ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

DOTTORATO DI RICERCA IN

PSYCHOLOGY

Ciclo XXXVII

Settore Concorsuale: 11/E3 PSICOLOGIA SOCIALE, DEL LAVORO E DELLE ORGANIZZAZIONI

Settore Scientifico Disciplinare: M/PSI 05 PSICOLOGIA SOCIALE

Perfection bias in the workplace: psychosocial antecedents and consequences of gender stereotypical expectations against women.

Presentata da: Sara Panerati

Coordinatore Dottorato
Prof. Elisabetta Crocetti

Supervisore
Prof. Monica Rubini

Co-supervisore
Prof. Michela Menegatti

Esame finale anno 2025

Abstract

Despite the significant progress made in the Labour Market over the last decades, a very high discrepancy emerges in women's employment compared to men. Why is this the case? A very important explanation comes from social stereotypes. Research pointed out that usually, gender stereotypes depict women as more nurturing, empathic, and emotional but less competent – than men. These expectations towards men and women might prevent women from being considered suitable for certain positions.

Furthermore, recent evidence showed that, in the workplace, women are evaluated along multiple dimensions. In other words, while men are primarily evaluated on competence, women are evaluated on multiple characteristics (i.e., competence, sociability, and morality). Hence, women need to fulfil more requirements than men to be selected or promoted for a role. This phenomenon has been called perfection bias since findings hint at the fact that women need to fulfil expectations of perfection to be considered suitable in the workplace. But are these expectations identifiable at an implicit level? And being evaluated on multiple dimensions have positive or negative consequences? The research reported in this dissertation tried to answer this question by pursuing a threefold goal. First, we tested whether the multiple expectations placed on women are detectable at an implicit level. To do so, Study 1 (N = 108) explored people's automatic cognitive associations concerning stereotypical characteristics that pertain to the masculine and feminine domains. Second, we developed a tool that should capture the awareness of women about the multiple expectations placed on them in the workplace (Studies 2-4, N = 981) and their impact on women's well-being (Study 5, N = 335). Third, Study 6 (N = 163) investigated the multiple expectations placed on women in an experimental setting corroborating the idea that women should be performative on multiple dimensions to be recruited.

Table of content

General Introduction

It has been 18 years since the World Economic Forum released the (annual) Gender Gap report that assesses the current state and evolution of gender parity worldwide based on four main indices: Economic Participation and Opportunity, Educational Attainment, Health and Survival, and Political Empowerment. Despite the substantial progress related to educational attainment and health, the most recent report in 2024 pointed out that the lack of meaningful progress concerning Economic Participation and Opportunity is slowing down the achievements of gender parity (Word Economic Forum, 2024). Indeed, women are less employed, occupy lower-paid sectors, work on average longer than men but have fewer paid hours, take more career breaks, and face fewer and slower promotions, (European Institute for gender equality, 2023). Moreover, even if the percentage of women in leadership positions has slightly increased, their representations in the upper positions of companies still range from 16% to 33% (European Institute for Gender Equality, 2017). LinkedIn data from 2024 shows that women's representation in the workforce roughly accounts for 31% of senior leaders and 42% of the global workforce.

In this regard, a huge interest revolves around understanding the antecedents and consequences that should be addressed to reach gender equality (Bhatia & Bhatia, 2021; Charlesworth & Banaji, 2022; Eagly et al., 2020; Heilman & Eagly, 2008; Ryan, 2023). In a recent work by Heilman et al. (2024), it emerged that one of the factors maintaining gender inequalities at work is represented by gender stereotypes and the expectations they elicit.

Given the fundamental role gender stereotypes play in hindering women's careers, psychologists have started to deepen their efforts concerning the phenomenon, both in terms of its antecedents and consequences. In this regard, the present dissertation will begin with a literature review of gender stereotypes and their evolution over time to arrive at the perfection bias which is the main core of this project. Therefore, the key goal of the current project was to investigate further the existence of a perfection bias against women, implicitly (Study 1, Chapter II), concerning the individual awareness of the phenomenon and its associations with variables related to social change

and well-being (Studies 2-5, Chapter III) and finally assessing it experimentally through a mock hiring procedure (Study 6, Chapter IV).

CHAPTER I

Introduction

The persistent gender inequalities still existing both in developed and developing countries are receiving increasing attention from economists, policymakers, psychologists, and the general public (Belingheri et al., 2021). The onset of the global COVID-19 pandemic has slowed down the progress toward gender equality and exacerbated existing gender inequalities across domains (e.g., gendered divisions of labour and economic stability; Fisher & Ryan, 2021). The Global gender gap report (2024) investigates the current discrepancies between women and men in one hundred forty-six countries around the world. One of the most extensive gaps the report pointed out concerns economic participation and opportunities. What emerges is that women have less access to the labour market and are also hired under more precarious conditions. Before the pandemic, only 52.6% of women aged 15 to 64 constituted the workforce, compared to 80% of men. Furthermore, early projections from the International Labour Organization suggest that 5% of all employed women lost their jobs, compared with 3.9% of employed men. This is because female-dominated service sector jobs (e.g., tertiary sector) were deeply hit by the crisis, while male-dominated sectors were less affected. On the other hand, even in those countries considered best-performing women receive a significantly lower wage than men (around 37%) when confronting wages for similar positions despite female educational attainment exceeding that of men (F. D. Blau & Kahn, 2017).

