namely, that people use the observable attribute of physical attractiveness to judge whether others possess desirable but less-observable (i.e., deep-level) attributes that are reflective or predictive of leadership success. More specifically, viewing the “beauty is good” stereotyping process from the ILT perspective, physical attractiveness is used to cognitively sort people into leader and non-leader categories,

with the likelihood of sorting individuals into the leader category increasing as the target is more physically attractive. From the SGT perspective, attractive individuals are the beneficiaries of greater social status because they are assumed to have greater ability to carry out leadership tasks (Langlois, Kalakanis, Rubenstein, Larson, Hallam, & Smoot, 2000; Lorenzo, Biesanz, & Human, 2010). This latter presumption has its roots in basic evolutionary psychology, where humans use beauty as a proxy for judging one's ability to provide resources for offspring (Fink & Penton-Voak, 2002; Luxen & van De Vijver, 2006; Johnston, 1999). In sum, due to the "beauty is good" stereotyping process underlying SGT and ILT, we predict that physical attractiveness is positively related to leader emergence because it is used (a) to cognitively sort people into leader and non-leader categories, and (b) as an indicator of future success in leader roles.

Hypothesis 1a: Physical attractiveness is positively related to leader emergence.

While the "beauty is good" stereotype is far-reaching, it may not be absolute. Indeed, the "beauty is beastly" perspective (Heilman & Saruwatari, 1979; Heilman & Stopeck, 1985a; Johnson et al., 2010; Paustian-Underdahl & Walker, 2016) suggests that attractiveness for women may be a disadvantage for emergence into managerial jobs. Specifically, when women are being considered for leadership roles—which are stereotyped as more masculine (Badura et al., 2018)—their attractiveness highlights their femininity, which in turn reinforces gender-based stereotypes that women may not be suited for such roles (Eagly, Makhijani, & Klonsky, 1992; Heilman, 2012). This perspective is supported by research from the ILT perspective, which has shown that individuals' stereotypical notion of what makes for an effective leader are more aligned with stereotypically masculine attributes (Heilman, 2001). As such, ILT suggests that since there is already a perceived lack of fit between being female and possessing the qualities

necessary to be an effective leader, females who are more physical attractive—and thus seen as more feminine—may be at further disadvantage when it comes to being granted leadership roles.

SGT is similar in its predictions of how the physical attractiveness-leader emergence relationship may differ across male vs. female leaders. Specifically, it proposes that both gender and physical attractiveness are diffuse status characteristics, where being male and physically attractive is associated with higher status compared to being female and physically attractive (Berdahl, 2007; Li, Chen, & Bader, 2016). Thus, both gender and attractiveness are joint determinants of individuals being accorded greater social status (Lee, Pitesa, Pillutla, & Thau, 2015; Li, Chen, & Bader, 2016; Hochschild & Borch, 2011). Indeed, there is evidence that these two diffuse status characteristics interact with one another, resulting in attractiveness being more beneficial to men compared to women because it amplifies the content of gender stereotypes (Jackson et al., 1995; Lee et al., 2015). Therefore, we posit that the physical attractiveness-leader emergence relationship works more to the advantage of men than to women.

Hypothesis 1b: The positive relationship between physical attractiveness and leader emergence is moderated by leader (target) gender such that the relationship is stronger for male leaders.

Mediating Mechanisms: Perceived Warmth vs. Perceived Competence

We now discuss the specific attributes that people attach to physical attractiveness that capture the mediating mechanisms by which the physical attractiveness-leader emergence relationship operates. Although the literature has identified a number of inferred attributes stemming from judgments of physical attractiveness, ILT and SGT coalesce around two universal dimensions of social cognition brought up in the stereotype content model (Cuddy et al., 2008; Cuddy, Glick, & Beninger, 2011), namely perceived warmth and perceived

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3 competence (Li et al., 2016; Lord, Day, Zaccaro, Avolio, & Eagly, 2017). *Perceived warmth*
4 captures perceptions by an observer of a target's friendliness, trustworthiness, empathy, and
5 kindness. *Perceived competence* captures perceptions of a target's intelligence, power, efficacy,
6 and skill. These two broad perceptions govern social judgments because warmth inferences are
7 used to assess one's intentions to serve others (vs. oneself), whereas competence inferences are
8 used to assess the probability of an individual achieving one's intentions (Cuddy et al., 2011). As
9 such, these two perceptions also govern judgments of individuals' leadership capabilities because
10 warmth and competence, respectively, map onto two of the most common groupings of
11 leadership behaviors: relationship-oriented and task-oriented behaviors (DeRue et al., 2011).
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24 ILT predicts that both warmth and competence perceptions are inferred from physical
25 attractiveness, but that perceptions of warmth are the stronger, more consistent explanatory
26 mechanism linking attractiveness and leader emergence. First, media messages are inconsistent
27 regarding whether or not attractive people are smarter than those who are unattractive (Eagly et
28 al., 1991), whereas media messages more consistently convey that attractive people possess
29 warmth traits and enjoy subsequent popularity outcomes (Cuddy et al., 2011). Thus, greater
30 variance exists across individuals in terms of the physical attractiveness-competence connection
31 within their leader prototype schemas. Second, warmth inferences are made more quickly than
32 competence inferences (Wojciszke & Abele, 2008). Thus, given that attractiveness effects are
33 greater when less information about the target is available to judges (Eagly & Steffen 1994) and
34 warmth inferences based on attractiveness are formed more quickly and are stronger than are
35 inferences of competence (Fiske, Cuddy, & Glick, 2007; Wojciszke & Abele, 2008), ILT would
36 propose that attractiveness is more strongly related to perceptions of warmth vs. competence.
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3 In contrast, SGT suggests that the principal attribution connecting diffuse status
4 characteristics generally, and physical attractiveness specifically, to leader emergence is
5 perceptions of competence (Webster & Foschi, 1988). For example, Li and colleagues (2016)
6 found in their review of the literature that perceptions of competence are the strongest driver of
7 status conferral because a group cannot achieve its goals unless some minimum level of
8 competence is possessed by at least some of the group members. As such, particularly in the
9 absence of other information, individuals look to physical attractiveness as an indicator of one's
10 competence, and therefore, one's value to the group and fit with a leadership role.
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22 In turn, perceptions of warmth and competence are associated with leader emergence
23 (DeRue, Nahrgang, & Ashford, 2015; Wyatt & Sylvester, 2018). From an ILT perspective, this is
24 because warmth and competence consistently are included in individuals' ideal leader prototype;
25 thus, individuals seen as possessing these traits will be more closely aligned with the ideal leader
26 prototype (Cuddy et al., 2011). From an SGT perspective, the connection between perceived
27 competence and leader emergence rests on the assumption that the target individual adds value to
28 the group within the social hierarchy (Li et al., 2016). Thus, being perceived as competent in
29 tasks connected to valued objectives brings conferrals of leadership status because the successful
30 achievement of those objectives would naturally elevate the overall standing of the group.
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42 *Hypothesis 2a: Observer (rater) perceptions of leader (target) warmth mediates the*
43 *relationship between physical attractiveness and leader emergence.*
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45 *Hypothesis 2b: Observer (rater) perceptions of leader (target) competence mediates the*
46 *relationship between physical attractiveness and leader emergence.*
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51 **Contextual Moderators: Observer, Role, and Cultural Characteristics**

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We now discuss various contextual factors that may impact the magnitude of the physical attractiveness-leader emergence relationship. We consider context from three different angles:

(1) observer characteristics, namely college students versus full-time employees¹; (2) leadership role characteristics, including formality (informal vs. formal) and hierarchical (executive vs. non-executive) level; and (3) national culture, specifically individualistic versus collectivist cultures.

Student vs. full-time employee observers. Approaching this moderator from an ILT perspective, schemas that comprise ideal leader prototypes are heavily influenced by personal experiences, including experiences with other leaders (Epitropaki & Martin, 2005) as well as when serving in leadership positions themselves (Epitropaki & Martin, 2004). As such, we suggest that individuals' ideal leader prototype schemas will be developed and refined over time as they gain more direct experience interacting with a variety of leaders across a variety of contexts. As such, schemas will tend to become more accurate over time, meaning that the prototypical characteristics that individuals use to judge a target's leadership potential will tend to converge with characteristics or behaviors that are more strongly connected to actual leadership effectiveness. Thus, from an ILT perspective, the beauty bias may be stronger among college students versus full-time employees. A similar argument emerges from an SGT perspective. Specifically, as individuals gain more full-time work experience, their judgments regarding who will offer value to the group—and is thus deserving of leadership status—will move more toward the characteristics they have observed as being more directly related to actual success (i.e., specific characteristics), and away from those characteristics that they have learned are not (i.e. diffuse characteristics), such as one's attractiveness. Thus, we predict the following:

Hypothesis 3a: The positive relationship between physical attractiveness and leader emergence is stronger in college student vs. full-time employee observer samples.

Leadership role formality. Next, we focus on two contextual moderators capturing different aspects of leadership roles. The first of these focuses on emergence into formal vs. informal leadership roles. By definition, formal leader emergence is the outcome of more formal, structured selection processes through which individuals are chosen for official leadership positions (Badura et al., 2022). As such, these leader selection processes tend to be collective decisions that result from processes refined and applied over time using more valid screening criteria. Therefore, from an ILT perspective, we suggest that the influence of individuals' leader prototype schemas, and specifically the extent to which physical attractiveness is included in them, will be more constrained when it comes to emergence into formal leadership roles. Similarly, from an SGT perspective, we suggest that the more structured and intentional a leader selection process is, the more that it will focus on using specific rather than diffuse status characteristics as selection criteria. In contrast, informal leader emergence is the result of an informal process that lacks the same structure, and by extension, the same guardrails, as more formal selection processes, and thus is more susceptible to individual biases emerging from the sub-conscious decision-making heuristics. Thus, individual leader prototype schemas have more sway over the criteria by which leadership potential is judged. Similarly, the informal, more idiosyncratic, individual-level nature of status conferral represented by informal leader emergence will mean that diffuse status characteristics play a larger role in those situations.

Hypothesis 3b: The positive relationship between physical attractiveness and leader emergence is moderated by the formality of the leadership role such that it is stronger for informal vs. formal leadership roles.

Leadership role level. Another role-focused moderator we examine is the level of leadership via the comparison of executive vs. non-executive positions. ILT suggests that an

BEAUTY BIAS AND LEADER EMERGENCE

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3 individual's ideal leader prototype can vary depending on the leadership level or context in
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5 question (Lord et al., 1984). Individuals in high-level executive positions are much more
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7 outwardly-visible and often serve as the "face" of the organization to key stakeholder groups
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9 such as investors, potential employees, and customers (Pfeffer, 1977). Thus, part of their
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11 responsibility is to make the organization "attractive" to these stakeholder groups in order to be
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13 able to attract investment capital, employee talent and so forth. For that reason, we posit that for
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15 executive roles, the leader's physical attractiveness will be more salient, and therefore play a
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17 more meaningful role in individuals' ideal leader prototypes relative to prototypes for lower-
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19 level leadership positions (Colombo, Fisch, Momtaz, & Vismara, 2022; Schreiber et al., 2024).
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21 In addition, from an SGT perspective, high-level executive positions inherently possess higher
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23 status relative to lower-level leadership positions. Thus, attractiveness will be more predictive of
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25 emergence in executive leadership roles due to the perceptions of greater fit between more
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27 attractive candidates and these higher-status roles (Hochschild & Borch, 2011; Li et al., 2016).
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33 *Hypothesis 3c: The positive relationship between physical attractiveness and leader*
34 *emergence is moderated by leadership level such that it is stronger for executive vs. non-*
35 *executive leadership roles.*
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40 **National culture.** The final contextual moderator we consider is national culture,
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42 specifically individualistic vs. collectivistic national cultures. Much of the early research on
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44 physical attractiveness stereotyping was conducted in western (i.e. individualistic) cultures, like
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46 the United States and Canada. However, as research on this phenomenon has expanded to other
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48 parts of the world, including Asian countries, scholars have argued that physical attractiveness
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50 stereotyping may occur more (not less) in collectivistic cultures (Chen, Shaffer, & Wu, 1997;
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52 Shahani-Denning, Dudhat, Tevet, & Andreoli, 2010) because stereotyping in general is more
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3 accepted in those cultures (McFarlane, 2014). However, the degree to which attractiveness
4 stereotyping specifically occurs will depend upon which deep-level attributes are inferred from
5 physical attractiveness within that cultural context (Chen et al., 1997; Shaffer, Crepaz, & Sun,
6 2000; Wheeler & Kim, 1997). In that regard, while perceptions of competence are valued by
7 both individualistic and collectivistic cultures, perceptions of warmth are much more
8 communally-focused. As such, physical attractiveness may serve as a stronger driver of leader
9 emergence in collectivistic cultures compared to individualistic ones due to the greater value that
10 collectivistic cultures place on having more communally-focused attributes in their leaders.

