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Think star, think men? Implicit star performer theories

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Summary

The star performer gender gap highlights women's challenges in being recognized as star performers. We investigated whether people hold shared beliefs about characteristics star performers possess (i.e., implicit star performer theories, ISPTs) and whether perceptions of stars are (a) gendered and (b) context-specific. Guided by categorization theory, we argue that individuals have shared perceptions of what constitutes a star performer. Employing an inductive approach, we uncovered the existence of ISPTs that are distinct and differ from previously identified implicit theories, such as those about leadership. Specifically, stars were believed to have six characteristics: *Driven*, *Relational*, *Extraordinary*, *Fascinating*, *Tenacious*, and *Brilliant*. We then applied role congruity theory to argue that perceptions of star performers would be gendered and context-dependent. Using an experimental approach, we ascertained that people associated star performers with more masculine than feminine attributes, what we labeled the *think star, think men* phenomenon. Moreover, this association was context-dependent, such that the association of star performers with masculine attributes was stronger in men-dominated occupations. Our third study used a non-reactive approach (i.e., "Princeton trilogy"), and results showed that star performers are seen as possessing more masculine attributes than very good employees. Overall, our three studies using inductive, experimental, and indirect methods based on eight samples of 2322 participants consistently supported the existence of ISPTs and the *think star, think men* phenomenon, improving our understanding of the star performer gender gap.

KEYWORDS
diversity, equity, gender discrimination, gender equity, inclusion, STEM

1 | INTRODUCTION

Star performers are "individuals widely and enduringly perceived as possessing rare, desirable qualities through which they can produce exceptional outcomes" (Aguinis et al., 2021, p. 236). Aguinis et al. (2018) conducted a study involving 59 278 researchers, revealing that women are significantly underrepresented at the highest echelons of performance (i.e., top 10%, 5%, and 1% of performers). These findings were further supported by Chan and Torgler (2020), who replicated the results using a sample of 94 000 scientists from 43 countries. Furthermore, a study by Meho (2021) discovered that the gender gap among recipients of prestigious international research awards is also apparent, with women receiving only 12% of these accolades. This body of research has highlighted a star performer gender gap.

To guide future research, Aguinis et al. (2018) found evidence supporting a gender discrimination explanation as the primary factor contributing to this star performer gender gap. Specifically, their study revealed a productivity gap in favor of men, indicating that women need to accumulate input components at a higher rate than their men counterparts to achieve the same star performer status. This productivity gap is believed to stem from sociocultural factors that disproportionately hinder the output increments for women, as highlighted by previous research (e.g., Carli et al., 2016). Building on this theoretical explanation of the problem, Meho (2021) further proposed that implicit gender biases may account for the gender gap among recipients of prestigious research awards, as women often receive less recognition than men despite comparable performance and records.

Most research has defined star performers based on their achievements or outcomes (Asgari et al., 2021). But what are the characteristics and attributes that stars are believed to possess? Do these vary based on gender and an occupation's gender distribution (i.e., context)? As noted by Asgari et al. (2021, p. 250) in pointing to this knowledge gap, "If existing conceptions of stars function merely as a socially constructed mirror of the values and priorities of those who administer star systems …, then the supporting systems of measurement are at risk of homophily and other forces emblematic of those who possess power and who exercise key organizational judgments." Addressing this call for research is critical, given the significant differences in norms and expectations across organizations and subcultures (Cooke & Rousseau, 1988). Cultural ideals of success may inadvertently favor men's ways of acting within organizations, thereby limiting the choices available to different groups of employees (Aaltio-Marjosola, 1994), including women stars.

Using the cognitive framework provided by categorization theory (Lord et al., 2020), we propose that individuals share a collective understanding of what defines a star performer. While identifying implicit star performers theories (ISPTs) would be a theoretical contribution on its own, we believe it is only the first critical step. To understand the star performer gender gap, as a second step, we adopt the theoretical framework of gender role congruity theory (Eagly & Karau, 2002) to consider whether (a) stars are more closely related to masculine attributes and (b) whether this association is context-dependent. Despite acknowledging that gender may not be a determining factor in all implicit theories (Sy, 2010) and that sometimes top-performing women may face biases in their favor (e.g., Leslie et al., 2017), we hypothesize that (a) ISPTs exist (based on categorization theory), and that (b) star prototypes are indeed influenced by gender and are context-dependent (based on role congruity theory). To test these hypotheses, we implemented a programmatic research approach involving three studies that utilize different methodologies to seek triangulation.

Our research contributes to theory in three main ways. First, investigating implicit theories of star performers is a critical step toward understanding the gender gap in the perception of star performers. Analogous to implicit leadership theories explaining why women are less likely than men to be perceived as effective leaders (Johnson et al., 2008; Offermann & Coats, 2018), our study extends this framework to the realm of top employees. This is particularly important as it provides a new lens to examine why women, despite comparable achievements, are often less likely than men to be perceived as star performers (Aguinis et al., 2018). In doing so, we uncovered the *think star, think men* phenomenon. This concept, rooted in gender stereotypes, suggests an inherent bias in associating star performance with masculine attributes even when compared to above-average performers (i.e., very good employees). Investigating this is important for theory and practice, as it challenges the assumption that outstanding performance can automatically overcome gender biases (Aguinis & Adams, 1998; Bosak & Sczesny, 2011). Moreover, our focus on exploring the context-dependency of this phenomenon further enriches our contribution as it considers how *think star, think men* might manifest differently across professional fields based on their gender composition. This is key for moving the discussion beyond the generalized view of gender biases, highlighting the need to understand how these biases are manifested and potentially mitigated in various contexts. This theory-based exploration advances the development of more effective, context-specific strategies to address and reduce gender disparities in recognizing star performers across industries.

Second, we contribute to the literature on star performers by addressing the need to identify the specific characteristics and attributes that constitute ISPTs. The burgeoning literature on star employees still debates the definition and classification of star performers (Asgari et al., 2021; Call et al., 2015; Kehoe et al., 2018), with some focusing on disproportionate output (Aguinis & O'Boyle, 2014) and others on behaviors (Beck et al., 2014). Our research contributes new theoretical insights to this literature by addressing the need to uncover the characteristics and attributes people implicitly believe stars possess (ISPTs) and the more masculine nature of these beliefs compared to very good employees. Thus, we advance the literature by providing a foundational framework for future work to understand further how ISPTs influence organizational decisions related to the selection, hiring, training, promotion, and retention of these valuable employees (Aguinis & O'Boyle, 2014; Kehoe et al., 2023; Lyle et al., 2023).

Finally, we contribute to the managerial and organizational cognition literature by uncovering the implicit theories of star performers. While drawing conceptual parallels to the well-established Implicit Leadership Theories (ILTs), there is a need to understand whether ISPTs are a unique and novel concept. This differentiation is theoretically important as it enriches our understanding of implicit theories and their impact on human judgments across diverse employee groups. Contrasting ISPTs with ILTs is useful theoretically because it adds a new dimension to the literature on implicit theories (Lord et al., 2020) and provides a foundational framework to understand how these two groups of influential employees are perceived. Making this advancement would help move beyond the traditional focus on leaders (ILTs; Epitropaki & Martin, 2004; Offermann & Coats, 2018) and followers (IFTs; Sy, 2010) to include star performers, thus broadening the scope of research in managerial and organizational cognition. Furthermore, ISPTs serve as a starting point for expanding

research into people's naïve ideas about stars, offering a deeper insight into how these perceptions shape evaluations and decisions regarding these top-performing individuals.