The gap is even more consistent considering the high-status jobs: women are underrepresented in those jobs close to the top of the worker's hierarchy (Petrongolo, 2019) with a general decrement of women workers for every step of the career ladder (Heinrichs & Sonnabend, 2023). This phenomenon is pervasive in the labour market to the point that several labels were created to explain women's systematic challenges in the workplace (Grangeiro et al., 2021). For instance, the phenomenon of the glass ceiling (Purcell et al., 2010) refers to the invisible obstacles women face in climbing up the organizational ladder (regardless of achievements and qualifications) and that explains the low representativeness of women in senior positions. However, in the last years, research revealed that

women have begun to break through the glass ceiling (e.g., Stroh et al., 2004). Nevertheless, their performance is often placed under strict control and evaluated more negatively than men's even when performing the same (Eagly et al., 1995). Furthermore, female leaders are shown to be over-represented in leadership positions that are risky and precarious, consequently, the leadership positions that women occupy are likely to be less promising than those of their male counterparts (Ryan & Haslam, 2005). As seen above, the extant literature has highlighted that gender issues still exert a conspicuous influence in hindering women's careers, and their economic and social ramifications, are complex topics that involve many possible antecedents and outcomes (Cuberes & Teignier, 2014).

The pervasiveness of gender stereotypes

The literature has shown that gender stereotypes play an important role in determining and maintaining the gap in the workplace since they are deeply rooted in society (Ellemers, 2018). They depict traits and attributes applied to social groups (Agars, 2004). Since gender represents a pervasive social cue of a social category, gender stereotypes are easily activated and automatically trigger a stereotypical way of thinking (Blair & Banaji, 1996). Gender stereotypes have been usually conceived to be organized along two universal dimensions labelled as competence and warmth (Fiske et al., 2002), or communion and agency (Abele et al., 2016) respectively. The universality of these two dimensions stems from the fact that they are adaptive to navigating the social context due to the necessity to quickly estimate whether others have harmful or beneficial intentions (e.g., moral, kind) and whether they have the capabilities to act on them (e.g., intelligent, efficient; Cuddy et al., 2008). Based on this assumption, gender stereotypes usually depict men as higher on competence or agency (e.g., more intelligent, and able), whereas women are seen as warmer or more communal (e.g., more caring, and helpful; Fiske et al., 2007). Hence, gender stereotypes designate women and men (i.e., they have a descriptive function), but they also prescribe how they should (or not) act by dictating what attributes and behaviours are (in)appropriate (i.e., they have a prescriptive function; Heilman,

2012). In this regard, Eckes (2002) argued that (envious and paternalistic) stereotypes have a functional role since they maintain the status quo and defend the position of societal reference groups. According to the social structure hypothesis, out-group members are perceived as being comparatively kind and pleasant, representing obedient subordinate groups playing a practical role. This denigrates their abilities while also appreciating the traits that keep them in subordination as long as they do not represent a threat. Warmth-related identities placate subordinates by assigning them socially desirable traits that conveniently also imply deference to others (Glick & Fiske, 2001). Negative intentions are not attributed to non-competitive outgroups, and attributions of warmth help to maintain the status quo with a minimum of conflict (Jackman, 1994). In contrast, competitive out-group members frustrate, tantalize, and annoy, so they are viewed as having negative intent. Thus, a woman with counter-stereotypical agentic attributes (e.g., demonstrating self-assertion, dominance, and achievement orientation) represents a violation of gender prescriptions and can produce social disapproval and negative outcomes (e.g., lower hireability ratings; Rudman & Glick, 2001).

In turn, the characteristics and prescriptions attributed to the women's social group impinge on their career preferences and profession (Trusty et al., 2000). Gender stereotypes and the expectations they elicit are socialized from a very early age, and they are conveyed in the culture, for instance, through language (Formanowicz & Hansen, 2022), but also via a vicarious way of learning (Amemiya & Bian, 2024). For instance, Reby et al. (2022) found that children from two to six years old have already internalised gendered expectations by assigning men and women to traditionally male (e.g., doctor) and female occupations (e.g., nurse). A recent study (Blažev et al., 2024) examined the longitudinally gender-typed career interests and career stereotypes endorsement in a sample of adolescents. Findings showed that both boys and girls displayed a gender-typed career interest, with the former having a stronger interest in roles involving things (e.g., data processing, mechanical) while the latter being more interested in activities people-centred (e.g., social facilitating and helping activities). Blazev et al. (2024) also pointed out that gender stereotypes' endorsement over time

showed two distinct patterns for boys and girls. On one hand, adolescent girls displayed a decrease in gender stereotype endorsement concerning masculine occupational activities (but no change for the feminine ones); on the other hand, boys did not show changes in career-related gender stereotype endorsement over time, concerning both masculine and feminine roles.

Gender Stereotypes as a Source of Inequalities in the Labor Market

Gender stereotypes against women affect people's educational and career trajectory choices, but they are also pervasive in the labour market since they affect careers hindering judgment and decision-making processes (Heilman, 2012a). They are seen as affecting selection processes even before individuals formally apply for a position (Milkman et al., 2015). For instance, Gaucher et al. (2011) investigated whether gender wording (i.e., masculine- and feminine-themed words, such as those associated with gender stereotypes) may represent a (hidden) mechanism that sustains gender inequality maintenance in traditionally male-dominated jobs. Across 5 studies they showed that job advertisements in male-dominated areas used more masculine wording (e.g., competitive, dominant) than the advertisements in female-dominated areas (e.g., support, interpersonal). As a consequence, when job advertisements were phrased as masculine participants perceived those jobs as more male-targeted and women found them less appealing. Furthermore, Arceo-Gomez et al. (2022) content analysed 2,638,754 job advertisements targeting men, women or targeting a generic public. They pointed out that targeted gendered job advertisements seeking “communal” characteristics (associated more with women) were seen to offer lower salaries than those seeking “agentic” characteristics (associated more with men). It is interesting to notice that based on the language used (i.e., the stereotypical content communal vs agentic) Arceo-Gomez et al. (2022) could infer whether non-targeted ads were indeed addressed towards men or women: findings showed that for non-targeted ads for which they predicted the target as being women, the salary gap revolved around 8-35% than those ads phrasing the message through agentic words (0-13%). These findings suggested that gender

stereotypes in the marketplace are pervasive, and selectors might carry on systematically stereotypical expectations from the very beginning of the selection process.