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22 *Hypothesis 3d: The positive relationship between physical attractiveness and leader*
23 *emergence is moderated by national culture such that it is stronger in collectivist vs.*
24 *individualistic national cultures.*

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METHOD

Literature Search

A PRISMA flowchart showing our procedures for identifying and screening studies for inclusion in the meta-analysis is provided in Figure OS1 of our Online Supplement. We conducted a broad electronic and manual search to identify studies reporting relationships between physical attractiveness and our variables of interest. To begin, we conducted an electronic search on the Web of Science, PsycINFO, ERIC, ProQuest Dissertations & Theses Global, and Google Scholar databases using key search terms representing physical attractiveness constructs including “attractiveness,” “physical attractiveness,” “facial attractiveness,” “beauty,” “interpersonal attractiveness,” and “physical appearance,” in conjunction with terms representing leader emergence, including “leadership,” “leadership potential,” “informal leadership,” and “emergent leader”. This search yielded 1,135 non-

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3 duplicated hits. For the manual search, we located studies that were cited in reviews of facial
4 appearance or attractiveness and leadership (e.g., Poutvaara, 2014) and manually searched for
5 references of meta-analyses that included topics such as the effect of gender and attractiveness
6 (e.g., Paustian-Underdahl et al., 2014), attractiveness and perceived traits (Eagly et al., 1991;
7 Feingold, 1992; Jackson et al., 1995; Langlois et al., 2000) and the effect of physical appearance
8 on selection outcomes (Barrick et al., 2009; Hosoda et al., 2003; Judge & Cable, 2004). Finally,
9 we also searched for unpublished research by searching research conference programs (e.g.,
10 Academy of Management, Society for Industrial and Organizational Psychology).

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Following these procedures, we were able to identify 1,137 potential primary studies for further screening. We first screened the abstract of each study to determine whether the study was relevant to our meta-analysis. Through this step we eliminated a total of 997 studies, most of which were excluded because (a) they were reviews or theoretical pieces, or (b) neither physical attractiveness nor leadership vocabularies were mentioned in the abstracts, signaling that such studies were of no or low relevance to the physical attractiveness-leader emergence relationship. This left us with 140 studies to carefully assess for inclusion.

Inclusion Criteria

We required that studies meet various criteria to be included in the analyses. First, they had to report relationships between one or more of the following: 1) physical attractiveness and leader emergence, 2) physical attractiveness and perceived warmth, or 3) physical attractiveness and perceived competence. In particular, studies either had to report a correlation coefficient or another effect size that could lead to a computation of a correlation for one or more of these relationships. This included not only *d* and *t* scores as well as means and standard deviations, but also beta-coefficients when there were no multiple intercorrelated predictors or interactions in

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3 the regression (Peterson & Brown, 2005).² In instances where studies appeared to meet our
4 inclusion data but did not have sufficient data to compute an effect size, we reached out to
5 authors asking if they would explain and/or provide additional data so we could include their
6 results. Second, studies had to capture leader emergence in samples where adults (as opposed to
7 children or adolescents) served as both raters and targets of these judgements. Third, we focused
8 specifically on physical *attractiveness* rather than physical features such as weight, height, facial
9 structure, facial masculinity and femininity (e.g., Berinsky, Chatfield, & Lenz, 2019), or leaders'
10 expressions and facial cues of emotions (e.g., Bono & Ilies, 2006). Finally, the study needed to
11 detail the exact sample size of targets (i.e. leaders) being rated on their physical attractiveness.
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24 After eliminating 93 primary studies that did not fit the criteria described above, our final
25 meta-analytic data set consisted of 65 independent samples and 168 effect sizes.³ The studies
26 included in our database were completed between 1974-2020. The majority of samples came
27 from North America, but several others came from Europe, Asia, and Australia. References for
28 the studies included in the meta-analysis are included in the Online Supplement.
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35 **Coding Procedures**

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37 Tables OS1-3 in the Online Supplement show how each study was coded. Following the
38 procedure recommended by Lipsey & Wilson (2001), three authors on the research team worked
39 together to code the database of studies for the following: effect sizes (e.g., Pearson correlations,
40 *d* scores); reliability coefficients for the independent and dependent variables; leader (target)
41 sample size; percent of females in leader (target) samples; percent of females in observer (rater)
42 samples; work experience of the observer (rater) samples (i.e., college students vs. full-time
43 employees); formal vs. informal and executive vs. non-executive leadership roles; and national
44 culture (individualistic vs. collectivist). We also coded for several methodological moderators
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(see Table 6). To ensure consistency, three authors independently followed the coding manual developed by the author team (also provided in the Online Supplement). One author coded all the studies and the other two authors each coded 50% of the articles. After comparing their coding, the inter-rater agreement was found to be over 90%, and differences were resolved through discussion between the coders.

As noted earlier, we coded variables as capturing physical attractiveness if they referred to physical *attractiveness* rather than specific physical *features* (i.e., weight, height, facial structure, facial masculinity/femininity). Concerning sample size, our focal level of analysis was on *targets (leaders)* as they are the individuals who are being granted leadership roles based on their physical attractiveness. Thus, we coded for target (leader) sample size, or the number of participants who were rated on physical attractiveness. We also coded for the percent of the target (leader) sample that was male vs. female. Regarding our mediators, we coded perceived warmth and perceived competence using guidelines provided by Cuddy et al., (2011) and Olivola, Eubanks, and Lovelace (2014). For example, we coded ratings of friendliness, trustworthiness, empathy, sociability, likeability, and kindness as perceived warmth. Conversely, we coded ratings of confidence, intelligence, power, efficacy, skillfulness, assertiveness, and decisiveness as perceived competence.

As for contextual moderators, we coded a study as being a “student sample” if college students were the observers (raters) of emergent leaders, whereas we coded a study as having an “employee sample” if full-time employees were the raters. In addition, we coded leadership roles as “informal” if they captured perceptions of the person’s influence, status, or leadership-related respect in the group (e.g., raters’ willingness to be influenced by the target, rater’s perception of the target’s credibility to be a leader). Conversely, we coded leadership roles as “formal” if the

BEAUTY BIAS AND LEADER EMERGENCE

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3 study captured individuals being selected into a formal group or organization leadership role
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5 with hierarchical status or authority (e.g., hiring a person for a formal managerial position,
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7 recommendations to fill a senior role in the organization, votes for public office). We further
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9 classified the measurement of formal leader emergence as either subjective (e.g., hypothetical
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11 votes for individuals to assume formal leadership roles, intentions to hire or promote individuals
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13 to formal leadership positions) or objective (actual role occupancy). With regards to the level of
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15 management at which leaders emerge, we coded a leadership role as “non-executive” if the
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17 leaders emerge as lower or middle managers, leaders of small teams, or leaders of student
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19 groups. We coded leadership roles as “executive” if leaders emerged as CEOs, top management
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21 team members, or political leaders (e.g., in presidential or senatorial elections). Finally,
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23 following Hofstede’s (1980) method for classifying individualistic vs. collectivist national
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25 cultures, each sample was assigned a score from 0 to 100 based on the country of origin for the
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27 leader sample, with higher scores indicating that the country is more individualistic and lower
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29 scores indicating that the country is more collectivistic. The scores were retrieved from:
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31 <https://www.hofstede-insights.com/product/compare-countries/>. In addition to treating these
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33 values as a continuous variable, we also dichotomized the national cultures at the midpoint to
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35 allow for subgroup analyses: Samples scored below 50 were coded as collectivistic and those
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37 scored at or above 50 were coded as individualistic.

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Though not hypothesized, we also coded for differences in study design. For example, in some studies, leaders’ physical attractiveness levels were manipulated by experimenters such that targets were intentionally differentiated by the study authors based on high, medium, or low levels of physical attractiveness. In other studies, observers rated leaders' attractiveness levels using psychometric measures and survey items, which captured targets’ naturally varying levels

of perceived attractiveness. We coded these, respectively, as “manipulated” vs. “rated” studies. Among studies using experimental manipulation, we also coded whether the targets’ levels of physical attractiveness varied between or within raters. When ratees are presented with only either attractive or non-attractive stimulus (e.g., photos or videos of targets), we coded it as “between-subject” design. Conversely, if ratees were presented simultaneously with photos or videos of attractive and non-attractive targets, we coded it as a “within-subject” design. In addition, we coded for the range of leader attractiveness given that some studies presented raters with only high vs. low attractive leaders (“high-low”), whereas other studies asked participants to assess varying degrees of physical attractiveness and were thus coded as “full range.” We also coded the date of publication and the quality of the journal outlet where each study was published. We assessed the quality of each primary study by referencing the 2022 ABDC Journal Quality List (Australian Business Deans Council; <https://abdc.edu.au/abdc-journal-quality-list/>), which is widely recognized and comprehensive. The ABDC list classifies journals into four categories: A*, A, B, and C. Based on this classification, we grouped our studies into four categories: A* journals, A journals, B journals, and journals not listed in the ABDC. None of the primary studies included in our analysis were from the C category of the ABDC list.

Meta-Analytic Procedures

We followed Hunter and Schmidt’s (2004) meta-analytic procedures, which provides corrections for both variance in correlations (i.e., sampling error) and measurement error in the predictor as well as the outcome variables. With regards to sampling error, the Hunter and Schmidt method weights primary studies by their sample sizes such that studies with relatively good precision (i.e., larger sample size) are assigned more weight while studies with relatively poor precision (i.e., smaller sample size) are assigned less weight (Borenstein, Hedges, Higgins,

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3 & Rothstein, 2009). In many cases, rather than reporting correlations, studies reported beta
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5 coefficients, or *d* scores or means and standard deviations to report subgroup differences. Thus,
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7 when necessary, we transformed these statistics into correlations using the appropriate
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9 conversion formulas (Borenstein et al., 2009). If a study examined the effects of physical
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11 attractiveness on multiple measures of leader emergence or warmth and competence perceptions,
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13 we used the composite effect size for the study in order to have one effect size per sample for
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15 each construct-level relationship (e.g., Dietl, Rule, & Blickle, 2018). We conducted this set of
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17 analyses using the *psychmeta* R package (Dahlke & Wiernik, 2019), which automatically takes
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19 the composite approach to deal with statistical dependencies among effect sizes by factoring in
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21 the intercorrelations among the measures. This approach is more accurate than averaging the
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23 statistically dependent effect sizes (Borenstein et al., 2009). The average correlation among
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25 statistically dependent measures was assumed to be 0.80 (Liao, Su, Ptashnik, & Nielsen, 2022).
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31 With regards to measurement error, we corrected for measurement unreliability in the
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33 predictor as well as the criterion using coefficient alpha. A reliability of 1.00 was used for
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35 laboratory measures of physical attractiveness (e.g., pictures indicating the levels of facial
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37 attractiveness) as well as many measures of formal leader emergence (e.g., actual selection
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39 outcomes). Whenever reliabilities were not available, we imputed the mean reliability based on
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41 the rest of the studies measuring the same construct (survey measures of physical attractiveness:
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43 .85; informal leader emergence: .90, perceptions of competence: .90, and perceptions of warmth:
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45 .90). Table 1 shows the mean reliability and the number of estimates/imputes for each construct.
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49 To test our moderators, we conducted a series of subgroup analyses following Hunter and
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51 Schmidt's (2004) meta-analytic procedure, and we performed Z-tests to examine whether
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53 differences between the weighted mean effect sizes in the subgroups were statistically significant
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(Borenstein et al., 2009). Descriptive statistics and correlations among the moderators included in the subgroup analyses are reported in Table 2. However, target (leader) gender is not exactly dichotomous, as only a small portion of primary studies had all-male or all-female samples among targets. Thus, this moderator was treated as a continuous variable and coded as the percentage of female leaders in the sample. Furthermore, to provide more robust examination of target gender as a moderator, we conducted a meta-analytic regression analysis using robust variance estimation (RVE; Hedges, Tipton, & Johnson, 2010). This approach does not require the artificial dichotomization of moderators. Similarly, for national culture, we first treated it as a continuous variable and tested its moderating role using meta-regression, followed by subgroup analyses in which we treated it as a binary variable. This set of analyses was performed using the *robumeta* package in R (Fisher, Tipton, & Hou, 2017). For meta-regressions with RVE, statistical dependencies among effect sizes were directly modeled in the analyses without having to aggregate the effect sizes.

Finally, for each meta-analytic relationship computed in our study, we report the number of independent samples (k) and the sample size (N) that went into the correlation, as well as the sample-weighted correlation (r), the standard deviation of the true effect size (SD_{ρ}), the estimated true-score correlation after correcting for measurement error (ρ), 80% credibility intervals (CVs; around the corrected mean population correlation), 95% confidence intervals (CIs; around the mean sample-weighted correlation), and the percentage of the true effect size heterogeneity within the total variance of effect sizes (I^2). Whereas SD_{ρ} , 80% CV, and 95% CI are absolute heterogeneity statistics that quantify the overall amount of heterogeneity in a meta-analytic distribution, I^2 is a relative heterogeneity statistic that can be used to assess changes in observed heterogeneity in nested models (Kepes, Wang, & Cortina, 2024).

RESULTS

Direct Effects: “Beauty is Good” vs. “Beauty is Beastly” (Hypotheses 1a-b)

As shown in Table 3, we found that physical attractiveness has a positive relationship with overall leader emergence ($\rho = .36$; $k = 58$; $N = 3,546$). The 80% CV (.15, .57) excluded zero, as did the 95% CI (.31, .42), indicating that the relationship was generalizable across studies and significantly different from zero. These findings support Hypothesis 1a. At the same time, the relatively large heterogeneity—as indicated by wide credibility interval, large values of SD_{ρ} (0.16), and the large percentage of the true effect size heterogeneity within the total variance of effect sizes ($I^2 = 61.02$)—suggests the presence of potential moderators.