2 | THEORETICAL BACKGROUND

2.1 | Implicit star performer theories

People have naïve ideas (i.e., implicit theories) about other humans in certain categories (Eden & Leviatan, 1975; Lord et al., 2020). These naïve ideas operate implicitly and influence decision-making. When implicit theories are biased in favor of certain groups, they create false differences among group members and play a role in perpetuating systematic inequalities. Because implicit theories mostly operate through unconscious and automatic processing (Lord et al., 2016), they are difficult to discern and address (e.g., Jones & King, 2014). Further exacerbating inequality, both members of the advantaged and disadvantaged groups may internalize and act on these biased implicit theories, making their pernicious effects overlooked, normalized, and invisible. Therefore, the first step to understanding whether implicit theories about a group exist and whether they are biased against different group members is to examine the possible existence of such implicit theories. Accordingly, our first step was to address the existence of implicit star performer theories: cognitive structures that influence what characteristics and attributes people ascribe to star performers.

Implicit theories draw on categorization theory (e.g., Lord et al., 1984), which posits that how humans make sense of the world depends on their prior understanding. Categorization theory explains that implicit theories form at an early age through socialization, and they further develop as individuals gain experiences with the members of that category (Hunt et al., 1990; Lord et al., 1984). Individuals naturally categorize others based on social roles (e.g., leaders and followers; Lord et al., 2020). This categorization helps simplify the external world (i.e., cognitive economy) as it leaves space for abstract and symbolic thinking and provides a collective system of labels that enables communication (Fiske & Taylor, 1991). This categorization process is so vital that it operates automatically and spontaneously by the mere presence of a stimulus target (Sy, 2010).

Thus, implicit theories are the cognitive structures that guide how humans process the characteristics of a given group and make judgments and predictions about likely behaviors and outcomes of members in that group (e.g., Epitropaki et al., 2013; Lord et al., 2020; Sy, 2010). Based on these cognitive structures, individuals develop prototypes. A prototype is "an abstraction of typical features of category members that defines a category for perceivers" (Lord et al., 2016, p. 121), and the patterns that define prototypes can be dynamic, changing with context and over time (Braun et al., 2018). Importantly, this social-cognitive approach views thoughtful, controlled processes dominated by reason as the exception rather than the rule (Kahneman, 2011). More typically, people make sense using unconscious, automatic processes and only correct initial interpretations afterward if they have sufficient motivation, time, and cognitive resources (Lord et al., 2016).

Although there are clear reasons why humans make sense of the world this way, there are also important implications for bias and inequality. For example, research on implicit leadership theories is a good case for illustrating how implicit theories operate in the workplace and how implicit theories explain the gender leadership gap. Early work suggested that leaders are categorized based on a general perceptual process that depends on an underlying categorical structure defined by a prototype (Lord et al., 1984). These prototypes help people recognize one category (e.g., leaders) from another (e.g., nonleaders; Rosette et al., 2008). Identifying the characteristics that form prototypes is critical because they affect judgments and predictions about group members. For example, when people evaluate a leader, they compare that leader to leadership prototypes they naively hold in their minds (Foti & Lord, 1987; Lord & Maher, 1990). In other words, they evaluate the leader based on similarity to the prototype rather than the leader's behavior.

Uncovering the prototypes people hold about a group is crucial because certain stereotypes can influence these prototypes. Although implicit theories and stereotypes are related constructs and are often used interchangeably, stereotypes are overgeneralized beliefs about a group of people based on a salient characteristic, such as race or gender (Carton & Rosette, 2011; Ellemers, 2018; Hilton & Von Hippel, 1996; Lee et al., 2015). In contrast, implicit theories are underlying cognitive schemas that create prototypes that people use to efficiently categorize the world around them (Lord et al., 2020). This distinction is critical because the prototypes of certain groups, such as leaders, are influenced by existing stereotypes, including race or gender (Carton & Rosette, 2011). For example, previous research has shown that the prototype of a leader is impacted by general gender and race stereotypes, leading people to associate leadership prototypes with white individuals (Petsko & Rosette, 2023; Rosette et al., 2008) and men (Offerman & Coats, 2018; Ryan et al., 2011).

Star performers have been characterized as individuals with superior productivity (Aguinis & O'Boyle, 2014; Hohberger, 2016; Tzabbar & Kehoe, 2014), visibility (Call et al., 2015; Groysberg et al., 2008), social ties (Grigoriou & Rothaermel, 2014; Hess & Rothaermel, 2011), or social status (Kehoe et al., 2018). One of the reasons for this plurality of definitions is that the term "star performer" is heavily influenced by its widespread and everyday use. In their multidisciplinary literature synthesis, Asgari et al. (2021) concluded that "star" is an unanchored concept in organizational research: "In the case of 'stars,' the term had a long, media-tinged existence prior to use in research, and much of that popular figment has infused itself into scholarship in unfiltered fashion" (Asgari et al., 2021, p. 230). Because of this definitional ambiguity, where the boundaries of "star" are unclear and where there are many different types of star performers (e.g., movie stars, athletes, salespeople, investment bankers, and CEOs) with different associated characteristics, some could argue that people may not have an implicit "star" prototype.

Still, from an early age, most people encounter ideas about who the "star student" is in school, for example, and develop categories of what a star performer is. And this happens even if these categories vary across contexts. The contextual variability of implicit theories is based on the connectionist model, which has been developed in the implicit leadership literature. In the case of implicit leadership theories, Braun et al. (2018) explained that "the connectionist model of leadership perceptions suggests that complex cognitive dynamics between stable and flexible elements influence how individuals perceive leaders … Leader prototypes shape leadership perceptions in interaction with more flexible contextual constraints at multiple organizational levels. These constraints stem from leaders (e.g., dominance), perceivers (e.g., past experiences with leaders), and other elements (e.g., corporate culture)" (p. 129). This updated theorizing reconciles the stable and context-dynamic nature of implicit theories. Building on it, we expect that there are also implicit star performer theories (ISPTs), even if some other characteristics of stardom may be more context-dependent. We, therefore, expect that people share cognitive structures about the characteristics and attributes that individuals ascribe to star performers (i.e., ISPTs) and that are at the core of the star prototype. If these ISPTs exist, stars would be evaluated based on performance and the underlying categorical structure. Thus, based on the ample support from categorization theory and the more recent connectionist model, we adopted an inductive epistemological approach to ascertain whether individuals collectively understand the characteristics and attributes associated with star performers (i.e., ISPTs).

2.2 | Are implicit star performer theories gendered?

We do not know whether implicit theories apply to star performers and how they might be influenced by gender. While Aguinis et al. (2018) and Chan and Torgler (2020) demonstrated a star performer gender gap, the theoretical reasons behind this gap remain underexplored. Understanding the characteristics that shape implicit theories for a specific group, in this case, stars, and assessing if these implicit theories are influenced by gender could provide valuable theoretical insights. These insights might help explain how gender contributes to the categorization of stars and the star performer gender gap.

We draw upon role congruity theory (Eagly & Karau, 2002) to theorize that perceptions of stars might be influenced by gender and that gendered ISPTs may help explain the star performer gender gap. Eagly and Karau (2002) argued that gender bias in the workplace primarily stems from a perceived mismatch between gender roles and the traits associated with organizational roles. This theory is grounded in the idea that culturally ingrained stereotypes about appropriate roles and abilities for men and women significantly impact workplace dynamics (Eagly et al., 1992). These social roles are pivotal in explaining many, if not all, gender gaps observed in professional settings (Ellemers, 2018; Schultheiss, 2021).