Gender Stereotypes in the hiring process

In the workplace, the decision to hire a person can rely not only on the individual's merit but also on his or her specific group membership and the stereotypical expectations that stem from them (Gërxhani et al., 2021). Because of gender stereotypes, women and men are evaluated by relying on sex-specific standards (Van Borm & Baert, 2022). In particular, the dual models of social judgment postulate that warmth and agency are the universal dimensions on which people's judgments reside (Cuddy et al., 2008). Following this approach concerning women and men, it appears that low ratings on one dimension coupled with high ratings on the other. In other words, subjectively positive stereotypes on one dimension are often functionally consistent with unflattering stereotypes on the other dimension (Fiske et al., 2018). For instance, since women are usually seen as communal, they are considered less suitable for all those jobs that require agentic ability and decision-making skills (e.g., high-status ones; Cortina et al., 2021). Therefore, women who do not adhere to gender expectations represent a violation of gender prescriptions and can produce social disapproval and negativity (i.e., backlash effect; Rudman & Glick, 2001). Along this line, Hernandez Bark et al. (2022) simulated a job selection through an interview to examine the impact of taking personal initiatives (i.e., agentic behaviour) on different evaluative candidates' characteristics (e.g., hireability). They showed that personal initiatives were seen as incongruent with the expectations against women, thus resulting in negative evaluations of hireability rates. Along this line, Fanning et al. (2021) found further evidence of the phenomenon by investigating the candidate's interactions during a collective interview in front of a selector. This evaluation context called for self-promotion behaviours, which are necessary to stick out and have higher chances of being recruited. Nevertheless, results pointed out that being agentic was considered a violation of gender norms, and decreased women's hiring prospects. This tendency was even more pronounced if the recruiter was a man.

Hence, from the literature emerges that men's and women's expectations not only are different, but they tend to be oppositional, with women seen as lacking what is thought to be most stereotypically prevalent in men, and vice versa for women (Heilman, 2012a). For instance, women leaders are more at risk for discrimination as they stand in contrast to stereotypes which see women as soft and communal but leaders as dominant and competent (Eagly & Karau, 2002). In this regard, some meta-analytical works (Davison & Burke, 2000; Koch et al., 2015) consistently detected a statistically significant preference for male candidates for traditionally male-oriented jobs (e.g., managerial positions), a gender-congruity bias that leads to men being preferred candidates in male-dominated sectors. This phenomenon concerning the hiring process of women and men has been detected through several methodologies, for instance by tracking the search behaviour of recruiters on employment websites (Hangartner et al., 2021), by considering the performance feedback evaluation attributed to a (women or man) manager expressing (counter)stereotypical emotions (Raymondie & Steiner, 2022), and by examining the content and strength of gender stereotypes in image search (Otterbacher et al., 2017).

At their root, gender stereotypes serve as standards against which people are assessed. In other words, evaluations of men and women may not be directly comparable: "Good for a woman does not mean the same thing as good for a man" (Biernat & Fuegen, 2001, p.708).

A Multiple Perspective of Gender Stereotypes

Over the past years, researchers started to develop more articulated models that include distinctive facets related to the two social judgment dimensions and how they affect candidate evaluation processes (Brambilla & Leach, 2014). Abele et al. (2016) expanded the Agency-Communion framework by considering these dimensions as composed of different facets. According to this perspective, the communion dimension includes at least two distinct characteristics: sociability (i.e., being benevolent to people in ways that facilitate affectionate relations with them) and morality (i.e., being benevolent to people in ways that facilitate correct and principled relations with them).

Along this line, further studies pointed out several facets concerning the dimension of the agency, such as self-reliance and dominance (Schaumberg & Flynn, 2017), assertiveness and competence (Louvet et al., 2019). In this regard, Leach et al. (2017) investigated women's stereotypical evaluation of facets concerning the dimension of agency (e.g., competence, violence and strength) and the facets related to the dimension of warmth (e.g., sociability and trustworthiness). Findings showed that women associated themselves more with sociability and trustworthiness than men while men were more associated with violence and strength (but not competence).

In this vein, Hentschel et al. (2019) investigated the changes in the gender stereotypes content by asking participants to rate men, themselves or women on several facets of agency (e.g., assertiveness, independence, instrumental competence, leadership competence) and facets of warmth (e.g., concern for others, sociability and emotional sensitivity). Findings showed a general agreement about the evaluations made concerning the facets of warmth, with an overall evaluation of feminine traits. Nevertheless, the associations concerning the facets that revolved around agency were more complex and displayed some differences between male and female participants. On one hand, participants reported no differences in evaluations concerning competence, independence, and sociability for men and women. On the other hand, male participants evaluated men as more agentic than women, while female participants evaluated women as being less assertive than men, but equally independent and leadership competent. Similar conclusions were drawn by Eagly et al. (2020) by investigating whether gender stereotype attributions changed over the last decades (1946 to 2018) for what concern communion (e.g. affectionate, host), agency (e.g., ambitious, confident) and competence (e.g., intelligent, creative). Once again communion facets were still attributed more to women, while agency facets were more associated with men. Nevertheless, facets concerning competence were more and more associated with women over time.

Overall, these findings suggest that gender stereotype attributions have been (at least partially) changing, but they also suggest that considering different facets of the dual dimension might help to

better grasp the complexity of the phenomena that are strictly related to them, for instance, the processes related to the candidate selection in the workplace.