As noted earlier, our primary method of exploring the moderating effect of target gender (Hypothesis 1b) was meta-regression using robust variance estimation (RVE). However, we also supplemented the meta-regression analysis with a subgroup analysis in which we compared effects sizes across male or female-only target samples. Regarding the first method, our meta-regression analysis based on 44 samples showed that target (leader) gender was not a significant moderator of the physical attractiveness-leader emergence relationship ($b = -.05$, $s.e. = .26$, $p = .848$). Similarly, results of the subgroup analysis shown in Table 3 based on male target-only and female target-only samples showed that while physical attractiveness and leader emergence was consistently positive across male ($\rho = .41$; 95% CI: .29, .53) and female ($\rho = .40$; 95% CI: .11, .69) targets, the effect sizes were not significantly different ($Z = 0.06$, $p = .478$). Therefore, Hypothesis 1b was not supported. Once again, however, the heterogeneity statistics indicate that there is still a substantial amount of heterogeneity, suggesting the presence of moderators.

Mediating Mechanisms: Perceived Warmth vs. Perceived Competence (Hypotheses 2a-b)

To test Hypotheses 2a-b, we followed Viswesvaran and Ones's (1995) procedure for constructing meta-analytic path analyses. First, as the input to the path analysis, we constructed a meta-analytic correlation matrix consisting of corrected effect sizes that are available in existing meta-analyses, along with newly computed effect sizes from the current study. In that regard, the direct relationship between physical attractiveness and leader emergence was reported earlier. In the first stage of the model, we calculated the relationships for physical attractiveness-perceived competence, physical attractiveness-perceived warmth, and physical attractiveness-leader emergence, which are shown in Table 3. Specifically, physical attractiveness was positively related to both perceptions of competence ($\rho = .25$; 95% CI: .05, .44) and perceptions of warmth ($\rho = .56$; 95% CI: .44, .67). In the second stage of the model, a meta-analytic estimate of the perceived warmth-leader emergence relationship could not be obtained from the literature nor from metabus.org. Therefore, the estimate was calculated based on 11 studies (16 samples) gathered in our meta-analysis ($\rho = .50$; $k = 16$; $N = 1,853$). Similarly, the meta-analytic estimate for the perceived competence-leader emergence relationship was calculated based on 11 studies (13 samples) in our meta-analysis ($\rho = .35$; $k = 13$; $N = 1,033$). However, the correlation for the perceived warmth-perceived competence relationship was obtained from metabus.org (<https://shiny.metabus.org/q/5c45ff7a-99ba-47c6-9a2b-d571cac808db>) and was based on 19 samples ($\rho = .49$; $k = 19$; $N = 4,310$).^{4,5}

Based on that information, and after computing the harmonic means, we ran the path analyses using the *lavaan* R package (Rosseel, 2012). This allowed us to calculate the indirect effect estimates and bootstrapped 95% confidence intervals surrounding those estimates, and these results are reported in Table 4. We found a significant and positive indirect relationship between physical attractiveness and leader emergence through perceived competence ($ab = .04$;

95% CI: .02, .05), and similarly, a significant and positive indirect relationship between physical attractiveness and leadership through perceived warmth ($ab = .20$; 95% CI: .16, .24). Thus, Hypotheses 2a and 2b were supported. However, because the difference between these indirect effect sizes was significant ($\Delta ab = .17$; 95% CI: .12, .21), we concluded that physical attractiveness has a stronger indirect relationship with leader emergence through perceptions of warmth vs. through perceptions of competence. To dig further into this finding, we followed the approach recommended by MacKinnon, Fairchild, and Fritz (2007) to calculate the proportions of the relationship between attractiveness and emergence mediated by each mechanism. The results suggested that warmth mediated 54% of the total relationship between attractiveness and emergence, whereas competence mediated 11% of the total relationship, with the remaining 35% being unaccounted for by the indirect effects through our *a priori* mediators).

Contextual Moderators: Observer, Role, and Cultural Characteristics (Hypotheses 3a-e)

Hypothesis 3a was partially supported in that the difference in magnitude of the physical attractiveness-leader emergence relationship across observer samples of college students ($\rho = .37$; 95% CI: .26, .48) versus full-time employees ($\rho = .27$; 95% CI: .22, .33; $Z = 1.58$, $p = .057$), was marginally significant ($p < .10$), with the relationship being slightly larger among college students. The heterogeneity statistics indicate that there is more variability in effect sizes among studies using working adult samples than among studies using college student samples. Moreover, lending support for Hypothesis 3b, we found that physical attractiveness was more strongly related to emergence into informal leadership roles ($\rho = .45$; 95% CI: .33, .58) vs. formal leadership roles ($\rho = .33$; 95% CI: .28, .38; $Z = -1.79$, $p = .037$). However, contrary to what we predicted in Hypothesis 3c, our results show that the physical attractiveness-leader emergence relationship is relatively equivalent at both the executive level ($\rho = .36$; 95%

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3 CI: .31, .44) and the non-executive level ($\rho = .30$; 95% CI: .21, .40; $Z = 1.24$, $p = .112$). But it is
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5 worth noting that we observe more variability in effect sizes capturing executive vs. non-
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7 executive leader emergence.
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10 Regarding Hypothesis 3d, results based on meta-regression showed that national culture
11 was not a significant moderator of the relationship between physical attractiveness and leader
12 emergence ($b = -.002$, $s.e. = .002$, $p = .478$) when treating culture as a continuous variable.
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14 However, the subgroup analyses showed that the physical attractiveness-leader emergence
15 relationship was stronger in collectivistic ($\rho = .44$; 95% CI: .38, .51) vs. individualistic cultures
16 ($\rho = .34$; 95% CI: .27, .40; $Z = -2.26$, $p = .012$). One potential explanation for this inconsistent
17 finding is that the heterogeneity statistics reported on Table 5 suggest there is much larger
18 variance in the effect sizes among individualistic cultures than in collectivistic cultures. Thus, we
19 considered Hypothesis 3d to receive partial support.
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30 **Methodological Moderators**

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33 We also investigated whether the strength of the physical attractiveness-leader emergence
34 relationship would differ across different study designs (e.g., survey vs. experiment, within vs.
35 between experimental design, and range of attractiveness stimulus). These results are reported in
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37 Table 6. Overall, the associations between physical attractiveness and leader emergence were
38 similar in magnitude for studies in which physical attractiveness was rated ($\rho = .36$; 95%
39 CI: .29, .43) versus when it was manipulated in an experiment ($\rho = .35$; 95% CI: .25, .44; $Z =$
40 0.29 , $p = .384$). In contrast, physical attractiveness was more strongly related to formal
41 emergence when measured subjectively ($\rho = .50$; 95% CI: .38, .61) versus objectively ($\rho = .28$;
42 95% CI: .25, .36, $Z = 2.98$, $p = .001$). Similarly, among experimental studies, the association
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44 between physical attractiveness and leader emergence appears to be stronger in studies using
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3 within-subject designs ($\rho = .41$; 95% CI: .29, .52) vs. those using between-subject designs ($\rho =$
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low: $\rho = .34$; 95% CI: .23, .45, $Z = 0.39$, $p = .345$).

We also explored publication age as a moderator. As the oldest study in our analysis was published in 1974, we categorized the publication age as “Year–1973” to treat publication age as a continuous variable. Utilizing meta-regression with robust variance estimation (RVE), our findings indicated that publication date did not influence the strength of the relationship ($b = .001$, $s.e. = .003$, $p = .993$). Furthermore, following previous meta-analyses on leader emergence (e.g., Badura et al., 2018), we categorized our studies into older studies (1984–1995) and newer studies (1996–present). Consistent with the results from meta-regression, this subgroup analysis showed no significant difference between older studies ($\rho = .39$; 95% CI: .26, .52) and newer studies ($\rho = .36$; 95% CI: .30, .42; $Z = 0.40$, $p = .343$) in the strength of the relationship.

Additionally, we examined the relevance of journal quality in our analysis. We observed a significant relationship between physical attractiveness and leader emergence across all study groups, with studies published in B-tier journals showing a larger effect size compared to other groups. However, it is important to acknowledge that one B-tier study (Baron et al., 2006; $n = 67$, $r = .71$) exhibited an unusually high correlation and a disproportionately large sample size, which may have skewed these results. Furthermore, since our study encompassed diverse fields such as business, psychology, sports, and political sciences, direct comparisons of journal quality are challenging. Therefore, it is advisable to interpret this finding with caution.

Outlier Analysis and Publication Bias Tests

Outlier analysis. As the presence of outliers can distort meta-analytic estimates (Viechtbauer & Cheung, 2010), we identified outliers in our meta-analytic database using the *metafor* R package (Viechtbauer, 2020) and conducted sensitivity analyses with and without those outlying cases. However, as Hunter and Schmidt (2014) pointed out, unusually large or small effects may occur in a meta-analytic database simply because of chance alone (e.g., large sampling errors). They recommended against using deletion of outliers because eliminating these effect sizes can result in overcorrection for sampling error and underestimation of true effect size heterogeneity. This is especially important for the present study, which, compared with normal meta-analyses, includes more small samples with potentially larger sampling errors. Thus, considering both viewpoints on this issue, in this study we determined to only exclude extreme cases in our sensitivity analysis. Following recommendations from Viechtbauer and Cheung (2010), we inspected all the studies with extreme absolute studentized deleted residuals, but did not identify any with values greater than 3 (Liao et al., 2022), suggesting that there are no extreme cases in our meta-analytic database.

Publication bias. To test the effects of publication bias on our results, we created funnel plots for each set of outcomes (i.e. leader emergence, warmth, and perception) and for each subgroup analysis that included at least 10 studies (see supplementary materials Figures OS2-S5). The funnel plot is a scatterplot created by plotting each study as a function of its magnitude of effect size (plotted along the X axis), and its precision (e.g. inverse of standard errors) plotted along the Y axis (Kepes, Banks, McDaniel, & Whetzel, 2012). When publication bias is minimal to absent, the shape of the plot should be symmetric, as sampling error should result in a relatively similar number of data points (i.e. studies) above and below the population mean, with the variability of those data points (e.g. effect size heterogeneity) decreasing progressively (and

again, symmetrically) moving upward on the plot. Asymmetry in the funnel plot (e.g. the absence of studies reporting smaller effect sizes in smaller study samples) suggests that publication bias may be present, although asymmetry may be due to legitimate reasons such as true differences in effect sizes between small and large samples (Smith & Egger, 1994).

In addition to visually inspecting the funnel plots, we conducted a trim-and-fill procedure which imputes the new data points (i.e. as determined by effect size and inverse of standard error) onto the existing plot in order to achieve symmetry. This produces revised meta-analytic parameters (e.g. mean validities and confidence intervals) based on the original and imputed data included together (Duval & Tweedie, 2000). The funnel plots shown in Figures OS2-S5 show both the original weighted mean effect size (vertical solid blue line) and the adjusted mean effect size from the trim-and-fill procedure (vertical dotted black line) as well as their respective 95% confidence intervals. Overall, we concluded based on these plots that publication bias is not a substantial concern for most of the relationships examined in this meta-analysis, as the results with or without imputing missing effect sizes remain largely consistent. One notable exception was for the physical attractiveness-competence relationship (bottom right of Figure OS2) where adding the “missing” effect sizes would result in the mean of this relationship no longer being significant ($\rho = .11$, 95% CI: $-.12, .34$). However, results from these analyses should be interpreted with caution as tests of asymmetry in funnel plots can be substantially affected by high levels of heterogeneity, which we have noted is the case in our meta-analytic data.

DISCUSSION

The overarching goal in this study was to create consensus on the beauty bias in relation to leader emergence. To do this, we drew on ILT and SGT and reviewed several different tensions that exist in the literature, such as whether physical attractiveness is universally

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3 associated with leader emergence (or not at all), or if it exists but primarily benefits men while
4 being disadvantageous to women. Furthermore, we sought to add clarity to the literature in terms
5 of testing key mediating mechanisms that explain the physical attractiveness-leader emergence
6 relationship and evaluating whether one mechanism explains the relationship more than the
7 other. Finally, utilizing the heterogenous samples in our database, we sought to extend the
8 literature by introducing various contextual factors that might influence the effects of physical
9 attractiveness on leader emergence, including various observer, role, and cultural characteristics.

19 **Direct Effects: “Beauty is Good” vs. “Beauty is Beastly” (Hypotheses 1a-b)**

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21 Regarding the overall impact of physical attractiveness on leader emergence, our analysis
22 revealed strong support for the “beauty is good” perspective. In fact, it is noteworthy that when
23 comparing the effect sizes across meta-analyses, the relationship between physical attractiveness
24 and leader emergence ($\rho = .36$; $k = 58$; $N = 3,546$) is larger than that of gender and leader
25 emergence (Badura et al., 2018: $\rho = .09$; $k = 136$; $N = 19,073$). This suggests that the beauty bias
26 may exert a greater influence on leader emergence than the more frequently studied gender bias.
27 Thus, our study highlights the significant role of the beauty bias in the leader emergence process.