Building upon the foundational concepts of role congruity theory, we propose that gendered ISPTs may reflect and perpetuate the star performer gender gap. This perspective provides a more informative understanding of how gendered ISPTs might influence perceptions and evaluations of star performers. Consider, for instance, research on leadership and implicit theories. We know that ILTs are influenced by gender stereotypes and exhibit gendered characteristics (Epitropaki & Martin, 2004; Offermann & Coats, 2018), resulting in gendered leadership prototypes (i.e., *think leader, think men*). Consequently, evaluators often fail to recognize women as leaders (Eagly & Karau, 2002; Scott & Brown, 2006), which, in turn, negatively affects women's evaluations. Specifically, ILTs influence how actual leaders are perceived, introducing bias into leadership assessments, wherein responses are driven by ILTs rather than leaders' actual behaviors (Axelson et al., 2010; Lord et al., 1984; Offermann & Coats, 2018), thus contributing to the perpetuation of the gender leadership gap (Lyness & Grotto, 2018). We theorize that a similar dynamic could exist among star performers. For example, Aguinis et al. (2018) observed that a productivity gap favoring men persists while men and women reach star performer status through similar processes. They argued that this gap is likely due to various forms of discrimination that constrain women's increased output despite accumulating various resources such as network ties, work hours, and experience. Extending the argument of ILTs to the realm of star performers, we propose that just as gendered ILTs affect perceptions of women leaders and contribute to the gender leadership gap, gendered ISPTs might help explain the star performer gender gap.

Contrary to the theory above, recent research indicates a complex interplay between performance information and gender stereotypes, challenging traditional assumptions in gender-role literature. This theoretical contrast underlines the evolving nature of gender bias (Eagly et al., 2020) and suggests that exceptional performance might lessen the impact of gender bias on ISPTs. Supporting this notion, it has been found that incorporating information about an individual's achievements reduces gender-based differential evaluations (Aguinis & Adams, 1998; Bosak & Sczesny, 2011). Additionally, evidence indicates a bias favoring women with disproportionately high performance levels (Leslie et al., 2017). Given that exceptional output is a defining characteristic of star performers, one might argue that information about outstanding performance could influence ISPTs and potentially mitigate the influence of gender stereotypes on ISPTs. Moreover, recent research suggests that ILTs are evolving, showing less gender influence. The qualities now valued in leaders include both agentic and communal attributes, with a preference for traits traditionally associated with women (Griffiths et al., 2019). This shift challenges the dominant narrative in gender literature, highlighting the complexity of the interplay between gender and ISPTs. While we acknowledge this trend toward less biased gendered perceptions, we argue that these evolving stereotypes are not consistently applied or internalized, especially in the context of star performers.

Therefore, we theorize that ISPTs represent a form of invisible inequality contributing to the star performer gender gap. For instance, consider a scenario where Michael and Jessica, both possessing

identical stellar qualifications, join the same institution. Implicit theories about what defines a star performer may inadvertently lead mentors to favor Michael over Jessica. Likewise, ISPTs could skew collaboration opportunities and the collaborative process, where collaborators' evaluations are influenced more by ISPTs rather than Michael's or Jessica's actual performance. Thus, we hypothesize the following:

> **Hypothesis 1.** Perceptions of stars are gendered and more closely related to masculine than feminine attributes.

2.3 | Implicit star performer theories and context: Occupational gender composition

Implicit theories consist of universal dimensions relevant across contexts (Ensari & Murphy, 2003) and context-specific dimensions (Sy, 2010). While the context may influence individuals' implicit theories (Foti et al., 2008; Hanges et al., 2000), contextual effects are explained by the same prototype (Sy, 2010). This implies that the contextual effects usually show variations in support for the same key attributes, instead of real differences in the attributes themselves (Epitropaki & Martin, 2004). For instance, different leader perceptions across contexts are explained by activating the same leadership prototype (Sy et al., 2010). Thus, in our research program, we first aimed to identify the existence of ISPTs and whether perceptions of stars are gendered. In this section, we further theorize the role of context in gendered perceptions of stars.

We draw on role congruity theory (Eagly & Karau, 2002), which bridges structural perspectives on gender inequality (i.e., context) and socio-psychological perspectives on gender bias. Much of this research explores the role of occupational gender composition in gender discrimination (e.g., Joshi et al., 2015). The demographic makeup of an occupation can signal the "appropriateness" or "fit" of an occupation for men and women, driving expectations of roles and abilities associated with that occupation (Eagly & Karau, 2002; Heilman, 1983; Koch et al., 2015). When women enter highly men-dominated occupations, they do not "fit" the stereotypic characteristics expected in that occupation and, therefore, experience greater bias and discrimination (Heilman, 1983, 2001, 2012). Gender role congruity theory posits that even when women leaders display the highest performance, their peers and supervisors may discount their efforts (e.g., Eagly & Karau, 2002). This theory recognizes that culturally shared beliefs about appropriate roles and abilities for men and women have widespread effects in the workplace (Eagly et al., 1992). Therefore, the contributions of women who occupy roles and display atypical characteristics relative to established cultural norms tend to be undervalued and discounted at work (Eagly et al., 1992). Moreover, meta-analytic research on gender across contexts (Joshi et al., 2015; Koch et al., 2015) has shown that the sex distribution within a job can indicate gender-based perceptions of the job and enhance the gender gap in performance evaluation and rewards. Thus, we hypothesize that ISPTs will be affected by occupational gender composition:

> **Hypothesis 2.** Perceptions of stars depend on occupational gender composition, such that the association of stars with masculine attributes is stronger in men-dominated than in women-dominated occupations.

3 | RESEARCH PROGRAM

We implemented a programmatic research approach involving three studies that utilize different methodologies to seek triangulation. In Study 1, we inductively examined the existence of ISPTs and compared ISPTs with implicit leadership theories (ILTs). Our next objective was to investigate whether perceptions of stars were gendered and context-dependent (i.e., based on occupational gender composition). Thus, Study 2 aimed to test the gendered nature of perceptions of stars and examine the *think star, think men* phenomenon. We did so with a different methodological approach: congruence methodology. Specifically, we used an experimental design involving working adults. The 3×3 experimental design included (a) star's gender (i.e., men, women, no gender information) and (b) occupation (i.e., men-dominated, balanced, women-dominated). Finally, in Study 3, we used a trait nomination task (i.e., Princeton trilogy) to evaluate whether star performers are perceived as possessing more masculine attributes than very good employees.[1] All data were gathered from US participants.

3.1 | Study 1: Existence and uniqueness of Implicit Star Performer Theories (ISPTs)

We implemented established methodological procedures to uncover implicit theories, including the following four phases: item generation, item validation, factor identification, and factor confirmation (cf. Epitropaki & Martin, 2004, 2005; Offermann et al., 1994; Offermann & Coats, 2018). Phase 1 (i.e., item generation) aimed to gather a comprehensive list of adjectives people attribute to star performers. To do so, we used participants' responses to create the initial list of attributes that compose ISPTs. These attributes were generated spontaneously and reflected the attributes most salient at the time and, perhaps, the most central to the implicit theory. However, inadequate memory search or lack of involvement in the procedures might have prevented other specific attributes from spontaneously surfacing. Thus, in Phase 2 (i.e., item validation), to validate the initial list of attributes, we used a second sample in which participants rated the initial list of attributes. Next, in Phase 3 (i.e., factor identification), we conducted a factor analysis to identify the characteristics underlying the attributes. Suppose the factor analysis results reveal a consistent set of characteristics (i.e., factors from the factor analysis) based on

[1]We make all the data from each of our three studies available upon request.

TABLE 1 Study 1: Summary of phases, goals, methods, samples, and results.