The Perfection Bias Against Women

Taking on this multidimensional approach concerning the facets of the social judgment dimensions, Prati et al. (2019) examined written performance appraisals made by professional committees of managers evaluating male and female candidates by taking into account three main facets: competence, sociability, and morality. Overall, what emerged is that women were evaluated against a more complex set of characteristics. Specifically, while male candidates' performance was evaluated referring primarily to their competence, women's assessment relied on more facets, such as morality, competence, and sociability. Taking on this line of research, Moscatelli et al. (2020) deepen further the aforementioned perspective. Across 4 studies, they investigated, both in real and laboratory contexts, whether evaluations of competence, morality and sociability were related to hiring and retention decisions about male and female candidates in the workplace. In particular, in Study 1, Moscatelli et al. (2020) content analysed written reports made by a hiring committee of professional selectors. Coherently with the results of Prati et al. (2019), they showed that female candidates were evaluated based on competence, morality, and sociability whereas male candidates were evaluated based on their competence. In Study 2, a sample of Italian students rated the importance of competence, morality, and sociability in hiring a (female vs male) candidate for a gender-neutral position (i.e., a vacant position in the Teaching Board of the participants' academic department). Once again, results pointed out that competence was the only predictor of employment decisions for male candidates; instead, evaluations of female candidates were based on multiple criteria. Then, in Study 3 and Study 4, participants evaluated respectively the probability of hiring or retaining a (female vs male) candidate high in morality and low in competence or vice versa. Results pointed out that (high vs low) levels of competence were the main aspects for the assessment of male candidates, both for the hiring and retention decisions. On the opposite, for female candidates both

the level of morality and competence influenced the selector's decisions. These findings, as Moscatelli et al. (2020) suggested seemed to advocate for the idea that women "should have it all" to have the same probability to be selected as men. Since female candidates were evaluated against multiple dimensions, they were requested to excel in every criterion they were evaluated against. Hence, they seemed to have to appear flawless, or in other words, they needed to aim for perfection. Stemming from this conception, this phenomenon has been labelled perfection bias which holds that for women is not only a matter of demonstrating more competence than men— as shown by previous research (e.g., Biernat & Fuegen, 2001) — but also, they are required to meet additional requirements than men to be hired and promoted.

The perfection bias against women seems to influence even the formation of first impressions, as shown by Menegatti et al. (2021), who examined the role of competence, morality, and attractiveness inferred from faces in influencing the hiring process concerning men and women. The findings demonstrated that for both female and male candidates, the level of competence inferred from the faces significantly predicted the hiring choice. However, selection decisions regarding female applicants were significantly predicted by multiple dimensions, such as (facial) morality, competence and attractiveness.

Awareness of gender discrimination in the workplace

Starting from the 1960s women's movement began to challenge the overt gender workplace requirements and since then, many organizations and policymakers have started adopting policies that tackle overly forms of sex discrimination (Diehl et al., 2020). Nevertheless, not all biases are overtly expressed, and more subtle ones may still hinder women's careers and challenge women to reach higher positions on the organization ladder. In this regard, the Global Labour Organization (2022) point out the importance of promoting awareness of when and to what extent gender stereotypes affect women's discrimination to implement policies and interventions to eradicate the gender gap. Indeed, knowing which biases trigger and affect women's hiring chances in particular

contexts can be beneficial for all the stakeholders. Subtle biases can be hard to identify and especially harmful because they are usually unconscious (Jones et al., 2016) and arise from cultural assumptions. On one hand, women themselves may find it difficult to distinguish between overt and covert biases; in certain cases, women who experience bias may not recognize that they are the targets of discrimination and may, for instance, place the blame on themselves (Diehl et al., 2020). On the other hand, the research found that higher perceptions of gender discrimination are associated with lower women's self-esteem and capabilities (Goswami & Gupta, 2012), lower career aspirations (Halladay & Landsman, 2022) and negative mental health outcomes (e.g., Blau & Tatum, 2000; Gutek et al., 1996), negatively related to job attitudes and work-related outcomes (e.g., turnover; Goswami & Gupta, 2012).

Yet, considering how gender inequalities take up many more subtle forms, how perceptions of gender inequalities in the workplace have been assessed seems limited in scope. In this regard, many studies measure the perception of gender inequalities in the workplace with a few quite general items, such as “In your opinion, are there gender inequalities in the workplace?” (Glick & Whitehead, 2010). More frequently perceptions concerning the phenomenon focused on an economic or work-related point of view (e.g., Tougas & Veilleux, 1988). This approach may fail to unravel the complexity of gender discrimination in the workplace, as shown by Snizek and Neil, (1992) who pointed out the need to delve into different forms of gender discrimination in the workplace instead of considering the phenomen from a broad point of view.

Thus, while the mentioned studies bring initial evidence to the importance of capturing women’s perceptions concerning unequal treatments and expectations in the workplace, to our knowledge, there has been limited attention given to women's subjective perceptions of being targeted against multiple facets related to gender stereotypes.

The current project

Despite the progress achieved over the last decades, factual gender equality in the workplace remains challenging to accomplish (Menegatti et al., 2021a). Explicit discrimination and gender inequalities like the glass ceiling (Ryan et al., 2016) or the gender pay gap (World Economic Forum, 2024) could represent just the tip of an iceberg with implicit biases in evaluations lurking below the surface. In our view, the present project contributes to investigating one of the possible subtle processes at the roots of workplace biases and thus be useful in extinguishing them.

Study 1 stemmed from the acknowledgement that most studies on occupational gender stereotyeps implemented explicit methods while very few addressed the issue by adopting an implicit one (White & White, 2006). Furthermore, Nosek (2007) pointed out that usually lower levels of stereotypes emerged from self-report measurements than implicit ones due to biases such as social desirability. Therefore, it would be novel and informative to address the possible multidimensional nature of gender stereotypes at an implicit level. Hence, we adopted a Semantic Misattribution Procedure (i.e., SMP; Ye & Gawronski, 2018) to investigate the implicit cognitive associations concerning competence, morality, sociability, dominance, and attractiveness to the masculine or the feminine domains. Furthermore, as shown also by Hentschel et al. (2019) in their study, there were discrepancies considering the characteristics attribution made by female and male participants. Therefore, we explored if potential differences in such attributions emerged considering participants' gender even at an implicit level.