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29 That said, we also hypothesized that, per the “beauty is beastly” effect, men would
30 benefit more from physical attractiveness than women when it comes to attaining leadership
31 roles. To our surprise, however, we did not find evidence for this pattern of effects. Rather, it
32 appears from our findings (both via meta-regression and subgroup analysis) that men and women
33 are equally likely targets of the beauty bias. Put differently, attractiveness works in both men and
34 women’s favor with respect to leader emergence. This is surprising because, even though it is
35 consistent with meta-analytic evidence on physical attractiveness in non-managerial populations
36 (Hosoda et al., 2003), the “beauty is beastly” effect does focus on selection into *leadership* roles

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3 specifically, which is the sole focus of our study. However, we did not find empirical support for
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5 this perspective across multiple studies, which means that the effect is either inconsistent across
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7 samples or there are additional boundary conditions that cannot yet be identified due to a dearth
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9 of existing research on the topic (Paustian-Underdahl & Walker, 2016). Thus, we make a call for
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11 additional research that might extend or qualify our findings on the “beauty is beastly” effect.
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14 For now, it seems that there is more universal support for the “beauty is good” effect.
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17 **Mediating Mechanisms: Perceived Warmth vs. Perceived Competence (Hypotheses 2a-b)**

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19 Another purpose of our study was to clarify the key mechanisms by which physical
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21 attractiveness impacts leader emergence. Prior research suggests a number of potential
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23 mechanisms, each one capturing a stereotyping process. However, integrating ILT and SGT with
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25 the stereotype content model, we found that both warmth and competence perceptions represent
26
27 valid explanations for the relationship between physical attractiveness and leader emergence.
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29 However, in testing the relative explanatory power of each, we found that physical attractiveness
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31 is more strongly associated with perceptions of warmth than perceptions of competence,
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33 meaning that observers might implicitly associate physical attractiveness more with a target’s
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35 interpersonal warmth than their competence. Although media messages may account for this
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37 (Cuddy et al., 2011; Eagly et al., 1991), we argue that more research is needed to uncover why
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39 physical attractiveness is more strongly related to perceptions of warmth vs. competence.
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44 **Contextual Moderators: Observer, Role, and Cultural Characteristics (Hypotheses 3a-d)**

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47 Regarding the understated role of context in shaping the physical attractiveness-leader
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49 emergence relationship, we uncovered a few important and interesting findings. One
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51 counterintuitive finding is that physical attractiveness is valued just as much for individuals
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53 filling executive leadership roles as non-executive roles. This finding is important as research
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3 examining the effects of physical attractiveness and other aesthetic attributes on CEO and firm-
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5 level outcomes has proliferated among strategic management scholars in recent years (Devine,
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7 Holmes, & Wang, 2021). Despite the importance of physical attractiveness for aspiring
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9 executives, it seems just as relevant to emergence into non-executive roles. This is not to suggest
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11 that less research should be done on physical attractiveness among CEOs and executives, but
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13 rather, should motivate more research that bridges micro and macro perspectives of physical
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15 attractiveness and leadership, and perhaps spur extensions of this research into other relevant
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17 contexts such as entrepreneurship or board membership (Devine et al., 2021).
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22 As to other leadership role characteristics, we found strong evidence that physical
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24 attractiveness matters more for emergence into informal roles compared to formal roles. One
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26 potential explanation for this finding is that leadership effectiveness criteria are, on average,
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28 better articulated for formal leadership roles, which could potentially reduce (but not eliminate)
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30 the beauty bias from impacting selection decisions. It could also be the case that when it comes
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32 to selecting managers for formal supervisory roles, more information, such as one's prior
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34 effectiveness as a leader, could be available and thus influence the decision. Either way, our
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36 results show that physical attractiveness still has a positive, significant relationship with formal
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38 emergence, even if the effect is weaker than that of informal emergence. More research is needed
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40 to better understand these findings, especially where informal leadership is becoming
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42 increasingly prevalent for leading teams and developing future leaders (Hanna et al., 2021).
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47 Finally, we found mixed support for the moderating effects of observer characteristics
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49 and national culture. In particular, when it came to examining observer samples of college
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51 students versus full-time employees, the moderating effect was only marginally significant but
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53 nevertheless in the hypothesized direction, with the physical attractiveness-leader emergence
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3 relationship being stronger in samples of college students vs. full-time employees. In the case of
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5 national culture, moderating effects were found using subgroup analysis techniques but not meta-
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7 regression. However, the relationships for the national culture analyses were in the hypothesized
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9 direction in terms of being larger in collectivist vs. individualistic cultures. These findings point
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11 to two key areas of future research. First, more longitudinal research is needed to more
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13 definitively uncover whether beauty stereotypes reduce with more full-time work experience and
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15 thus more interactions with different leaders. Second, regarding national culture, we noted earlier
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17 that studies on physical attractiveness and leader emergence originated in Western samples and
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19 only recently have been studied in Eastern samples. In the future, more work should be done to
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21 explore potential cross-cultural differences.
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26 **Implications for Theory**

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28 ILT and SGT have been the two dominant theoretical lenses through which researchers
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30 have studied physical attractiveness and leader emergence. Our findings extend those theories in
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32 a few ways. First, there has been a great deal of inconsistency in the extant ILT literature as to
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34 whether physical attractiveness is considered a prototypical or anti-prototypical leader attribute
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36 (Epitropaki & Martin, 2004; Gerstner & Day, 1994; Offermann & Coats, 2017). The fact that we
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38 find the relationship between physical attractiveness and leader emergence to be highly
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40 consistent across studies sharpens ILT by providing strong evidence that physical attractiveness
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42 is indeed one of several prototypical leader attributes used to sort people into leader/non-leader
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44 categories. Similarly, our findings contribute to SGT by providing evidence in support of
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46 physical attractiveness being among the diffuse status characteristics that people use to make
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48 judgments regarding other individuals' status within a social hierarchy, and that status conferral
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50 (via leader emergence) based on physical attractiveness occurs regardless of target gender. In
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3 that sense, we challenge SGT by showing that gender and attractiveness are not joint
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5 determinants of status conferral, but rather, are each independent diffuse status characteristics.
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8 Second, while both theories suggest that a relationship between physical attractiveness
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10 and leader emergence exists vis-à-vis a stereotyping process, they differ somewhat in terms of
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12 the mechanisms that underlie this relationship. Specifically, while ILT tends to highlight
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14 perceived warmth as the primary mechanism influencing this relationship, SGT focuses more on
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16 perceived competence. In the end, while tenets of both theories are supported regarding
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18 mediating mechanisms, our study does lend more support to ILT by finding perceived warmth to
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20 be the stronger mechanism. As such, each theory is reaffirmed in terms of empirical support for
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22 its proposed key mechanism, but also expanded by highlighting the role that the other
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24 mechanism plays in the physical attractiveness-leader emergence relationship as well. Thus,
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26 drawing jointly on both ILT and SGT helped reveal a more comprehensive set of mechanisms
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28 underlying this relationship than is offered by either theory on its own.
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33 Finally, as is the case with many theories of organizational behavior (Johns, 2006),
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35 context plays an understated role in ILT. However, due to the benefits of meta-analyzing a set of
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37 heterogenous studies, we were able to uncover contextual contingencies with regard to physical
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39 attractiveness that may impact future research on ILT. For example, while we find that formality
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41 of the leadership role is a significant contextual moderator, the hierarchical level of the
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43 leadership role is not. Also, work experience was a marginally significant moderator. However,
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45 it should also be noted that there were no contexts we studied in which physical attractiveness
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47 was *not* positively related to leader emergence. Thus, while our study helps extend ILT to a
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49 certain degree by showing the impact of contextual moderators, the role of context should also
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not be overstated. Instead, it seems that although there is some variance across contexts, the beauty bias is a rather consistent phenomenon with respect to leader emergence.

Implications for Practice

Perhaps the most important practical implication of our study is that the beauty bias exists and influences individuals' ascent into leadership roles, even though there is no clear relationship between physical attractiveness and actual traits related to leader effectiveness (Jackson et al., 1995; Langlois et al., 2000). Thus, one of the major implications of our study is better understanding an additional bias in the leader emergence process—the beauty bias—for which there are no government regulations preventing discrimination against individuals on that basis.

In that vein, when scholars and practitioners attempt to measure implicit biases (e.g., Greenwald, McGhee, & Schwartz, 1998), most often they focus on biases around race, ethnicity, gender, and age (e.g., McConnell & Leibold, 2001). Our study suggests that physical attractiveness may be added to this list, and in turn, that organizational leaders should acknowledge the beauty bias and minimize the degree to which it influences leader emergence. While potentially more difficult to manage, this is even more important when considering the emergence of leaders in more informal settings. This is likely due, at least in part, to the less formalized or structured processes that are used to identify leaders in informal contexts. Furthermore, given our findings that the physical attractiveness-leader emergence relationship persists across different levels of management, it is also imperative that organizations understand that few leaders are immune to either being victims or beneficiaries of the beauty bias.

In that regard, our findings are clear that aspiring male and female leaders are equally susceptible victims of the beauty bias. Thus, we recommend that any attempts to curtail this bias in organizations should not focus on one gender over the other. In fact, because men and women

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3 are both at risk of having the beauty bias frustrate their efforts to emerge as leaders, it seems the
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5 impact of the beauty bias is ironically equitable across both men and women. Of course, this also
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7 means that the problem is broader and more pervasive than scholars and practitioners may have
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9 previously suspected. Consequently, the beauty bias has even more potential to hamper firms'
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11 ability to select and promote the most qualified and capable individuals for leadership positions.
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14 **Limitations and Other Future Research Directions**

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17 Although our study provides several impactful findings, we are not able to address other
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19 elements of the physical attractiveness-leader emergence relationship, largely due to limitations
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21 in primary studies. First, as is the case with most research on biases in leadership (e.g., gender:
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23 Badura et al., 2018), there is a lack of longitudinal studies that would help uncover temporal
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25 dynamics and further establish the causal patterns inherent in our theorizing. For example, there
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27 is recent evidence that power can influence perceptions of one's physical attractiveness (Kniffin,
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29 Wansink, Griskevicius, & Wilson, 2014). Thus, there may be feedback loops that are not
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31 explicitly acknowledged in the primary studies we draw on. Nevertheless, about 40% of our
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33 studies included manipulations of physical attractiveness (i.e. experimental study designs) rather
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35 than perceptions of physical attractiveness, and, as shown in Table 5, there was no significant
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37 difference in the magnitude of the physical attractiveness-leader emergence relationship across
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39 studies where physical attractiveness was manipulated vs. rated. Thus, while the lack of
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41 longitudinal studies in the literature is concerning, the ordering of our causal relationships aligns
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43 with the theories we draw on and are supported by an abundance of experimental studies
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45 included in our database. Still, we encourage more research that incorporates rigorous study
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47 designs (e.g. longitudinal, experimental, quasi-experimental) that could further establish
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49 causality and investigate temporal dynamics in the relationships we studied.
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Second, beyond feedback loops, other forms of endogeneity in the primary studies may have influenced our results (Antonakis, Bendahan, Jacquart, & Lalive, 2010; Hill, Johnson, Greco, O'Boyle, & Walter, 2021). For instance, some studies may have omitted variables that potentially correlate with both physical attractiveness and leader emergence. Additionally, field studies sometimes had issues with common method variance in that both physical attractiveness and leader emergence were collected from the same respondents. Furthermore, selection effects might have played a role in prior field studies, as less attractive individuals may self-select out of pursuing leadership opportunities at a higher rate compared to their more attractive counterparts. In short, the primary studies included in our meta-analysis have the potential to exhibit various forms of endogeneity. Moving forward, we recommend that leader emergence scholars take steps to reduce the impact of endogeneity their research, both by addressing these issues a priori in study designs and through empirical approaches in their analyses.

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Third, we focus on only two mediators for the physical attractiveness-leader emergence relationship. Although these mediators collectively accounted for 65% of the direct relationship between physical attractiveness and leader emergence, there is still more variance to be accounted for by other mediators (35%). As such, we recommend that additional mechanisms, as well as more nuances in existing mechanisms, be explored in future research. For example, recent research has explored how individuals who are more attractive have higher core self-evaluations (Dietl, Rule, & Blickle, 2018), which could be another factor explaining why there is a relationship between physical attractiveness and leader emergence.

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Fourth, we could not test for the relative importance of physical attractiveness against other physical characteristics, such as height (Judge & Cable, 2004), or body mass index (Re, Dzhelyova, Holzleitner, Tigue, & Feinberg et al., 2012), that also influence leader emergence. In

future research, we recommend that scholars take a more holistic view of physical characteristics and how they influence the leader emergence process (e.g., Devine et al., 2021). Along these lines, we also recommend more research on the interactions between observer (rater) and target (leader) characteristics in determining how and to what extent physical attractiveness is related to leader emergence. This kind of research is severely lacking in the literature, but would paint a more holistic view of the physical attractiveness-leader emergence relationship.

Finally, we were not able to test for other leadership outcomes besides leader emergence. Indeed, we were only able to uncover three primary studies that measured leader effectiveness in relation to physical attractiveness. Not surprisingly, the effect of physical attractiveness on leader effectiveness was small in magnitude ($\rho = .10$; $k = 3$; $N = 138$) and fell short of statistical significance (95% CI: $-.004, .21$). However, we suggest that future research should uncover additional leadership outcomes of physical attractiveness, such as effectiveness or behaviors.

Conclusion

In conclusion, our meta-analysis confirms a significant relationship between physical attractiveness and leader emergence, explained primarily by perceptions of warmth, with perceived competence also playing a mediating role. This relationship holds equally for male and female leaders and is particularly strong in informal leadership contexts. It is slightly more pronounced among college students than full-time employees and in collectivist rather than individualistic national cultures, yet remains equally strong across executive and non-executive leadership roles. Overall, these findings underscore the pervasive and persistent influence of the beauty bias in leadership emergence—one of the most consequential organizational decisions. Given its impact, organizations should take steps to mitigate this bias, and future research should further explore its complexities.