Phase	Goals	Methods	Samples	Results
1. Item generation	To gather a comprehensive list of adjectives that people attribute to star performers.	Used participants' responses to create the initial list of attributes that compose ISPTs.	$N = 169$ working adults (prolific).	Participants attributed a total of 57 adjectives to stars.
2. Item validation	To use an inductive methodological approach that addresses attributes that may not have surfaced spontaneously.	A second sample was used in which participants rated the initial list of attributes, which would validate it.	$N = 351$ working adults (prolific).	Ratings of the 57 adjectives.
3. Factor identification	To uncover the existence of ISPTs. This is the case if factor analysis results reveal consistent characteristics (factors) based on the attributes (items).	Conducted explanatory factor analysis to identify the characteristics underlying the attributes.	Data from Phase 2.	EFA uncovered six factors that people ascribe to star performers: 1. Driven 2. Relational 3. Extraordinary 4. Fascinating 5. Tenacious 6. Brilliant
4. Factor structure confirmation	To confirm the content of the ISPTs uncovered in the previous phase.	Conducted two confirmatory factor analyses to validate the results from the exploratory factor analysis.	$N_{Phase\ 4} = 377$ working adults (prolific). $N_{Phase\ 4\ Replication} = 362$ working adults (prolific).	CFA confirmed six factors that people ascribe to star performers: 1. Driven 2. Relational 3. Extraordinary 4. Fascinating 5. Tenacious 6. Brilliant

Note: ISPTs: Implicit star performer theories. EFA: Exploratory factor analysis. CFA: Confirmatory factor analysis.

attributes (i.e., items from the factor analysis). In that case, we can confirm the existence of ISPTs. Finally, in Phase 4 (i.e., factor confirmation), we conducted a confirmatory factor analysis (CFA) using two different samples to assess the robustness of our results. We then compare the ISPTs to ILTs. This comparison was useful to understand whether we were uncovering a unique and novel phenomenon (i.e., implicit star performer theories) or merely replicating the known phenomenon of ILTs. Table 1 summarizes Study 1's goals, methods, samples, and results.

3.1.1 | Method

Phase 1: Item generation

We followed best-practice recommendations for conducting research with online panel data, as detailed by Aguinis et al. (2021). Some of the best practices we implemented included deleting responses from repeated IP addresses, checking for data quality, and including attention checks. Appendix S1 includes a detailed description of the methodological practices implemented in collecting data for each of our studies.

In this phase, following established practices, participants were given a Qualtrics survey and were asked to please provide 15 different adjectives that come to their mind to describe a star performer (Offermann & Coats, 2018). To ensure that participants were considering star performers as they have been described in the literature (Aguinis et al., 2018; Asgari et al., 2021), we provided the following definition of a star performer: "*Star performers are individuals widely and enduringly perceived as possessing rare, desirable qualities through which they can produce exceptional outcomes. These stellar employees are in the top 1% of performers*" (please see Appendix S2 for the scripts of all the studies).

After implementing all best practices detailed in Appendix S1, $N = 169$ (50% men; 80% Caucasian; mean age = 39.74 years; mean work experience = 18.63 years). As a second step, we combined nearly identical items and checked for spelling mistakes. The final list comprises 678 unique adjectives. We then ranked these unique adjectives based on their frequencies and identified the most frequently mentioned 50 adjectives. To avoid making a biased cut, we included all adjectives with the same frequency as 50. The final list contained 57 adjectives that participants attributed to stars. In the interest of transparency, these attributes and their frequencies are included in Appendix S3.

Phase 2: Item validation

We collected data from a second sample of 351 working adults (52% men; 77% Caucasian; mean age = 39.66 years; mean work experience = 18.71 years, all cleaning procedures detailed in Appendix S1) and asked them to rate on a 10-point scale the extent to which each of the 57 attributes generated in Phase 1 was an

attribute of a star performer (i.e., "Please indicate the extent to which each of the following adjectives describes a star performer from *not at all* to *extremely well*"). We included the same definition of star performers as in Phase 1 (please see Appendix S2).

Phase 3: Factor identification using exploratory factor analysis (EFA)

Following best practices, we conducted an exploratory factor analysis, including principal axis factors, scree test, and oblique rotation (i.e., Promax; Costello & Osborne, 2005). To maintain the integrity of the data, we did not drop any items.

Phase 4: Factor confirmation using confirmatory factor analysis (CFA)

As a final step and following previous research on implicit theories (Epitropaki & Martin, 2004; Offermann & Coats, 2018), we conducted a CFA. After implementing best practices as summarized in Appendix S1, the final sample included 377 participants (50% men; 80% Caucasian; mean age = 40.41 years; mean work experience = 19.39 years). We again included the same definition of star performers and asked participants to rate the attributes from the final EFA (i.e., "Please indicate the extent to which each of the following adjectives describes a star performer in the workplace, from *not at all* to *extremely well*").

3.1.2 | Results

Exploratory factor analysis of the implicit star performer theories

Results from the EFA revealed that ISPTs included six unique factors that combined explained 54.54% of variance. We labeled these six final factors based on synonyms for each attribute that composed each of the six characteristics, attempting to find the label that best illustrated all the attributes included in the characteristics.[2] Appendix S4 includes detailed information on the items (attributes) that compose each factor (characteristics) and the factor loadings.

The EFA revealed the six factors (characteristics) that people ascribe to star performers: *Driven*, *Relational*, *Extraordinary*, *Fascinating*, *Tenacious*, and *Brilliant*. Thus, this inductive study revealed that individuals hold shared cognitive structures about the characteristics and attributes people ascribe to star performers (i.e., ISPTs).

Confirmatory factor analysis of the implicit star performer theories

Regarding Phase 4's (i.e., factor confirmation) results, we compared the goodness of fit of the six-factor model of the CFA to that of competing models (Mulaik et al., 1989). First, we fitted a one-factor model with all items loading into a single factor to test whether ISPTs may measure a general, undifferentiated construct of ISPTs. This model did not have a good fit: $\chi^2(1503) = 4187.28$, $p < .001$, ($\chi^2/df = 2.79$, CFI = .71, RMSEA = .07, SRMR = .09). This suggests that ISPTs are not formed by a single general factor. For model improvement, we followed previous research on ILTs and used modification indices provided by MPlus in conjunction with theory and content considerations (Epitropaki & Martin, 2004). The final model with the six factors had a good fit: $\chi^2(351) = 3743.73$, $p < .001$, ($\chi^2/df = 10.67$, CFI = .90, RMSEA = .06, SRMR = .06). Table 2 includes the standardized parameter estimates of factor loadings and R^2 for the attributes that form ISPTs.

Following best practices implemented in implicit theories research (Epitropaki & Martin, 2004), we collected data from another sample of working adults to test the six-factor model further. After implementing best practices as detailed in Appendix S1, the final sample consisted of 362 participants (48% men; 81% Caucasian; mean age = 38.31 years; mean work experience = 16.80 years) who rated the items resulting from the final six-factor model. This new model also had a good fit: $\chi^2(309) = 710.97$, $p < .001$, ($\chi^2/df = 2.30$, CFI = .89, RMSEA = .06, SRMR = .07). Thus, CFAs from two separate samples of working adults corroborated that ISPTs exist and are composed of six factors: *Driven*, *Relational*, *Extraordinary*, *Fascinating*, *Tenacious*, and *Brilliant*.

Comparison between implicit leadership theories and implicit star performer theories

Offermann and Coats (2018) offered the most contemporary characteristics of ILTs. So, we compared them to the characteristics of ISPTs. Our results show that despite some commonalities with ILTs (i.e., interpersonal skills, cognitive ability), there is a different pattern between ISPTs and ILTs. ISPTs and ILTs differ in that (1) all characteristics ascribed to stars were positive, while several ascribed to leaders had a negative connotation (e.g., Tyranny); and (2) unlike ILTs, no ISPTs characteristics explicitly related to physical appearance or masculinity.

In sum, results from Study 1 ($N = 1259$) uncovered the existence of ISPTs, that ISPTs include six characteristics (i.e., *Driven*, *Relational*, *Extraordinary*, *Fascinating*, *Tenacious*, and *Brilliant*), and that these characteristics are distinct from characteristics comprising ILTs.

3.2 | Study 2: Unveiling gender associations: Star performers and gendered attributes

In Study 2, we used congruence tests, which were successfully used to uncover the *think crisis, think women* phenomenon (Ryan et al., 2011). Specifically, we tested Hypothesis 1 (i.e., Perceptions of stars are gendered and more closely related to masculine than feminine attributes) and Hypothesis 2 (i.e., Perceptions of stars depend on occupational gender composition, such that the association of stars with masculine attributes is stronger in men-dominated occupations than in women-dominated occupations). We did so using an established methodology based on an extensive list (Schein's Descriptive Index [SDI]; Schein, 1973) of masculine (e.g., dominant) and feminine (e.g., sentimental) attributes.