Although the evidence showed that women candidates (Menegatti et al., 2021; Moscatelli et al., 2020; Prati et al., 2019) are evaluated on multiple dimensions, little we do know whether people are aware of such a phenomenon. While some studies have examined individuals' perceptions of gender pay gaps (Hampton & Heywood, 1993), differences in career opportunities, or work conflict (Gutek et al., 1996), no study has, in our knowledge, investigated individual perceptions of the so-called perfection bias. Therefore, across 4 studies we developed and validated a short measurement to assess

the awareness of multiple expectations against women (Study 2) and how addressing perfection bias might help better explain the relation between social outcomes concerning social change (Studies 3-4) and well-being (Study 5) compared to more general measurements of gender inequalities in the workplace. Additionally, this chapter brought initial evidence of the importance of differentiating between specific aspects of gender discrimination in the workplace, by showing distinct psychological outcomes related to perfection bias. Finally, Chapter IV experimentally tested perfection bias by creating a mock personnel selection for a high-status position (i.e., manager and general director). The participants, acting as recruiters for an Italian firm, selected characteristics they would have liked to receive to assess the (woman vs man) candidate on several domains (i.e., competence, morality, dominance, sociability, attractiveness and private life). Then they were requested to decide the probability of calling back the candidate for an interview and to express the probability of hiring the candidate. Lastly, Chapter V conclude the present dissertation by outlining implications for theory and practice, as well as limitations and future directions of the project.

Chapter II

A multidimensional implicit approach to gender stereotypes[1]

Research has widely explained gender inequalities in terms of gender stereotypes, according to which women are considered more nurturing, empathic, and emotional but less competent – than men. Recent evidence highlights that especially women are portrayed along multiple dimensions. In this research, we adopted an implicit Semantic Misattribution procedure to detect whether gender stereotypes have a multidimensional structure and are differently attributed to men and women. Results showed that Competence and Dominance-related terms were considered more masculine ones. In contrast, Morality and Physical Attractiveness were attributed to feminine ideograms to a higher and significant extent than masculine ones. Sociability was related to feminine and masculine ideograms almost to the same extent. The gathered evidence provided a multidimensional picture even composed of more judgment dimensions regarding women highlighting how it can be difficult for them to meet all those multiple expectancies.

Introduction

Among the causes of gender inequalities, social psychological research has consistently documented the role of gender stereotypes that, initially have been conceived to be organized along two dimensions referring to goals and relations and being labelled as competence and warmth (Fiske et al., 2002), communion and agency (Abele et al., 2016), and competence and morality (Wojciszke, 2005), respectively. Along this line, Fiske et al. (2002) have shown that men are usually depicted as competent (e.g., intelligent, confident, competitive, and independent) but not very nice (e.g., sincere, warm, and tolerant). In contrast, women are seen as nice but not very competent. In more specific terms, the agency dimension refers to the ability to be performative and goal-oriented. It involves qualities such as efficiency, intelligence, strength, and capability, while the communion dimension pertains to benevolence in social relations and involves qualities such as friendliness, kindness,

[1] Panerati, S., Rubini, M., Giannella, V. A., Menegatti, M., & Moscatelli, S. (2023). A multidimensional implicit approach to gender stereotypes. *Frontiers in Psychology*, *14*, 1280207.

cooperativeness, and trustworthiness (Abele et al., 2008). Not adhering to gender expectancies usually leads to adverse outcomes and penalties, such as those related to the shifting standard effect (Biernat, 2009), according to which women and men are evaluated by setting different standards in personnel evaluation. This usually leads to setting lower minimum standards for women in the initial screening phase of recruitment procedures. However, higher confirmatory standards are required for women than men (Biernat and Fuegen, 2001). Moreover, backlash effects (Rudman and Glick, 2001) may emerge as women who display competence attributes (e.g., demonstrating self-assertion and achievement orientation) can represent a violation of gender prescriptions and produce social disapproval and negativity, leading to a decreased likelihood of being hired (Cortina et al., 2021) and lower promotion opportunities (Rudman and Phelan, 2008).

Going beyond a bi-dimensional approach, it has been contended that the warmth or communion dimension encompasses two distinct components referring to morality and sociability, given the fact that individuals can be sociable without being moral/honest, or they can be moral/honest without being sociable (e.g., Leach et al., 2007; Brambilla and Leach, 2014; Abele et al., 2016). Along this line, scholars have disentangled the components of agency from competence as a distinct factor (e.g., Carrier et al., 2014) and have subdivided the agency dimension into several characteristics, such as self-reliance and dominance (Schaumberg and Flynn, 2017), assertiveness, competence, and effort (Louvet et al., 2019). Moreover, Hentschel et al. (2019) explored intra-dimension characteristics of agency and communion: assertiveness, independence, instrumental competence, leadership competence (agency dimension), concern for others, sociability and emotional sensitivity (communality dimension). Results indicated that stereotypes about communality persisted and were equally prevalent for male and female participants, but agency characterizations were more complex. Male participants generally described women as being less agentic than men. Female participants differentiated among agency characteristics and described

women as less assertive than men but as equally independent and leadership competent. Both male and female participants considered men and women equally high on instrumental competence.