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FOOTNOTES

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1. A second observer characteristic that we also considered was the gender of the observers, namely examining whether men and women differ in terms of the judgments they make about others based upon those targets' physical attractiveness. However, when examining the beauty bias generally, and more importantly as it may occur within organizational contexts such as in leader selection, there has been very little research that has addressed the gender of the *raters* in the study. When examining the beauty bias, the overwhelming body of research has focused on the gender of the *target*. Also, neither of our two foundational theories we draw upon in this meta-analysis explicitly speaks to the question of whether there are systematic differences across genders in terms of their ideal leader prototypes, or how or to what degree they may use certain specific or diffuse characteristics when making judgments of others, respectively. Thus, we do not include the gender of the rater in our hypotheses. However, as we consider this an important theoretical and empirical question, we do examine observer gender in the relatively few studies in our sample that allow for it and report these results in the Online Supplement.

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2. We also included studies that reported beta coefficients but excluded those with intercorrelated predictors (e.g., competence, warmth, and physical attractiveness were added simultaneously as predictors for leader emergence; Castelli, Carraro, Ghitti, & Pastore, 2009) or interactions (e.g., physical attractiveness interacted with job characteristics to affect leader emergence; Beehr & Gilmore, 1982) in the regression models. In our final meta-analytic database, only one study (Leigh & Susilo, 2009) reported two regression betas without including any control variables in their regression models. We ran supplementary analyses removing these two regression betas, and our conclusions did not change.

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3 3. Studies were eliminated from our analyses for the following reasons: (1) did not
4 include sufficient enough data to calculate an effect size, even after contacting authors for
5 relevant data (46 studies); (2) did not study leader emergence or did not study it in adult samples
6 (22 studies); (3) captured facial or other physical features other than physical attractiveness (13
7 studies); (4) included confounding variables in the regression model (14 studies); or (5) did not
8 specify the sample size (1 study). A reference list of these studies is available upon request.
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17 4. As a robustness check, we ran two sets of supplementary analyses in which we
18 imputed a different correlation between warmth and competence. In the first set of
19 supplementary analyses, we imputed an $r = -.004$ for the “warmth-competence” relationship
20 based on studies in our meta-analytic databases ($\rho = -.004$; $k = 15$; $N = 745$). In the second set of
21 supplementary analyses, we imputed an $r = .09$ based on the meta-analytic correlation between
22 self-rated agency and communion – i.e., “actual” traits that mirror the “ascribed” (other-rated)
23 perceptions of warmth and competence (Badura et al., 2018). Our conclusions did not change in
24 either set of supplementary analyses. Specifically, warmth and competence perceptions mediated
25 the effects of physical attractiveness on leader emergence, with warmth path explaining more of
26 the effects than the competence path. The results of these two sets of analyses are presented in
27 the Online Supplement (Table OS4 and OS5, respectively).
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42 5. We ran supplementary analyses in which we imputed a different correlation between
43 competence and leader emergence obtained from a previous meta-analysis by Judge et al. (2004,
44 $\rho = .60$; $k = 9$; $N = 1,653$). The results of these two sets of analyses are presented in the Online
45 Supplement (Table OS6). In that analysis, warmth and competence perceptions equally mediated
46 the effects of physical attractiveness on leader emergence. However, we opted to use the
47 correlation calculated based on the studies included in our own meta-analytic dataset because the
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3 correlation from Judge et al. (2004) was between perceived intelligence and leader emergence,
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5 whereas our focal construct—perceived competence—is a broader construct. Thus, the studies in
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7 our database are more aligned with our conceptualization of perceived competence than the
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9 Judge et al.'s (2004) meta. In addition, we have a larger number of studies—and thus a more
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11 precise and reliable estimate of the perceived competence-leader emergence relationship—than
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13 Judge et al. (2004). Finally, the Judge et al.'s (2004) estimate is now 20 years old, whereas our
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15 estimate is based on a more updated collection of studies (1988-2017).
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Table 1

Reliability Distributions

Variable	Mean reliability	<i>SD</i>	Min	Max	No. of estimates imputed	Total observations
Physical attractiveness (rated)	.85	.08	.70	.96	54	88
Leader emergence (informal)	.90	.06	.81	.98	30	50
Perceptions of competence	.90	.08	.75	.96	31	38
Perceptions of warmth	.90	.04	.85	.94	34	41

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Table 2

Means, Standard Deviations, and Correlations among Moderators

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Role formality	0.60	0.49							
2. Leader gender	0.43	0.37	.01 (66)						
3. Rated vs. Manipulated	0.60	0.49	-.34** (81)	-.06 (66)					
4. Within vs. Between	0.16	0.37	-.45** (32)	.20 (31)	<i>N.A.</i>				
5. Attractiveness range	0.33	0.47	.34** (76)	.06 (61)	-.94** (76)	.13 (27)			
6. Rater work experience	0.33	0.48	-.09 (60)	-.10 (54)	-.00 (60)	.27 (24)	-.13 (55)		
7. Leadership level	0.42	0.50	-.23* (81)	.15 (66)	-.28** (81)	-.17 (32)	.18 (76)	.07 (60)	

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. Numbers in parentheses represent the number of observations (N) for a relationship. “Role formality” was coded as “0” = “informal leadership role” and “1” = “formal leadership role”; “Leader gender” was coded as the percentage of female leaders; “Survey vs. Experiment” was coded as “0” = “experiment” and “1” = “survey”; “Within vs. Between” was coded as “0” = “Within-subject” and “1” = “Between-subject”; “Attractiveness range” was coded as “0” = “Full range” and “1” = “High-Low classification”; “Rater employment status” was coded as “0” = “college students” and “1” = “full-time employees”; “Leader industry” was coded as “0” = “politics” and “1” = “business”; “Leadership level” was coded as “0” = “executive leadership role” and “1” = “non-executive leadership role”.

***p* < .01

**p* < .05

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Table 3

Direct Effects and Mediating Mechanisms of Physical Attractiveness on Leader Emergence

Variable	k	N	\bar{r}	$\bar{\rho}$	SD_{ρ}	80% CV_{ρ}	95% $CI_{\bar{\rho}}$	I^2	Z test
Leader emergence (H1a-b)	58	3,546	.33	.36	.16	.15, .57	.31, .42	61.02	
Male leader-only samples	18	587	.36	.41	.18	.18, .64	.29, .53	50.13	$Z = 0.06$
Female leader-only samples	9	177	.35	.40	.37	-.08, .88	.11, .69	70.53	$p = .478$
Explanatory mechanisms (H2a-b)									
Perceptions of competence	17	1,001	.21	.25	.42	-.26, .75	.05, .44	87.84	$Z = -2.67$
Perceptions of warmth	16	903	.49	.56	.20	.30, .82	.44, .67	75.54	$p = .004^{**}$

Note. k = number of correlations; N = combined sample size; \bar{r} = sample-size weighted mean uncorrected correlation; $\bar{\rho}$ = estimated true-score correlation; SD_{ρ} = the standard deviation of the true effect size; CV = credibility interval; CI = confidence interval; I^2 = percentage of the true effect size heterogeneity within the total variance of effect sizes.

$^{**}p < .01$,

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Table 4

Indirect Effects of Physical Attractiveness on Leader Emergence through Perceptions of Warmth and Competence

Effects	<i>B</i>	<i>S.E.</i>	<i>95% CI</i>
First-stage effects			
Physical attractiveness → Perceived warmth	.56**	.02	(.51, .60)
Physical attractiveness → Perceived competence	.25**	.03	(.20, .30)
Second-stage effects			
Perceived warmth → Leader emergence	.36**	.03	(.30, .42)
Perceived competence → Leader emergence	.15**	.03	(.10, .20)
Direct effects			
Physical attractiveness → Leader emergence	.13**	.03	(.07, .18)
Indirect effects (H2a-b)			
Physical attractiveness → Perceived warmth → Leader emergence	.20**	.02	(.16, .24)
Physical attractiveness → Perceived competence → Leader emergence	.04**	.01	(.02, .05)
Difference	.17**	.02	(.12, .21)
Proportion of total effect			
Perceived warmth path	54%		
Perceived competence path	11%		
Direct effect path	35%		

***p* < .01

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Table 5

Contextual Moderators of Physical Attractiveness-Leader Emergence Relationship

Variable	<i>k</i>	<i>N</i>	\bar{r}	$\bar{\rho}$	SD_{ρ}	80% CV_{ρ}	95% $CI_{\bar{\rho}}$	I^2	Z test
Rater work experience (H3a)									
College student raters	27	1,238	.34	.37	.25	.05, .69	.26, .48	72.44	Z = 1.58
Full-time employee raters	13	1,138	.25	.27	.00	.27, .27	.22, .33	0.00	<i>p</i> = .057†
Leadership role formality (H3b)									
Informal leadership roles	21	1,038	.40	.45	.25	.13, .78	.33, .58	76.36	Z = 1.79
Formal leadership roles	38	2,522	.31	.33	.11	.20, .47	.28, .38	41.18	<i>p</i> = .037*
Leadership role level (H3c)									
Executive leadership roles	36	2,978	.34	.37	.17	.15, .59	.31, .44	71.48	Z = 1.21
Non-executive leadership roles	22	568	.27	.30	.07	.21, .40	.21, .40	10.79	<i>p</i> = .112
National culture (H3d)									
Individualistic (Western)	41	2,747	.31	.34	.17	.11, .56	.27, .40	64.68	Z = -2.26
Collectivist (Eastern)	8	506	.41	.44	.00	.44, .44	.38, .51	0.00	<i>p</i> = .012*

Note. *k* = number of correlations; *N* = combined sample size; \bar{r} = sample-size weighted mean uncorrected correlation; $\bar{\rho}$ = estimated true-score correlation; SD_{ρ} = the standard deviation of the true effect size; CV = credibility interval; CI = confidence interval; I^2 = percentage of the true effect size heterogeneity within the total variance of effect sizes.

***p* < .01

**p* < .05

†*p* < .10

BEAUTY BIAS AND LEADER EMERGENCE

Table 6

Methodological Moderators of Physical Attractiveness-Leader Emergence Relationship

Variable	<i>k</i>	<i>N</i>	\bar{r}	$\bar{\rho}$	SD_{ρ}	80% CV_{ρ}	95% CI_{ρ}	I^2	Z test
Measure of attractiveness									
Rated	35	3,341	.33	.36	.18	.13, .59	.29, .43	76.04	Z = .29
Manipulated	23	205	.34	.35	.00	.35, .35	.25, .44	0.00	p = .384
Range of attractiveness									
Full range	37	3,359	.33	.36	.18	.13, .59	.30, .43	74.68	Z = .39
High-low	19	175	.34	.34	.00	.34, .34	.23, .45	0.00	p = .345
Measure of formal leader emergence									
Subjective formal emergence	21	360	.48	.50	.17	.28, .71	.38, .61	39.26	Z = 2.98
Objective formal emergence	18	2,180	.28	.30	.08	.20, .41	.25, .36	44.91	p = .001**
Experimental design									
Within	19	142	.41	.41	.00	.41, .41	.29, .52	0.00	Z = 2.24
Between	4	63	.20	.20	.00	.20, .20	.06, .34	0.00	p = .012*
Publication year									
1984–1995	14	224	.38	.39	.08	.28, .50	.26, .52	67.86	Z = 0.41
1996–present	44	3322	.33	.36	.17	.14, .59	.30, .42	10.68	p = .343
Journal quality									
A*	19	1184	.27	.30	.11	.16, .43	.22, .37	38.13	Z _{B-A*} = 3.69, p = .000
A	19	1140	.35	.38	.11	.24, .53	.31, .46	44.27	Z _{B-A} = 2.77, p = .003
B	5	94	.60	.65	.08	.54, .76	.48, .83	18.11	Z _{B-NI} = 2.42, p = .008
Not Included	15	1128	.36	.38	.23	.09, .68	.25, .51	79.95	

Note. *k* = number of correlations; *N* = combined sample size; \bar{r} = sample-size weighted mean uncorrected correlation; $\bar{\rho}$ = estimated true-score correlation; SD_{ρ} = the standard deviation of the true effect size; CV = credibility interval; CI = confidence interval; I^2 = percentage of the true effect size heterogeneity within the total variance of effect sizes. For journal quality, only the significant Z tests were reported.

***p* < .01, **p* < .05

ONLINE SUPPLEMENT

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Coding Manual:

Variables of interest

Physical attractiveness: we coded as physical attractiveness if the article refers to physical or facial *attractiveness* rather than specific physical *features* (i.e., weight, height, facial structure, facial masculinity/femininity).

Leadership emergence: we coded as leadership emergence if individuals are granted influence and social status by their peers, or are granted hierarchical leadership roles that are designated by a group or organization as formal positions of influence and status, such as a management position or a role as a formally designated representative of the group to others.

Leadership effectiveness: we coded leaders' actual performance/outcomes after occupying the leadership role, such as team profit (e.g., middle managers) or company profit (e.g., CEO leaders), as team effectiveness.

Warmth: we coded ratings of friendliness, trustworthiness, empathy, sociability, likeability, and kindness as perceived warmth.

Competence: we coded ratings of confidence, intelligence, power, efficacy, skillfulness, assertiveness, and decisiveness as perceived competence.