[2]In most cases, several of the attributes shared the same synonym, which we used as the label for the characteristics. To ensure all characteristics were different, we also checked that none of the labels were synonyms. For searching for all the synonyms, we used Thesaurus, which has been the world's largest and most trusted online Thesaurus for over 25 years.

TABLE 2 Study 1 results from Phase 4 (factor confirmation): Standardized parameter estimates of factor loadings and R^2s for analysis of implicit star performer theories.

	Factor loading						
Items	**1**	**2**	**3**	**4**	**5**	**6**	R^2
Driven							
Diligent	0.72						0.52
Determined	0.72						0.52
Motivated	0.70						0.48
Dedicated	0.69						0.48
Focused	0.69						0.47
Hard-working	0.67						0.45
Efficient	0.66						0.43
Disciplined	0.62						0.39
Persistent	0.62						0.39
Ambitious	0.55						0.30
Relational							
Nice		0.84					0.70
Friendly		0.67					0.44
Loyal		0.59					0.35
Extraordinary							
Exceptional			0.84				0.70
Excellent			0.83				0.69
Great			0.73				0.54
Outstanding			0.73				0.53
Amazing			0.70				0.49
Fascinating							
Charming				1.00			0.99
Charismatic				0.64			0.40
Attractive				0.60			0.36
Tenacious							
Resourceful					0.85		0.73
Resilient					0.68		0.46
Proactive					0.58		0.34
Brilliant							
Intelligent						0.81	0.65
Knowledgeable						0.72	0.52
Smart						0.60	0.36

Note: $N = 377$. All factor loadings are statistically significant at $p < .001$.

Given ample research on the interaction of type of context and gender, we used a context that is men-dominated and where star performers often emerge. The star performer gender gap was initially uncovered in the context of STEM (i.e., science, technology, engineering, and mathematics) and other scientific fields (e.g., mathematical psychology), with a focus on how stars who are highly productive emerge (Aguinis et al., 2018). STEM fields are particularly suitable settings to test our hypothesis for multiple reasons. First, STEM is characterized by a notable gender imbalance, and extensive research has explored gender imbalances and discrimination within these fields (e.g., Joshi, 2014). Notably, the underrepresentation of women in STEM fields is not solely attributable to a "supply problem." Still, it indicates broader biases that, over time, influence the pool of potential employees. Second, STEM occupations play a crucial role in the economy. In the upcoming decade, STEM jobs in the United States are projected to grow at 13%, surpassing the growth rate of non-STEM jobs at 9% (Education Commission of the States, 2018). Examining gender imbalances within STEM is therefore necessary, as occupational disparities are significant factors contributing to wage inequality, and job roles predominantly held by low- to middle-income

women are likely to be disproportionally affected by automation (World Economic Forum, 2021). While the STEM field was our primary focus, for the generalizability of our results, we also considered other fields that are more gender-balanced or where women are the majority (i.e., biologists and clinical psychologists).

3.2.1 | Method

Following previous research (Ryan et al., 2011), we conducted the study in two phases (total $N = 573$). In Phase 1, we established the masculinity and femininity of the SDI items (Schein, 1973). In Phase 2, we used congruence tests in the form of intraclass correlations (*ICC*s) as indicators of the similarity of the ratings for different groups and the masculinity and femininity of the items (Ryan et al., 2011). We implemented a 3×3 fully crossed between-participants design: (1) star's gender (men, women, and no gender information) $\times$ (2) occupation (men-dominated, balanced, women-dominated) and also included a general star condition (no gender/no occupation information). We used *software developer* for the men-dominated occupation, *biologist* for the balanced occupation, and *clinical psychologist* for the women-dominated occupation.[3]

Phase 1: Masculinity and femininity of SDI items

Based on previous research and established best practices, we recruited 113 participants (49% men; 77% Caucasian; mean age = 41.55 years; mean work experience = 18.30 years; all cleaning procedures detailed in Appendix S1). We randomly assigned participants to one of two conditions: men or women. All participants received the SDI with 92 descriptive items (Schein, 1973) and were asked to indicate how characteristic each item is of either "men in general" (i.e., men condition) or "women in general" (i.e., women condition). For each condition, we determined whether the means were significantly above the scale midpoint and whether they were significantly different for men and women. Following Ryan et al. (2011), feminine attributes included those seen as characteristic of women but not men and attributes seen as characteristic of both women and men, but significantly more so for women. Masculine attributes included those seen as characteristic of men but not women and attributes seen as characteristic of both men and women, but significantly more so for men. We also identified the attributes seen as characteristic of both women and men and those seen as characteristic of neither women nor men. We then used these means in Phase 2 to calculate *ICC*s and determine the attribute associations' nature.

Phase 2: SDI items by condition

Previous research has been based on 30 to 40 participants per condition, but following best practices for online samples (Aguinis et al., 2021), we added 15% (Sprouse, 2011). The final sample consisted of 460 participants (49% men; 75% Caucasian; mean age = 40.83 years; mean work experience = 18.93 years; all cleaning procedures detailed in Appendix S1) who were randomly assigned to one of the seven conditions: the general condition (no information on gender/occupation) and the nine conditions from the 3 (star's gender: men, women, and no gender information) $\times$ 3 (occupation: men-dominated, balanced, women-dominated). Following Schein's (1973) method and based on manipulations used in previous research (Ryan et al., 2011), we asked participants to indicate how characteristic each of the 92 items was of the star in each condition. For example, in the case of the women star in a men-dominated occupation, participants received the following script. "*Jessica is a star performer. Jessica works as a software developer (a field where 82% of workers are men). Please rate how characteristic each term is of Jessica*." As another example, the script for the men star in a balance industry condition was "*Michael is a star performer. Michael works as a biologist (a field where 51% of workers are women). Please rate how characteristic each term is of Michael*" (see Appendix S2 for all details in all conditions). We then compared all item ratings of each sample using *ICC*s.

3.2.2 | Results

Results from Phase 1

In Phase 1, 113 working adults assessed the masculinity and femininity of the 92 SDI items. We summarize these results in Appendix S5 (Table S5-1). Based on one-sample *t* tests, 25 items were considered feminine attributes. Of these, nine items were seen as characteristic of women but not men (e.g., sentimental and sympathetic), and 16 items were rated as characteristic of both women and men, but significantly more so for women (e.g., generous and sociable). On the other hand, 36 items were rated as masculine. Of these, 11 were seen as characteristic of men but not women (e.g., aggressive and dominant), and 25 items were rated as characteristic of both men and women, but significantly more so for men (e.g., ambitious and competitive). Finally, 15 items were seen as characteristic of both men and women (e.g., competent and intelligent), and 16 were seen as characteristic of neither women nor men (e.g., bitter and deceitful). These results support the recent meta-analysis that found that over the past seven decades, women have come to be viewed as more comparably competent than men (Eagly et al., 2020). Following previous research (Ryan et al., 2011), we used the means of these item ratings in Phase 2 to calculate *ICC*s and determine the nature of the attribute associations.

Results from Phase 2

In Phase 2, 460 working adults rated the extent to which each of the 92 SDI items was characteristic of stars, and we then determined whether the means were significantly above the scale midpoint. To examine whether star attributes were gendered, we listed all the attributes seen to be characteristic of stars as a function of whether they were also seen as characteristic of either men or women based on Phase 1 (see Table S5-2).

[3]We used software developer for the men-dominated occupation because about 82% are men (https://swe.org/research/2023/employment/), biologist for the balanced occupation because about 51% are women (https://ncses.nsf.gov/pubs/nsf21321/report/occupation), and clinical psychologist for the women-dominated occupation because about 63% are women (https://www.zippia.com/clinical-psychologist-jobs/demographics/).