A multidimensional framework of gender stereotypes

Following this line of thought, some studies investigated whether, when addressing gender stereotyping phenomena, it is more realistic to adopt a multidimensional framework (e.g., Abele et al., 2016; Hentschel et al., 2019). Prati et al. (2019) examined gender inequality in personnel selection by considering competence, sociability, and morality, by analyzing spontaneous reference to characteristics considered to be owned by men and women in a performance appraisal procedure within the public administration field. The evaluation reports of professional selectors showed that women's assessment relies on multiple bases: women need to fulfill more expectancies than men, whereas men are evaluated based primarily on their competence. In other words, individuals rely on more complex requirements when evaluating women rather than men. Moscatelli et al. (2020) confirmed and extended these findings by examining the relative importance of competence, morality, and sociability in employment decisions by content-analyzing archival reports of professionals and by investigating the importance of different characteristics in hiring a female or male candidate for a job position. Findings consistently showed that competence was the most crucial dimension in the evaluations and decisions concerning male candidates, whereas all dimensions were important for female candidates. This tendency has been labeled Perfection Bias (Moscatelli et al., 2020) since multiple criteria influence decisions concerning women, and consequently, women are requested to satisfy more requirements than men, thus expectancies of "perfection." Similar expectations of perfection are reflected in several aspects of their working life, for instance, the hiring process (Brescoll, 2016) and career progression (Tabassum and Nayak, 2021).

These expectations of perfection toward women also influence the formation of selectors' first impressions through candidates' pictures. Menegatti et al. (2021) considered how candidates' competence, morality, sociability, and attractiveness inferred from the candidate's face influenced

hiring decisions for men and women. Findings revealed that female candidates' facial competence predicted the hiring decision. Moreover, the selection of female candidates relied also on morality and attractiveness inferred from their faces. In this regard, it could be argued that attractiveness constitutes a relatively irrelevant characteristic in job recruitment unless job selection concerns, for example, a fashion model. Nevertheless, findings showed that it constitutes a social judgment criterium influencing discrimination (e.g., Axt et al., 2019). Accordingly, attractive individuals receive advantageous treatments in various life domains, including work (Jawahar and Mattsson, 2005; Zebrowitz, 2017). Extending this multidimensional approach, Pireddu et al. (2022) investigated the impact of gender stereotypes on perceived leadership suitability of women and men. In addition to the characteristics considered in the perfection bias studies (i.e., competence, morality, sociability, and attractiveness), dominance was also investigated since it is strongly associated with leadership stereotypes (Bongiorno et al., 2021). Moreover, women are considered to perform negatively on dominance (Williams and Tiedens, 2016). The evidence of Pireddu et al. (2022) highlighted that attractiveness and competence were the most important predictors of hiring likelihood for all candidates. Moreover, morality and sociability were more critical in evaluating men than women, while dominance was rated as more important in evaluating women than men. The authors concluded that these findings suggested an evolution of gender expectancies since counter-stereotypical characteristics of male and female candidates received more weight in assessing the candidates.

Implicit measures of gender stereotypes

Most studies on gender stereotypes have employed explicit methods, whereas few have addressed the issues by adopting implicit methods (White and White, 2006). Thus, new ways of investigation can be helpful to shed light on more subtle ways through which gender stereotypes are vehiculated (Bhatia and Bhatia, 2021). Since recent findings suggest that multidimensional judgments affect women's evaluations, would it be possible to detect this tendency also at an implicit level? Several studies demonstrated that gender stereotypes are usually activated automatically (i.e., Lai and

Wilson, 2021) and, therefore, barely controlled (Moors and De Houwer, 2006). Therefore, some studies pointed out the inconsistency between the results obtained through implicit and explicit measures since the lower level of stereotypes emerges from self-report studies. For instance, Nosek et al. (2007) showed that stereotypes are pervasive while corresponding self-report measures exhibit substantially lower rates of prejudice and stereotypes. Such evidence has given rise to the conviction that it could be beneficial to investigate the phenomenon by implementing implicit measures since they are less susceptible to self-presentation concerns.

When people are requested to provide a judgment on a specific topic, they can have an implicit reaction but may restrain themselves from expressing it (Nosek et al., 2011). Hence, one of the most common methods employed is the Implicit Association Test (i.e., IAT; Greenwald et al., 1998), which investigates the association's strength between two elements by considering the time reactions of the participants. This type of task has been primarily adopted to study gender stereotypes. For instance, studies pointed out a backlash effect against agentic women (Rudman and Glick, 2001) and a gendered evaluation of roles such as engineer as a masculine one and teacher as a feminine one (White and White, 2006), thus showing a stronger association between science and men than science and women (Nosek et al., 2011). Moreover, implicit methods have been showing exciting results investigating, among others, how stereotypes beyond people's awareness affect women's career progression (Teelken et al., 2021), the evaluations regarding the stereotypical perception of the type of occupations (i.e., engineer, accountant, and the teacher) and their evaluations in terms of masculinity vs. femininity (White and White, 2006), and the associations between gender and liberal art vs. science (Rezaei, 2011).

Besides the measures based on time reaction, it has been proved that participants' responses are susceptible to the influence of the priming procedure (e.g., Gawronski and Bodenhausen, 2006). For instance, Rudman and Phelan (2008) investigated the priming effects on women's leadership self-concept. The procedure consisted of two prime conditions: the traditional one depicted men as

occupying traditional roles (e.g., Stanford business professor, business executive), while the non-traditional priming provided opposite associations of women with traditional male roles. Findings showed that women in the traditional priming condition displayed higher automatic gender stereotypes, leading to a decreasing interest in masculine jobs. Thus, these methods are based on the idea that our minds constantly create associations among concepts and feelings (Cameron et al., 2012). Among the priming methods, one of the most applied to the study of gender stereotypes is represented by the Affective Misattribution Procedure (i.e., AMP), which is designed to assess spontaneous behavior arising from the activations of affective states (e.g., Imhoff et al., 2011). Generally, the AMP is composed of several trials in which ambiguous prime stimuli (e.g., a positive vs. negative image) are presented several times to the participants, each of them followed by a Chinese ideogram (for a review, see Payne and Lundberg, 2014). Then, participants are requested to evaluate the ideogram regarding agreeability (e.g., pleasant vs. unpleasant). Therefore, this procedure focuses on participants' spontaneous affective answers to the first (ambiguous) stimulus, which is erroneously considered due to the second stimulus (e.g., Mann et al., 2019). This misattribution process has been implemented not only to observe associations on an affective level but also on a semantic one. The Semantic Misattribution Procedure (i.e., SMP) represents a variant of the AMP to investigate implicit associations focusing on spontaneous behaviour related to activating semantic concepts.