Study Information

Study: specify journal, author(s) of the article, year of publication, and sample ID if an article has more than one samples included in the database. For example: Baron, Markman, & Bollinger (2006, sample 1).

Contextual Moderators (Sample Characteristics)

Rater gender: The percentage of females in the rater sample

Leader gender: The percentage of females in the ratee (leader) sample

Type of emergence: we coded as "informal emergence" if the paper captured the informal granting of leadership via perceptions of the person's influence, status, or leadership-related respect in the group; we coded as "formal emergence" if the leaders are selected for or voted into a legitimate group or organization leadership role with formal status or authority.

Objectivity of emergence measure: we coded as "subjective" if the paper captured emergence via perceptions/surveys/questionnaires. we coded as "objective" if the paper captured emergence as leaders actually being granted authority in a real leadership role.

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3 **Rater work experience:** we coded as “student” if the raters are college students without work
4 experience rated leadership emergence. We coded as “employee” if the raters are part-time or
5 full-time employees rated leadership emergence.
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7 **Mgmt Level:** We coded as “executive” if leaders emerge as CEOs, top management team
8 members, or political leaders (e.g., presidential or senator election). We coded as “non-
9 executive” if the leaders emerge as lower or middle managers, leaders of small teams, or leaders
10 of student unions.
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13 **Individualism:** First, we coded the country from which the ratee/leader sample was collected.
14 Then, we retrieved the individualism score from: [https://www .hofstede-](https://www.hofstede-insights.com/product/compare-countries/)
15 [insights.com/product/compare-countries/](https://www.hofstede-insights.com/product/compare-countries/).
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19 Methodological Moderators (Study Design)

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21 **Survey vs. Experiment:** we coded as “survey” if observers rated the leaders’ attractiveness
22 levels using psychometric measures and survey items, which captured targets’ naturally varying
23 levels of perceived attractiveness. We coded as “experiment” if leaders’ physical attractiveness
24 levels were manipulated by experimenters such that leaders were intentionally differentiated by
25 the study authors based on high, medium, or low levels of physical attractiveness.
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28 **Within vs. Between:** we coded as “between-subject” when ratees are presented with only either
29 attractive or non-attractive stimulus (e.g., photos or videos of targets), we coded as “within-
30 subject” wherein ratees are presented simultaneously with photos or videos of attractive and non-
31 attractive targets.
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34 **Attractiveness Range:** we coded as “high-low” if participants were asked to rate leaders that are
35 either highly attractive or very low in attractiveness. We coded as “full range” if participants
36 were asked to rate leaders of varying degrees of physical attractiveness.
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40 Other Moderators

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42 **Date of Publication:** we coded the year in which a paper was published.
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44 **Journal Quality:** We coded the title of the outlet in which a study was published. We assessed
45 the quality of each primary study by referencing the 2022 ABDC Journal Quality List
46 (Australian Business Deans Council; <https://abdc.edu.au/abdc-journal-quality-list/>), which is
47 widely recognized and comprehensive. The ABDC list classifies journals into four categories:
48 A*, A, B, and C. Based on this classification, we grouped our studies into four categories: A
49 journals, A journals, B journals, and journals not listed in the ABDC. None of the primary
50 studies included in our analysis were from the C category of the ABDC list.
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Statistics

R_{xx}: The reliability of independent variable.

R_{yy}: The reliability of independent variable.

For R_{xx} and R_{yy} , a reliability of 1.00 was used for laboratory measures of physical attractiveness (e.g., pictures indicating the levels of facial attractiveness) as well as many measures of formal leadership emergence (e.g., actual selection outcomes) and leadership effectiveness. Whenever reliabilities were not available, we imputed the mean reliability based on the rest of the studies measuring the same construct (survey measures of physical attractiveness: .85; informal leader emergence: .90, perceptions of competence: .90, and perceptions of warmth: .90).

R: Pearson Correlations. If other statistics than correlations are reported, we used transformation tool developed by Wilson. For beta-coefficients, we used the conversion formulas developed by Peterson & Brown (2005).

N: Number of leaders in the sample.

Observer Gender as a Moderator:

While not included in our hypotheses for reasons described in Footnote 1, we did examine observer (rater) gender as an additional moderator using the relatively limited number of studies in our sample that allowed for this analysis. To conduct these tests, we treated this moderator the same way that we did the target gender moderator. Specifically, we examined it as a continuous variable (i.e. the percentage of female observers in the sample) and conducted meta-analytic regression analysis using robust variance estimation (RVE; Hedges, Tipton, & Johnson, 2010). We also dichotomized this variable and conducted a subgroup analysis following the Hunter and Schmidt's (2004) meta-analytic procedure, and performed Z-tests to examine if there were significant differences in weighted mean effect sizes across the two subgroups.

Our findings based on the meta-regression ($k = 40$) showed that rater gender was a marginally significant ($p < .10$) moderator of the relationship between physical attractiveness and leader emergence ($b = -.47$, $s.e. = .24$, $p = .064$), with the relationship being slightly larger among male raters. However, when subgroup analysis (Table OS7) was used to test moderating effects, the relationship between physical attractiveness and leader emergence was not significantly different across male rater-only ($\rho = .64$; 95% CI: .52, .77) and female rater-only ($\rho = .31$; 95% CI: -.21, .83) samples ($Z = 1.22$, $p = .111$). However, the subgroup analyses were based on very small sample sizes ($k = 4$, $N = 190$ for male rater only samples, and $k = 3$, $N = 122$ for female-only rater samples), and therefore, were not as precise as the meta-regression results.

Table OS1
 Primary Studies Included in the Physical Attractiveness and Leader Emergence Meta-Analyses

Study	Role formalit y	Survey vs. Experim ent	Within vs. Between	Attracti veness range	Rater work experien ce	Mgmt level	Rater gender	Leader gender	Individu alism	n	r	r _{xx}	r _{yy}
Ahler, Citrin, & Lenz (2017, sample 1)	1	1		0		0		21	60	53	0.510	0.85	1.00
Ahler, Citrin, & Lenz (2017, sample 2)	1	1		0		0		30	60	44	0.400	0.85	1.00
Anderson, John, Keltner, & Kring (2001, sample 1)	0	1		0	0	1	0	0	60	48	0.390	0.70	0.92
Anderson, John, Keltner, & Kring (2001, sample 2)	0	1		0	0	1	100	100	60	44	-0.120	0.78	0.98
Anderson, John, Keltner, & Kring (2001, sample 3)	0	1		0	0	1	0	0	60	42	0.430	0.91	0.81
Anderson, John, Keltner, & Kring (2001, sample 3)	0	1		0	0	1	0	0	60	42	0.440	0.91	0.81
Anderson, John, Keltner, & Kring (2001, sample 3)	0	1		0	0	1	100	100	60	32	0.260	0.91	0.81
Anderson, John, Keltner, & Kring (2001, sample 3)	0	1		0	0	1	100	100	60	32	0.160	0.91	0.81
Banducci (2008)	0	1		0		0	52		76	212	0.620	0.85	0.95
Bardack (1985)	1	0	1	1	0	1	47	100	60	3	0.220	1.00	1.00
Baron, Markman, & Bollinger (2006, sample 1)	0	0	1	1	1	0	47	100		4	0.300	1.00	0.90
Baron, Markman, & Bollinger (2006, sample 1)	0	0	1	1	1	0	47	0		4	0.210	1.00	0.90
Baron, Markman, & Bollinger (2006, sample 2)	0	1		0	0	0		27		67	0.720	0.85	0.90
Baron, Markman, & Bollinger (2006, sample 2)	0	1		0	0	0		27		67	0.520	0.85	0.90
Berggren, Jordahl, & Poutvaara (2010)	1	1		0	1	0			75	641	0.240	0.85	1.00
Cann, Siegfried, & Pearce (1981, sample 1)	1	0	0	1	0	1		50		8	0.230	1.000	1.000
Cann, Siegfried, & Pearce (1981, sample 2)	1	0	0	1	0	1		50		8	0.140	1.000	1.000
Cash & Kilcullen (1985)	1	0	0	1	0	1	50	50		8	0.690	1.00	1.00
Chiao, Bowman, & Gill (2008)	1	1		0	0	0	52	100	60	46	0.750	0.85	1.00
Chiao, Bowman, & Gill (2008)	1	1		0	0	0	0	43	60	106	0.560	0.85	1.00
Chiao, Bowman, & Gill (2008)	1	1		0	0	0	100	100	60	46	0.660	0.85	1.00

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Chiao, Bowman, & Gill (2008)	1	1		0	0	0	0	100	60	46	0.780	0.85	1.00
Chiu & Babcock (2002)	1	0	0	0	1	1	45	50	43	6	0.668	1.00	1.00
Chung & Leung (1988)	1	0	0	0	1	1	31	50	43	12	0.340	1.00	1.00
DeGroot & Motowidlo (1999)	0	1		0	1	1		51		110	0.210	0.93	0.90
DeGroot & Motowidlo (1999)	0	1		0	0	1		51		110	0.590	0.93	0.93
Dipboye, Fromkin, Wiback (1975)	1	0	0	1		1	0	50	60	12	0.740	1.00	1.00
Dipboye, Fromkin, Wiback (1975)	1	0	0	1		1	0	50	60	12	0.720	1.00	1.00
Efrain & Patterson (1974)	1	1		0	0	0	33		72	79	0.400	0.85	1.00
Gilmore, Beehr, & Love (1986)	1	0	1	1		1				48	0.140	1.00	1.00
Hamel (2016)	0	0	0	1	0	1	68	100	60	4	-0.159	1.00	0.90
Heilman & Saruwatari (1979)	1	0	0	1	0	1	49	50	60	8	0.460	1.00	1.00
Jawahar & Mattsson (2005)	1	0	0	1	0	1		47	60	4	0.200	1.00	1.00
Jawahar & Mattsson (2005)	1	0	0	1	0	1		47	60	4	0.460	1.00	1.00
King & Leigh (2009)	1	1		0		0	50		73	286	0.250	0.85	1.00
Lawson, Lenz, Baker, & Myers (2010, sample 1)	1	1		0		0			34	94	0.370	0.85	1.00
Lawson, Lenz, Baker, & Myers (2010, sample 2)	1	1		0		0			34	94	0.310	0.85	1.00
Lawson, Lenz, Baker, & Myers (2010, sample 3)	1	1		0		0	60		36	96	0.520	0.85	1.00
Lawson, Lenz, Baker, & Myers (2010, sample 4)	1	1		0		0	30		36	96	0.460	0.85	1.00
Lawson, Lenz, Baker, & Myers (2010, sample 5)	1	1		0		0			36	54	0.350	0.85	1.00
Lawson, Lenz, Baker, & Myers (2010, sample 6)	1	1		0		0			36	54	0.370	0.85	1.00
Leigh & Susillo (2009, sample 1)	1	1		0		0		37	73	57	0.350	0.85	1.00
Leigh & Susillo (2009, sample 2)	1	1		0		0		37	73	22	0.110	0.85	1.00
Little (2014)	0	1		0	0	0	72	0	60	33	0.737	0.85	0.90
Little, Roberts, Jones, & DeBruine (2012, sample 1)	1	1		0	0	0	60	0	60	83	0.372	0.83	1.00
Little, Roberts, Jones, & DeBruine (2012, sample 2)	1	0	0	1		0	49	0	60	10	0.560	1.00	1.00
Little, Roberts, Jones, & DeBruine (2012, sample 3)	1	0	0	1		0	49	0	60	10	0.470	1.00	1.00
Little, Roberts, Jones, & DeBruine (2012, sample 3)	1	0	0	1		0	49	0	60	10	0.210	1.00	1.00