TABLE 3 Study 2 results of congruence analysis using Intraclass correlation (ICC) and Pearson's rs: Comparing masculine and feminine attributes to attributes of star performers as a function of gender and occupation.

Condition	Men *ICCs*	Women *ICCs*	Men *Pearson's rs*	Women *Pearson's rs*	*z* (*p*-value)
Star performer (no gender/industry information)	0.92	0.57	0.92	0.47	5.44 (<.001)
Men-dominated occupation					
Star performers (men)	0.92	0.59	0.90	0.47	5.03 (<.001)
Star performers (women)	0.90	0.59	0.92	0.51	5.13 (<.001)
Star performer (no gender information)	0.90	0.54	0.87	0.41	4.58 (<.001)
Balanced occupation					
Star performers (men)	0.91	0.66	0.88	0.56	3.90 (<.001)
Star performers (women)	0.88	0.66	0.85	0.57	3.11 (<.001)
Star performer (no gender information)	0.89	0.62	0.87	0.53	3.82 (<.001)
Women-dominated occupation					
Star performers (men)	0.85	0.70	0.82	0.64	2.01 (.04)
Star performers (women)	0.81	0.69	0.80	0.67	1.48 (.14)
Star performer (no gender information)	0.84	0.68	0.80	0.62	1.92 (.06)

Note: $N = 460$. *ICC* = intraclass correlation coefficient. For all *ICCs*, $p < .001$. r = Pearson correlation coefficients. z = test statistics assessing the difference between two r values. Variables manipulated: star's gender (men [Michael], women [Jessica], no gender information) and occupation (men-dominated occupation [software developer], balanced occupation [biologist], and women-dominated occupation [clinical psychologist]).

Extant research (Heilman et al., 1989; Ryan et al., 2011; Schein, 1973, 1975) has used *ICCs* and Pearson's *rs* to investigate the *think leader*, *think men* association. They also indicate the similarity of the ratings for different groups (i.e., high *ICCs* indicate similarity while low *ICCs* indicate difference). Accordingly, to further examine the relation between stardom and gender attributes, we calculated *ICCs* and Pearson's *rs* using the mean values of item ratings for each of the seven conditions.

As shown in Table 3, descriptions of star performers and men were significantly more similar (*ICC* = .92, $p < .001$) than were descriptions of star performers and women (*ICC* = .57, $p < .001$). The same was true when we considered Pearson's *rs*, as descriptions of stars and men were significantly more similar ($r = .92$, $p < .001$) than were descriptions of stars and women ($r = .47$, $p < .001$), and the difference between the two was significant ($z = 5.44$, $p < .001$). This confirmed the *think star*, *think men* phenomenon.

Moreover, the differences in *ICCs* were largest for men-dominated occupation conditions. Specifically, results showed high *ICCs* between these conditions and masculine attributes (*ICC* = .92, $p < .001$ for men/men-dominated occupation; *ICC* = .90, $p < .001$ for women/men-dominated occupation, *ICC* = .90, $p < .001$ for no gender/men-dominated occupation) and low *ICCs* between these conditions and feminine attributes (*ICC* = .59, $p < .001$ for men/men-dominated occupation; *ICC* = .59, $p < .001$ for women/men-dominated occupation; and *ICC* = .54, $p < .001$ for no gender/men-dominated occupation). The same was true for Pearson's *rs*. Again, the difference was largest for the men-dominated occupation conditions, with high *rs* between these conditions and masculine attributes ($r = .90$, $p < .001$ for men/men-dominated occupation; $r = .92$, $p < .001$ for women/men-dominated occupation; and $r = .87$, $p < .001$ for no gender/men-dominated occupation) and low *rs* between these conditions and feminine attributes ($r = .47$, $p < .001$ for men/men-dominated occupation; $r = .51$, $p < .001$ for women/men-dominated occupation; and $r = .41$, $p < .001$ for no gender/men-dominated occupation), and in each condition, the *z*-test was significant at $p < .001$ ($z = 5.03$, $p < .001$ for men/men-dominated occupation, $z = 5.13$, $p < .001$ for women/men-dominated occupation, and $z = 4.58$, $p < .001$ for no-gender/men-dominated occupation).

Interestingly, for women-dominated fields, while *ICCs* and Pearson's *rs* were higher for men attributes than women attributes, the difference between them was not always significant ($z = 2.01$, $p = .04$ for men/women-dominated occupation, $z = 1.48$, $p = .14$ for women/women-dominated occupation, and $z = 1.92$, $p = .06$ for no-gender/women-dominated occupation). Based on role congruity theory, this supports our arguments that although stars are more strongly associated with masculine attributes, this association is weaker in women-dominated industries.

In sum, results supported Hypothesis 1 because stars are more closely related to masculine attributes than feminine attributes, supporting the existence of the *think star*, *think men* phenomenon. The evidence for Hypothesis 2 is more nuanced. While there is a tendency for stars to be associated with masculine characteristics in male-dominated occupations, this association is not as pronounced in women-dominated fields. Thus, our results support the role congruity theory and suggest a more complex interaction between star qualities and gendered attributes across different occupational contexts.

Studies 1 and 2 allowed us to test whether ISPTs exist and whether perceptions of stars are gendered and context-dependent,

supporting the *think star, think men* phenomenon. However, there is still a possibility that this masculine association also exists with other employees, for example, those in the top 20% to 10% of performance (i.e., very good employees) and not just 1% of performance (i.e., stars). We address this issue in Study 3 using another methodological approach: the Princeton trilogy.

3.3 | Study 3: Gendered perceptions of star performers versus very good employees

We employed well-established methodological procedures from the prototype literature to ascertain whether star performers' prototypes exhibited more masculinity than prototypes associated with very good employees. In particular, we adopted an indirect method, the Princeton trilogy approach, which proved highly suitable for our purposes because it provided a way to measure group bias non-reactively (Petsko & Rosette, 2023).

3.3.1 | Participants

We followed previous research (Petsko & Rosette, 2023) and recruited two samples of participants ($N = 490$). The final samples were 167 working adults for the pre-study (51% men; 81% Caucasian; mean age = 43.10 years; mean work experience = 20.77 years) and 323 participants for the actual study (46% men; 75% Caucasian; mean age = 39.38 years; mean work experience = 17.84 years, all data cleaning procedures detailed in Appendix S1).

3.3.2 | Design and procedure

In the past few years, there has been a growing trend toward using indirect methods to assess racial or gender assumptions, as they are a reliable method to determine if mental representations of different social targets contain inherent racial or gendered elements (e.g., Brown-Iannuzzi et al., 2017). The task involved inviting participants to select any attributes that come to mind when considering a specific group (e.g., stars).

Following Petsko and Rosette (2023), in the pre-study, 167 participants rated 92 attributes (the same as Study 2) based on their masculinity (from *1 = not at all* to *7 = very*). This rating was later used to determine whether the attributes participants in the actual study nominated when thinking about star performers (vs. very good employees), on average, tended to be rated by others as seeming masculine.

In the actual study, and again following Petsko and Rosette (2023), we randomly assigned 323 participants to one of two conditions (i.e., stars or very good employees). The same checklist of attributes as in the pre-study was presented to the participants, including all the attributes from Study 2. Depending on their condition, participants were initially asked to select all attributes characteristic of the cultural stereotype of star performers:

> Imagine that the average American is thinking about star performers in the workplace. What characteristics would the average American most likely list about star performers (i.e., employees in the top 1% of performers)?

or very good employees:

> Imagine that the average American is thinking about very good employees in the workplace. What characteristics would the average American most likely list about very good employees (i.e., employees in the top 20% to 10% of performers)?

After reviewing all the attributes again, they were requested to narrow their list of attributes nominations to their target group's (i.e., star or very good employees) 10 most characteristic attributes. Following previous research that employed attributes nomination tasks and to reduce social desirability bias (Petsko & Rosette, 2023), participants were informed that the research team was not interested in their personal beliefs but in how the average American would perceive either star performers (or very good employees, depending on the condition).