Despite being relatively recent, this procedure was very versatile for the study of various fields of social psychology, such as gender stereotypes, (for a review, see Vezzoli and Zogmaister, 2016) and possesses good psychometric properties (Ye and Gawronski, 2018). Gawronski and Ye (2014) investigated whether stereotypical male or female roles would be implicitly associated with men or women (e.g., doctor-male; nurse-women). Participants' trials consisted of stereotypical working positions, as prime, followed by a Chinese ideogram. Findings showed that participants usually evaluated as feminine the ideographs after being primes with a feminine stereotypical role, while the opposite occurred in front of male prime words. Few more studies (Ye and Gawronski, 2018) have

implemented this type of procedure to investigate gender stereotypes, showing how this tool has significant advantages in advancing knowledge on the topic that explicit methods would not entirely capture.

The current research

To fill this gap, based on the studies that adopted a multidimensional approach to gender stereotypes (e.g., Hentschel et al., 2019; Prati et al., 2019; Moscatelli et al., 2020; Menegatti et al., 2021; Pireddu et al., 2022), the goal of this study was to address the possible multidimensional nature of gender stereotypes at an implicit level. Therefore, we investigated the implicit semantic associations of competence, morality, sociability, dominance, and attractiveness with ideograms that refer to masculine or feminine words. In light of previous literature, we hypothesize that traits traditionally aligned with masculinity, namely Competence (Fiske et al., 2002) and Dominance (Bongiorno et al., 2021; Pireddu et al., 2022), will show a stronger association with masculine ideograms than traits like Morality (Prati et al., 2019; Moscatelli et al., 2020), Sociability, and Attractiveness (Hosoda et al., 2003; Menegatti et al., 2021). In essence, we expect Morality, Sociability, and Attractiveness to be less frequently linked with Masculinity in comparison to Competence and Dominance.

Furthermore, we aimed to explore differences in implicit attributions made by male and female participants since as reviewed above Hentschel et al. (2019) found discrepancies in how men and women portray their gender.

Material and method

An *a priori* power analysis was conducted using G*Power version 3.1.9.7 (Faul et al., 2007) to determine the minimum sample size required to test the study hypothesis. Results indicated the required sample size to achieve 90% power for detecting a medium effect, at a significance criterion

of $\alpha = 0.05$, was $N = 104$ for a repeated-measure ANOVA. Thus, the obtained sample size of $N = 108$ is adequate to test the study hypotheses.

Participants

One hundred and eight (69 women, 38 men, 1 not specified, *M*age = 24.53, *SD*age = 8.14) students took part in the study. Since the stimuli of the study were presented in English, we evaluated their proficiency in English by asking them to translate into Italian a battery of English words and sentences. Thirteen students were excluded for not having sufficient English mastery. Moreover, all participants reported not having any mastery of Chinese. Most of the participants had completed secondary education (57.4%), followed by those who held a bachelor's degree (26.9%), a master's degree (13%), and a doctoral degree (1.9%). Almost all participants were native Italian speakers (98%). Participants were all Italian except for one with American nationality and one with Italian-Albanian nationality.

Procedure

Ethics approval was obtained by the Bioethical Committee of the University (blinded) in November 2021. Two researchers who presented the study using a cover story recruited participants in person. Specifically, they explained that the study aimed to investigate how people perform simultaneous linguistic assignments and that they would be requested to perform at the same time multiple linguistic tasks. The cover story was necessary to disguise the real aim of the study to participants to avoid social desirability biases. Then, the researchers took notes of the participants' willingness to accomplish the experimental task and scheduled an appointment with them at the Social Psychology lab. Once in the Laboratory, participants were seated in front of a computer screen and read the instructions concerning the tasks. They were told they would see pairs of stimuli shown below the other, the first being an English adjective and the second a Chinese ideogram. Participants were told that their task was to decide whether they thought that the ideogram represented a feminine or

masculine word by pressing different buttons on the keyboard (i.e., A or L). Then, following the AMP procedure (Payne et al., 2005), participants were presented with a fixation point (800 ms) followed by a prime word (200 ms) and, after 135 ms, a Chinese ideogram (750 ms), as shown in Figure 1.1. The labels associated with the keyboards' buttons varied among 12 blocks and were randomly chosen by the software (i.e., Inquisit Player) to avoid biases such as habituation and or bias due to the dominant hand of participants. Participants underwent the first trial with neutral English words (e.g., mirrored) to get familiar with the procedure. These evaluations were excluded from the analyses. The primes consisted of 15 words1 related to competence (i.e., competent, efficient, and intelligent), morality (i.e., sincere, honest, loyal), sociability (i.e., friendly, extraverted, sociable), dominance (i.e., competitive, ambitious, dominant), and Physical attractiveness (i.e., good looking, attractive, pretty). Every trait was randomly presented four times, equally distributed into 12 blocks for 60 trials. The time frame between blocks was 1,000 ms. We decided to administer prime adjectives in English to avoid bias due to the Italian language as a gendered language. In fact, in the Italian language, even adjectives are spelt differently based on the gender of the person or the object that it refers to, and no gender-neutral word exists. After the SMP task, participants filled in sociodemographic questions and were thanked and fully debriefed.