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4	Little, Roberts, Jones, & DeBruine (2012, sample 4)	1	0	0	1		0	46	0	60	10	0.590	1.00	1.00
5	Marlowe, Schneider, & Nelson (1996)	1	0	0		1	1	59	50	60	8	0.360	1.00	1.00
6	Marlowe, Schneider, & Nelson (1996)	1	0	0		1	0	59	50	60	8	0.350	1.00	1.00
7	Mattes & Milazzo (2014)	1	1		0	0	0	58		76	150	0.270	0.85	1.00
8	Morrow, McElroy, Stamper, & Wilson (1990)	1	0	0	1	1	1	50	50	60	8	0.320	1.00	1.00
9	Olivola, Eubanks, & Lovelace (2014)	0	1		0		1		0	60	20	0.500	0.85	0.90
10	Pillemer, Graham, & Burke (2014, sample 1)	0	1		0	0	0	50	0	60	20	0.730	0.85	0.90
11	Pillemer, Graham, & Burke (2014, sample 2)	0	1		0	0	0	50	100	60	20	0.250	0.85	0.90
12	Praino, Stockemer, & Ratis (2014)	1	1		0	0	0			60	330	0.110	0.85	1.00
13	Re & Rule (2017, sample 1)	0	1		0	1	0	55	0	60	64	0.200	0.85	0.89
14	Re & Rule (2017, sample 2)	0	1		0	1	1	59	0	60	64	0.130	0.85	0.85
15	Re & Rule (2016)	0	1		0	1	0	50	0	60	100	0.390	0.85	0.90
16	Riggle, Ottai, Wyer, Kuklinski, & Schwarz (1992)	0	1		0	0	0		0	60	14	0.900	0.85	0.90
17	Riggle, Ottai, Wyer, Kuklinski, & Schwarz (1992)	1	1		0	0	0		0	60	14	0.810	0.85	1.00
18	Rosenberg, Bohan, McCafferty, & Harris (1986, sample 1)	1	0	0	1	0	0	50	0	60	6	0.200	1.00	1.00
19	Rosenberg, Bohan, McCafferty, & Harris (1986, sample 2)	1	0	0	1	1	0	50	0	60	6	0.180	1.00	1.00
20	Rosenberg, Bohan, McCafferty, & Harris (1986, sample 3)	1	0	0	1	0	0	59	100	60	4	0.140	1.00	1.00
21	Rosenberg, Bohan, McCafferty, & Harris (1986, sample 3)	1	0	0	1	0	0	59	100	60	4	0.170	1.00	1.00
22	Rosenberg, Bohan, McCafferty, & Harris (1986, sample 3)	1	0	0	1	0	0	59	100	60	4	0.070	1.00	1.00
23	Rule & Ambady (2008)	0	1		0	0	0	65	0		47	-0.040	0.85	0.90
24	Rule & Ambady (2009)	0	1		0	0	0	50	100		20	0.810	0.83	0.95
25	Shannon & Stark (2003)	1	0	0		0	1	60	0	60	6	-0.040	1.00	1.00
26	Shannon & Stark (2003)	1	0	0	1	0	1	60	0	60	6	0.090	1.00	1.00
27	Sussman, Petkova, & Todorov (2013)	1	1		0	1	0	50		50	18	0.340	0.85	1.00
28	Sussman, Petkova, & Todorov (2013)	1	1		0	1	0	50		50	18	0.820	0.85	1.00
29	Tskhay, Giacomini, & Rule (2020)	0	0	1	1		0	60	50	60	8	0.450	1.00	0.90
30	Tskhay, Zhu, & Rule (2017)	0	1		0	1	1	48	60	60	97	0.120	0.85	0.90
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Tskhay, Zhu, & Rule (2017)	0	1		0	1	1	48	60	60	97	0.200	0.85	0.90
Tskhay, Zhu, & Rule (2017)	0	1		0	1	1	48	60	60	97	0.170	0.85	0.90
Tskhay, Zhu, & Rule (2017)	0	1		0	1	1	48	60	60	97	0.080	0.85	0.90
Tskhay, Zhu, & Rule (2017)	0	1		0	1	1	48	60	60	97	0.130	0.85	0.90
Weller (2020)	0	0	0		0	1	71	50	60	4	0.090	1.00	0.93
Weller (2020)	0	0	0		0	1	71	50	60	4	-0.050	1.00	0.93

Note. “Role formality” was coded as “0” = “informal leadership role” and “1” = “formal leadership role”; “Survey vs. Experiment” was coded as “0” = “experiment” and “1” = “survey”; “Within vs. Between” was coded as “0” = “Within-subject” and “1” = “Between-subject”; “Attractiveness range” was coded as “0” = “Full range” and “1” = “High-Low classification”; “Rater work experience” was coded as “0” = “college students” and “1” = “full-time employees”; “Mgmt level” was coded as “0” = “executive leadership role” and “1” = “non-executive leadership role”. “Rater gender” and “Leader gender” were the percentages of female raters and female leaders, respectively; *n* = sample size; *r* = observed correlation; *r*_{xx} = predictor reliability; *r*_{yy} = criterion reliability.

Table OS2
 Primary Studies Included in the Physical Attractiveness and Competence Meta-Analyses

Study	n	r	r _{xx}	r _{yy}
Baron, Markman, & Bollinger (2006)	4	0.450	1.00	0.90
Baron, Markman, & Bollinger (2006)	4	0.320	1.00	0.90
Franklin & Zebrowitz (2016)	54	0.606	0.85	0.90
Franklin & Zebrowitz (2016)	54	0.626	0.85	0.90
Jackle & Metz (2017)	50	0.030	0.85	0.90
Lewis, & Bierly (1990)	22	0.390	0.85	0.90
Lewis, & Bierly (1990)	22	0.730	0.85	0.90
Lewis, & Bierly (1990)	22	0.580	0.85	0.90
Lewis, & Bierly (1990)	22	0.610	0.85	0.90
Mattes & Milazzo (2014)	150	0.150	0.85	0.90
Mattes, Spezio, Kim, Todorov, Adolph et al. (2010, sample 1)	60	0.270	0.86	0.75
Mattes, Spezio, Kim, Todorov, Adolph et al. (2010, sample 2)	60	0.140	0.86	0.75
Olivola, Eubanks, & Lovelace (2014)	80	0.760	0.85	0.90
Olivola, Eubanks, & Lovelace (2014)	80	0.630	0.85	0.90
Pillemer, Graham, & Burke (2014, sample 1)	20	0.660	0.85	0.90
Pillemer, Graham, & Burke (2014, sample 2)	20	0.360	0.85	0.90
Re & Rule (2017, sample 1)	64	-0.350	0.85	0.89
Re & Rule (2017, sample 2)	64	-0.400	0.85	0.85
Re & Rule (2016)	100	-0.200	0.85	0.90
Riggle, Ottai, Wyer, Kuklinski, & Schwarz (1992)	14	0.780	0.85	0.90
Rule & Ambady (2011)	77	0.260	0.73	0.90
Rule & Ambady (2008)	47	0.150	0.85	0.90
Rule & Ambady (2009)	20	0.710	0.83	0.96

Note. n = sample size; r = observed correlation; r_{xx} = predictor reliability; r_{yy} = criterion reliability.

Table OS3
 Primary Studies Included in the Physical Attractiveness and Warmth Meta-Analyses

Study	n	r	r _{xx}	r _{yy}
Baron, Markman, & Bollinger (2006)	4	0.260	1.00	0.90
Baron, Markman, & Bollinger (2006)	4	0.700	1.00	0.90
Franklin & Zebrowitz (2016)	54	0.642	0.85	0.90
Franklin & Zebrowitz (2016)	54	0.756	0.85	0.90
Jackle & Metz (2017)	50	0.530	0.85	0.90
Linke, Saribay, & Kleisner (2016)	48	0.821	0.96	0.95
Little, Roberts, Benedict, & DeBruine (2012, sample 1)	83	0.372	0.83	0.90
Little, Roberts, Benedict, & DeBruine (2012, sample 2)	10	0.580	1.00	0.90
Olivola, Eubanks, & Lovelace (2014)	80	0.760	0.85	0.90
Olivola, Eubanks, & Lovelace (2014)	80	0.720	0.85	0.90
Pillemer, Graham, & Burke (2014, sample 1)	20	0.440	0.85	0.90
Pillemer, Graham, & Burke (2014, sample 2)	20	0.070	0.85	0.90
Re & Rule (2017, sample 1)	64	0.51	0.85	0.89
Re & Rule (2017, sample 2)	64	0.42	0.85	0.85
Re & Rule (2016)	100	0.160	0.85	0.90
Riggle, Ottai, Wyer, Kuklinski, & Schwarz (1992)	14	0.670	0.85	0.90
Riggle, Ottai, Wyer, Kuklinski, & Schwarz (1992)	14	0.830	0.85	0.90
Rule & Ambady (2011)	77	0.470	0.73	0.90
Rule & Ambady (2008)	47	0.340	0.85	0.90
Rule & Ambady (2009)	20	0.020	0.83	0.94
Rule & Ambady (2009)	20	0.160	0.83	0.93

Note. n = sample size; r = observed correlation; r_{xx} = predictor reliability; r_{yy} = criterion reliability.

Table OS4
 Indirect Effects of Physical Attractiveness on Leader Emergence through Perceptions of Warmth and Competence
 (Warmth-Competence Correlation: $r = -.004$)

Effects	<i>B</i>	<i>S.E.</i>	<i>95% CI</i>
First-stage effects			
Physical attractiveness → Perceived warmth	.56**	.03	(.51, .61)
Physical attractiveness → Perceived competence	.25**	.03	(.19, .30)
Second-stage effects			
Perceived warmth → Leader emergence	.51**	.03	(.45, .56)
Perceived competence → Leader emergence	.36**	.02	(.31, .41)
Direct effects			
Physical attractiveness → Leader emergence	-.01	.03	(-.07, .05)
Indirect effects (H2a-b)			
Physical attractiveness → Perceived warmth → Leader emergence	.28**	.02	(.24, .32)
Physical attractiveness → Perceived competence → Leader emergence	.09**	.01	(.06, .11)
Difference	.20**	.02	(.15, .24)
Proportion of total effect			
Warmth path	75%		
Competence path	24%		
Direct effect path	1%		

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Table OS5
 Indirect Effects of Physical Attractiveness on Leader Emergence through Perceptions of Warmth and Competence
 (Warmth-Competence Correlation: $r = .09$)

Effects	<i>B</i>	<i>S.E.</i>	<i>95% CI</i>
First-stage effects			
Physical attractiveness → Perceived warmth	.56**	.02	(.52, .60)
Physical attractiveness → Perceived competence	.25**	.03	(.20, .29)
Second-stage effects			
Perceived warmth → Leader emergence	.46**	.03	(.41, .51)
Perceived competence → Leader emergence	.30**	.02	(.26, .35)
Direct effects			
Physical attractiveness → Leader emergence	.03	.03	(-.02, .08)
Indirect effects (H2a-b)			
Physical attractiveness → Perceived warmth → Leader emergence	.26**	.02	(.22, .29)
Physical attractiveness → Perceived competence → Leader emergence	.07**	.01	(.06, .09)
Difference	.18**	.02	(.14, .22)
Proportion of total effect			
Warmth path	71%		
Competence path	20%		
Direct effect path	9%		

Table OS6
 Indirect Effects of Physical Attractiveness on Leader Emergence through Perceptions of Warmth and Competence
 (Perceived Competence-Leader Emergence Correlation: $r = .60$)

Effects	<i>B</i>	<i>S.E.</i>	<i>95% CI</i>
First-stage effects			
Physical attractiveness → Perceived warmth	.56**	.02	(.52, .60)
Physical attractiveness → Perceived competence	.25**	.03	(.20, .29)
Second-stage effects			
Perceived warmth → Leader emergence	.19**	.03	(.14, .24)
Perceived competence → Leader emergence	.47**	.02	(.43, .51)
Direct effects			
Physical attractiveness → Leader emergence	.14	.02	(.09, .18)
Indirect effects (H2a-b)			
Physical attractiveness → Perceived warmth → Leader emergence	.11**	.02	(.08, .14)
Physical attractiveness → Perceived competence → Leader emergence	.12**	.01	(.09, .14)
Difference	-.01	.02	(-.05, .03)
Proportion of total effect			
Warmth path	30%		
Competence path	32%		
Direct effect path	38%		

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Table OS7
Observer Gender as a Moderator of Physical Attractiveness-Leader Emergence Relationship

Variable	<i>k</i>	<i>N</i>	\bar{r}	$\bar{\rho}$	SD_{ρ}	80% CV_{ρ}	95% $CI_{\bar{\rho}}$	I^2	Z test
Observer gender (H3a)									
Male rater-only samples	4	190	.56	.64	.05	.57, .71	.52, .77	18.66	Z = 1.22
Female rater-only samples	3	122	.27	.31	.43	-.24, .86	-.21, .83	86.91	p = .111

For Peer Review

Figure OS1
Flow Diagram of Study Identification, Screening, Inclusion, and Exclusion Proces