3.3.3 | Results

Stars were characterized by attributes that were rated (by external parties) as more masculine ($M = 5.22$, $SD = .39$) than the attributes ascribed to very good employees ($M = 4.94$, $SD = .40$), $t(321) = -6.27$, $p < .001$, $d = 0.39$, 95% *CI* [−.36, −.19]. The model estimates included in Table 4 show that these results are significant with and without controlling the valence of the characteristics. Thus, based on results from Study 3, we found support for the idea that stars are seen as possessing more masculine attributes than very good employees.

3.4 | GENERAL DISCUSSION

A concerning star performer gender gap makes it more difficult for women to be recognized as stars (Aguinis et al., 2018). Our goal was to investigate whether people hold shared beliefs about what characteristics stars possess (i.e., implicit star performer theories, ISPTs) and whether perceptions of stars are gendered and context-dependent. We found that ISPTs exist and are distinct from previously discovered implicit theories (i.e., leadership). Star performers were believed to have six characteristics: *Driven*, *Relational*, *Extraordinary*, *Fascinating*, *Tenacious*, and *Brilliant*. We also found that people associated star performers with more masculine than feminine attributes, what we

TABLE 4 Study 3 results: differences in the masculinity of the attributes associated with stars and very good employees.

Model 1 (no controls)				Model 2 (controlling valence)			
Fixed effects	***b***	***SE***	***p-value***	**Fixed effects**	***b***	***SE***	***p***
Intercept	4.94	0.03	<.001	Intercept	4.34	0.30	<.001
Target	0.27	0.04	<.001	Target	0.29	0.05	<.001
				Valence	0.11	0.05	.05

Note: $N = 323$ participants.

labeled the *think star, think men* phenomenon. Moreover, this association was context-dependent as perceptions of stars depended on occupational gender composition, such that the association of stars with masculine attributes was stronger in men-dominated occupations than in women-dominated occupations. Finally, despite being defined by their highest level of performance, stars were seen as possessing more masculine attributes than very good employees, which challenges the notion that performance information reduces gender biases. In sum, three studies using inductive, experimental, and indirect methods (i.e., Princeton trilogy) based on eight samples of 2322 participants consistently supported the existence of ISPTs and the *think star, think men* phenomenon.

These results improve our understanding of star performers and the gender gap among these employees in several ways. Applying categorization theory, we found that despite the varied definitions and contexts, individuals have shared perceptions of what constitutes a star performer. These findings also support our application of role congruity theory, demonstrating that societal expectations of gender roles persistently influence perceptions, even when applied to individuals operating at the highest performance levels. Moreover, these masculine perceptions of stars are context-dependent as they are stronger in men-dominated occupations than in women-dominated ones. This programmatic theory approach (Aguinis & Cronin, 2022) and empirical evidence suggest that despite instances where good performance might mitigate gender biases (Aguinis & Adams, 1998; Bosak & Sczesny, 2011), the highest performance levels—star performers—are seen as possessing more masculine attributes than very good employees. Consequently, our results enrich the theoretical understanding of the star performer gender gap in several ways, as described next.

3.4.1 | Theoretical contributions

First, uncovering ISPTs and their gendered nature is a critical first step toward understanding the star performer gender gap. Specifically, consider the parallel with the leadership literature and how ILTs were groundbreaking in explaining challenges faced by women in their attempt to reach the top echelons of organizations. *Think leader, think men* explains why women are seen as less qualified than men as leaders and are less likely than men to develop their managerial skills and pursue careers in executive ranks (Powell & Butterfield, 1979, 2015). Building on this research, we uncovered ISPTs and found that perceptions of stars are gendered and context-dependent. This finding is key because, in the leadership literature, ILTs have been shown to affect leaders' perceptions and leadership ratings such that they are biased. After all, evaluations are based on leadership prototypes rather than leaders' actual behaviors (Rosette et al., 2008; Sy et al., 2010). Thus, ISPTs and the *think star, think men* phenomenon uncovered in our research program is the first necessary step toward understanding whether gendered implicit theories and stars prototypes may also explain why women are seen as less qualified than men to become stars.

Our results also revealed that the *think star, think men* phenomenon is context-dependent. The star performance gender gap was uncovered in STEM and related fields (see Aguinis et al., 2018). We used a similar context to test whether the association between star performers and masculine attributes depended on context. Across the three fields that we considered—men-dominated (software developer), balanced (biologist), and women-dominated (clinical psychologist)—the association with masculine attributes was stronger than the association with feminine attributes for all stars (stars in general, women stars, and men stars). Yet, the stronger association with masculine attributes was significant in men-dominated and balanced occupations but not always in women-dominated fields. This insight further explains why the star performer gender gap is more prone to appear in masculine fields. Thus, our research not only uncovers the *think star, think men* phenomenon and the stronger association of star prototypes with masculine attributes, but it also explains that this phenomenon will be dependent on the gender distribution of the occupation.

We further contributed to this body of research by demonstrating that stars might not benefit as much as other employees from performance information despite evidence suggesting that this information can reduce gender biases (Aguinis & Adams, 1998; Bosak & Sczesny, 2011). Our results show that even though stars are defined based on their highest level of performance, they are associated with more masculine attributes than those who perform above average (i.e., very good employees). This finding further supports the *think star, think men* phenomenon, revealing a concerning association between stars and masculine attributes and suggesting that previous research that indicated performance information might mitigate biases (Aguinis & Adams, 1998; Bosak & Sczesny, 2011) may not apply to stars. Thus, our research sheds light on the complex interplay between performance information and gender biases, offering new insights into the factors influencing the star performance gender gap.

In addition, our research contributes to the nascent literature on star performers because we identified the specific characteristics and attributes that constitute ISPTs. Star performers are highly valuable employees to attract, hire, and retain (Aguinis & O'Boyle, 2014; Kehoe et al., 2023; Lyle et al., 2023). However, the literature has not yet reached a consensus on defining or classifying stars (Asgari et al., 2021; Call et al., 2015; Kehoe et al., 2018). Our results uncovered the shared common beliefs about stars and identified the characteristics and attributes that constitute those beliefs. While stars are usually described based on their disproportionate output (Aguinis & O'Boyle, 2014), others define star performers based on behaviors (Beck et al., 2014). Our results provide new insights into the characteristics people implicitly believe stars possess: *Driven*, *Relational*, *Extraordinary*, *Fascinating*, *Tenacious*, and *Brilliant*. Knowing these characteristics will allow future research to understand further how these ISPTs affect evaluations of stars in organizations, enriching our understanding of decisions in selecting, hiring, training, promoting, and retaining these valuable employees (cf. Lyle et al., 2023).

Finally, we contribute to the managerial and organizational cognition literature by uncovering people's shared beliefs about an understudied group: star performers. While ILTs were uncovered around four decades ago (Lord et al., 1982, 1984), it was not until recently that research on implicit theories was extended to a second group of employees: followers (i.e., IFTs; Sy, 2010). We advance these theoretical developments further by uncovering ISPTs, which allow us to understand the different characteristics that constitute the implicit theories of two groups of exceptional employees (i.e., leaders and star performers). Our results show that despite some commonalities with ILTs (i.e., interpersonal skills, cognitive ability), there is a different pattern between ISPTs and ILTs. ISPTs and ILTs differ in that (1) all characteristics ascribed to stars were positive, while several ascribed to leaders have a negative connotation (e.g., Tyranny); and (2) unlike ILTs, no ISPTs characteristics explicitly related to physical appearance or masculinity. In other words, ISPTs are different from ILTs, making ISPTs a unique and novel empirical concept that can contribute to a further understanding of how implicit theories impact humans' evaluations of members of different groups. More importantly, they are the starting point to understanding what naïve ideas about stars people hold in their minds when considering or evaluating stars.

3.4.2 | Practical implications

Our research findings contribute significantly to existing theory and, therefore, carry meaningful implications for practice. We emphasize that we do not intend to suggest that women should conform to any specific behaviors, actions, or appearance to counteract bias; quite the contrary, we oppose any such implications. Instead, we aspire to promote ongoing efforts to raise awareness about the *think star, think men* phenomenon, and the biases that affect women stars. By doing so, we hope to advance an environment supporting women stars. We aim to shed some light on how such biases manifest and stimulate constructive conversations that drive positive changes. As described next, organizational leaders, human resources (HR) practitioners, individuals in general, and women stars can leverage this research's insights for their respective purposes.

Our findings significantly impact organizational leaders and HR practitioners who aim to identify and understand star performers (Aguinis & O'Boyle, 2014; Nyberg, 2010). ISPTs provide insights when implementing talent management practices such as selection, training, and development (e.g., Lyle et al., 2023). These insights are particularly relevant when evaluating and valuing women's work in star roles, specifically in areas like promotion and compensation where gender biases may exist. Notably, our research identifies specific characteristics that people ascribed to stars (i.e., ISPTs) and the association of stars with more masculine attributes. Organizational leaders and HR professionals should be mindful of these characteristics and their impact on hiring, promotion, role allocation, and compensation to prevent the perpetuation of inequalities within their organizations (Amis et al., 2020). As Gooty et al. (2023) proposed, leaders and HR professionals should "Educate evaluators on best practices such as how to avoid arbitrary, shifting standards using ambiguous terms (e.g., professionalism) that tend to be proxies for likability and that can disadvantage women" (p. 2533).

To avoid perpetuating the star performer gender gap, individuals must proactively acknowledge and recognize the existence of the *think star, think men* phenomenon regardless of their star status. As Kaiser et al. (2013) suggested, relying solely on diversity offices may not be sufficient to combat gender discrimination. Individuals in privileged positions must take responsibility for identifying and rectifying gender inequality. Shifting the burden of proof from the disadvantaged to the advantaged can enhance the effectiveness of this process (Drury & Kaiser, 2014). Additionally, research indicates that when it is established that various job functions and roles require a combination of traditionally masculine and feminine skill sets, it generates interest and encourages both men and women to pursue these opportunities (Diekman et al., 2017). By embracing these recommendations, individuals, irrespective of their status or gender, can contribute to creating a more equitable and inclusive environment.

Lastly, there are evidence-based strategies that women stars can employ to mitigate discrimination (we should all ensure that the burden is not placed on them). These strategies include building a strong professional network to share achievements and promote the work of women stars (Simmons & Ibarra, 2023), seeking out mentors and sponsors who can advocate for star women (Hewlett, 2013; Ibarra & von Bernuth, 2020), effectively communicating accomplishments by addressing preventive-focused questions with promotion-focused answers (Kanze et al., 2018), and being mindful of gender biases in negotiations and acquiring skills to overcome them (Janasz & Cabrera, 2018).

3.4.3 | Limitations and future directions

A limitation of our work that offers opportunities for future research is that we did not collect data on the causal relation between

gendered perceptions of stars and the number of women stars. Our research program is the first step in learning whether ISPTs exist and whether perceptions of stars are gendered and context-dependent. We were able to gain new insights about each of these critical points. Despite gathering sufficient empirical evidence about gendered perceptions of stars, we readily acknowledge that this is only the "smoking gun" explaining the paucity of women stars. However, it is the necessary first step because, as Schoen et al. (2021) explained, "one should seek to uncover and describe the prime candidate characteristics … and determine how these characteristics subtly influence one's reasoning" (p. 725). In other words, our study is the initial and necessary first step toward building theory on the sociocultural barriers women face when seen as star performers. Yet, further research should test this relationship directly.

An additional limitation and an exciting opportunity for future research lies in the American-centered approach to our data. While research on the *think leader, think male* phenomenon has been replicated across diverse cultural contexts (Schein et al., 1996), suggesting a potential universality of *think star, think male*, the predominantly US context of our study may not fully capture the diverse global perspectives. Notably, the US ranks high on Hofstede's Masculinity dimension. This prompts a compelling question: Would similar studies in cultures high in Femininity, such as Sweden, Norway, and Finland, yield comparable results? Exploring this phenomenon in societies known for high equality feminism could offer insightful contrasts. This raises a critical point: Is the *think star, think male* phenomenon culture-specific or culture-free? Future research could, therefore, examine the generalizability of our results across diverse cultural contexts. Such studies would validate or challenge the universality of our findings and contribute to a better understanding of how cultural factors influence gender perceptions of star performers globally.

Our initial focus on STEM fields, while limited, was intentional. This choice was motivated by the critical role of STEM fields in organizations and society in the 21st century, and the star performer gender gap was initially uncovered in this context (Aguinis et al., 2018). Future research could expand this research to other women-dominated occupations, such as nursing and teaching, as including these professions could provide valuable insights into the gendered nature of perceptions of stars across more varied fields.

An additional interesting future research direction could explore whether the impact of ISPTs changes over the professional life of star performers. As discussed, previous research has shown that the presence of information about a person's achievements reduces, or even eliminates, the differential evaluation of men and women (Bosak & Sczesny, 2011). Some argue that while relying on gendered expectations when judging women is reduced when decision-makers have access to individual information (Aguinis & Adams, 1998), the opposite is true when there is little to no other information available to differentiate among candidates (Kunda & Thagard, 1996). Future research could explore whether the impact of ISPTs dissipates later in the cycle (e.g., during promotion, reward, or raise decisions) when more objective criteria are available. ISPTs may partially explain the star performer gender gap, but the stronger effect of this phenomenon might be on potential stars who have yet to demonstrate their stardom. For example, in the STEM context that we considered, a report from McKinsey Global Institute showed that the lack of successful women is not due to a lack of a pipeline (Madgavkar et al., 2019) and that most discrimination no longer exists at the beginning or the end of the pipeline, but in the middle. Building on our results, future research could examine if ISPTs change or develop over the career of a star performer and whether implicit theories about potential stars (Call et al., 2015) are more gendered than the gendered ISPTs we uncovered.

Finally, another avenue for future research could be investigating the potential interrelation between ISPTs and ILTs. This could be particularly useful to understand the extent to which ISPTs may contribute to or influence ILTs and vice versa. Such research could unveil intricate dynamics between the perceptions of star performers and leaders, shedding light on how these perceptions interplay, especially in the context of gender. For instance, future research could address whether ISPTs affect the recognition and development of women as potential leaders within an organization. This question could provide valuable insights into the cyclical relationship between star performer recognition and leadership development, particularly in the context of gender biases across industries.

3.5 | CONCLUSIONS

The presence of a star performer gender gap makes it more challenging for women to gain recognition as stars. Our research delved into whether there are shared naïve ideas regarding star performers' characteristics —referred to as Implicit Star Performer Theories (ISPTs)—and whether these are influenced by gender and context. We uncovered the existence of distinct ISPTs that differ from previously identified implicit leadership theories. Specifically, star performers were thought to possess six characteristics: *Driven*, *Relational*, *Extraordinary*, *Fascinating*, *Tenacious*, and *Brilliant*. People tended to associate star performers more with masculine attributes than feminine ones—a phenomenon we termed the *think star, think men*. Furthermore, this association was context-sensitive, with the link between star performers and masculine attributes being stronger in men-dominated occupations. Finally, we found that star performers are seen as possessing more masculine attributes than very good employees. Our results, based on inductive, experimental, and indirect techniques across eight working adult samples ($N = 2322$), consistently supported the presence of ISPTs and the *think star, think men* phenomenon, enriching the theoretical understanding of the star performer gender gap.

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CONFLICT OF INTEREST STATEMENT

We have no known conflict of interest to disclose.

DATA AVAILABILITY STATEMENT

All data available upon request.

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SUPPORTING INFORMATION

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

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