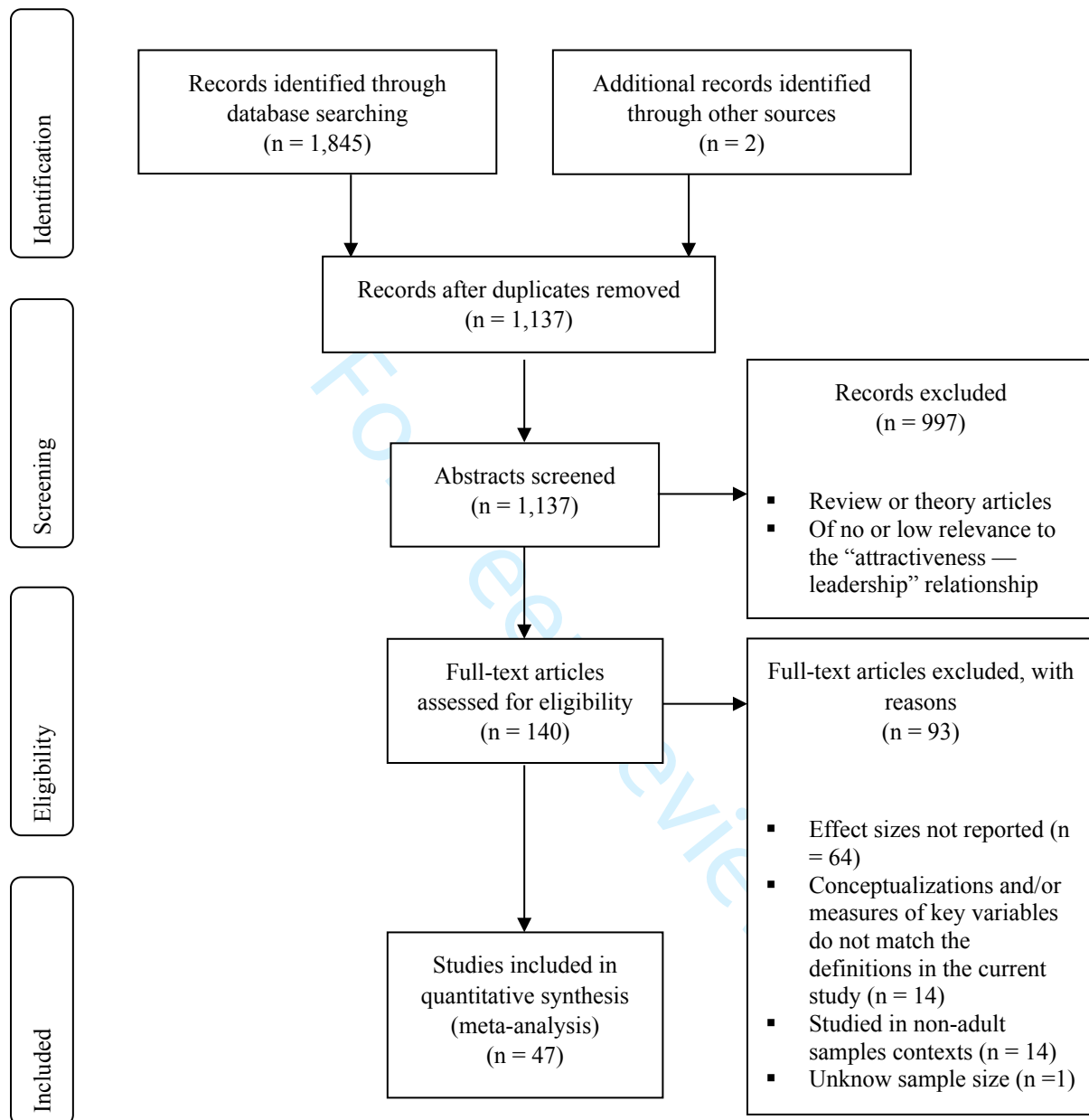


Figure OS2
Funnel Plots for Direct Effects and Causal Mechanisms

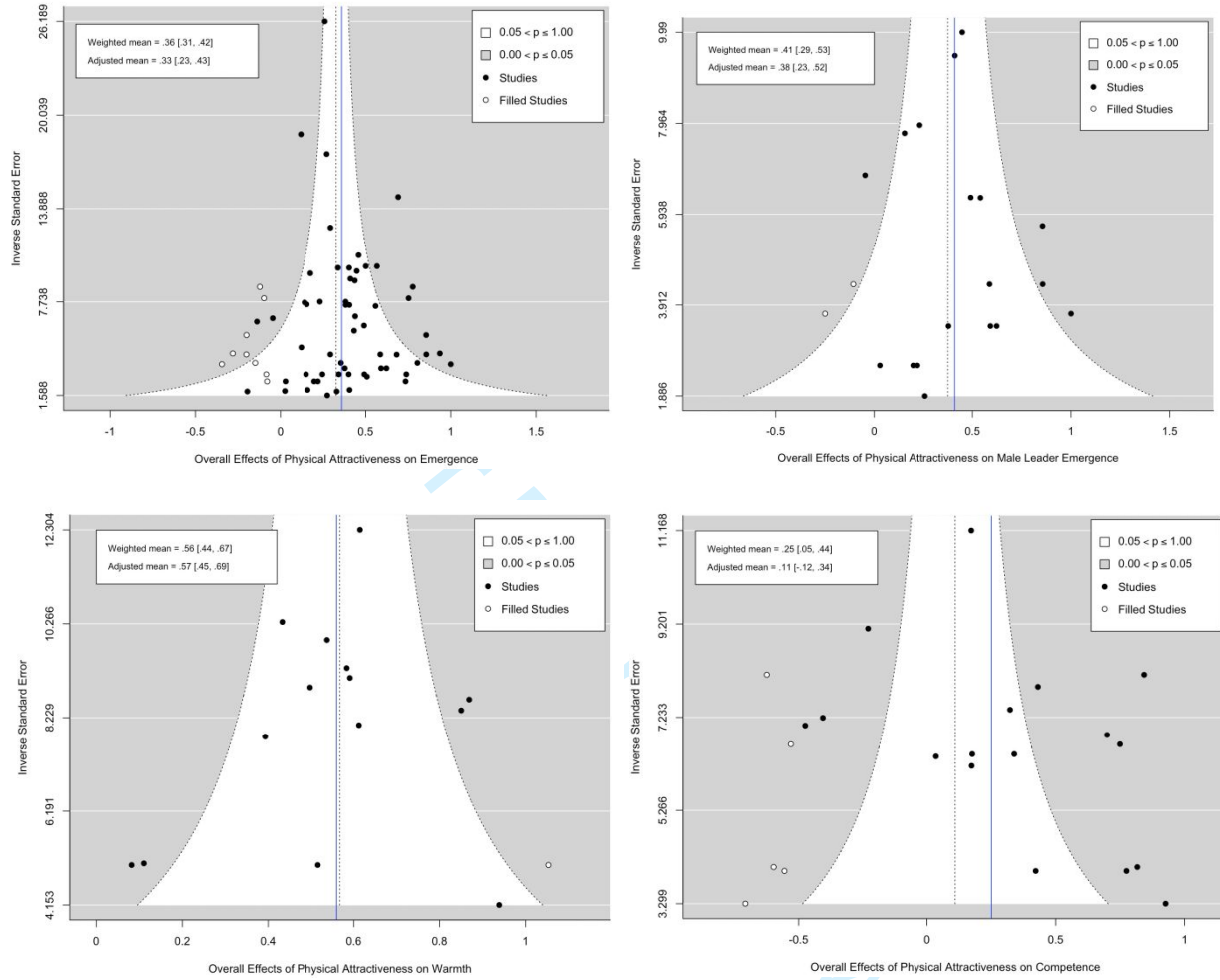


Figure OS3
 Funnel Plots for Contextual Moderators

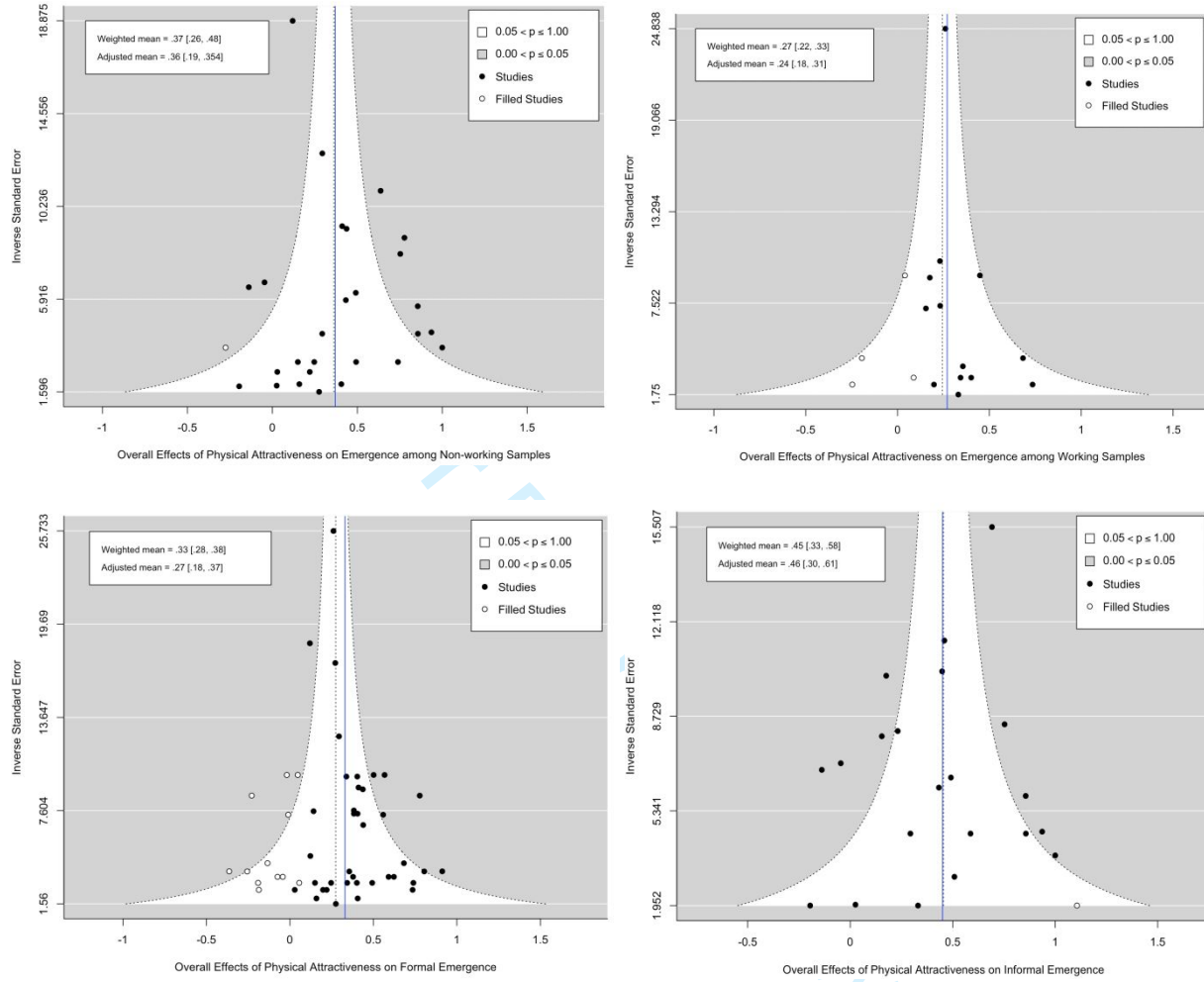


Figure OS4
Funnel Plots for Contextual Moderators (Continued)

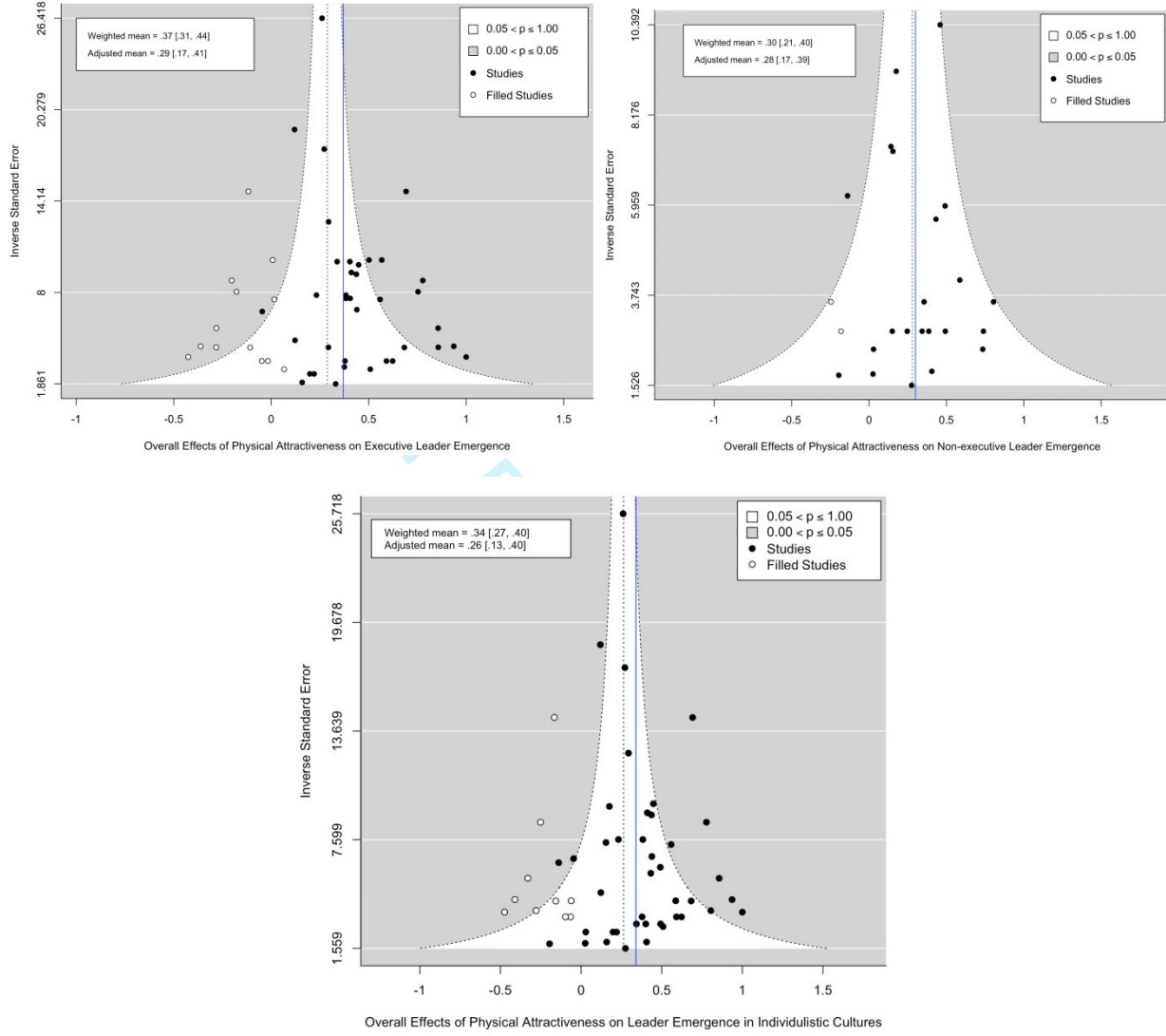


Figure OS5
 Funnel Plots for Methodological Moderators