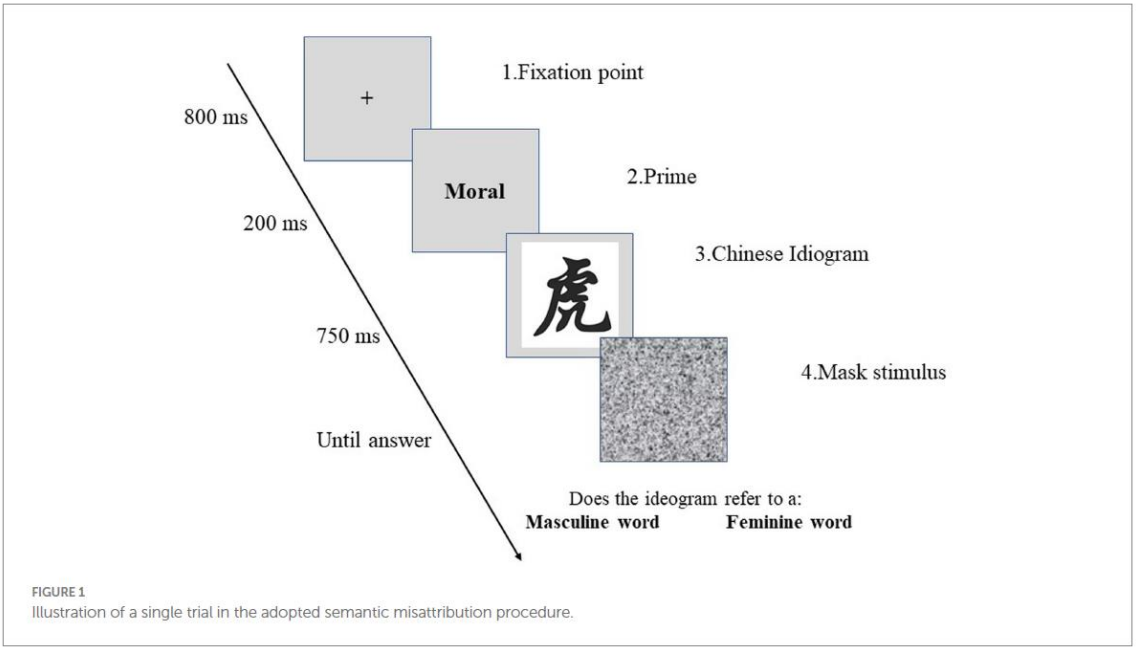


FIGURE 1
Illustration of a single trial in the adopted semantic misattribution procedure.

Figure 1.1. Illustration of a Single Trial in the Adopted Semantic Misattribution Procedure

Results

Analyses were conducted using IBM SPSS software. After performing preliminary analysis (Table 1.2 reports correlations between study variables) we calculated two SMP scores obtained by summing feminine and masculine associations of each word used as priming trials, following the data analytic procedure used by Payne et al. (2005). Specifically, raw scores included four gendered attributions for each primed word, thus indicating whether the ideogram was considered to refer to a feminine or masculine word (e.g., good looking: 1st attribution = masculine, 2nd attribution = feminine; 3rd attribution = feminine; 4th attribution = feminine. Pretty: 1st attribution = feminine, 2nd attribution = feminine; 3rd attribution = feminine; 4th attribution = feminine. Attractive: 1st attribution = masculine, 2nd attribution = masculine; 3rd attribution = feminine; 4th attribution = feminine). Then, we obtained two separate scores indicating the frequency with which each primed stimulus was attributed to a feminine or masculine ideogram, resulting in a number varying from 0 to 4 (e.g., good looking: n = 1 masculine; n = 3 feminine; pretty: n = 0 masculine; n = 4 feminine; attractive: n = 2 masculine; n = 2 feminine). Subsequently, we summed the frequencies with which the three words relating to each dimension were attributed to either the masculine or the feminine domain (e.g., thus, overall, 9 attributions were for the feminine domain and 3 were to the masculine domain). Thus, we obtained 10 scores five for competence, dominance, morality, sociability, and physical attractiveness, respectively, and five for the same dimensions related to the feminine domain.

Then, we computed an overall comprehensive score by subtracting the overall masculine attribution score from the overall feminine score for each dimension. Scores of this variable could range from −12 to 12. Negative values indicated that, after the prime words, participants considered the ideographs to a greater extent as feminine, on the opposite positive values indicated that the ideographs were attributed to masculine domain. A zero value would imply that the corresponding dimension was equally attributed to males and females (Table 2.2).

Table 1.2.

Descriptive Statistics and Correlations Among Study 1 Variables

Variable	*n*	*M*	*SD*	1	2	3	4	6
1. Competence	108	.93	5.42	—				
2. Dominance	108	2.15	5.03	.54**	—			
3. Morality	108	-1.35	4.76	.34**	.28**	—		
4. Sociability	108	.28	4.80	.34**	·22*	.23*	—	
6. Physical attractiveness	108	-1.54	5.13	−.01	−.22*	.42**	.18	—

Note: $^{*}p < .05$; $^{**}p < .01$

Table 2.2

Means and Standard Deviations of Words Attribution as a Function of Dimension.

Dimension			*t*(107)	*p*	*Cohen's d*
	M	SD			
Competence	.93	5.42	1.76	.079	-
Dominance	2.15	5.03	4.44	.001	.45
Morality	-1.35	4.76	-2.95	.004	.40
Sociability	0.03	4.80	0.06	.952	-
Physical attractiveness	-1.54	5.14	-3.11	.002	.43

Analysis of variance

We performed a repeated measure ANOVA2[2] with Dimension as a five-level within-participant factor and gender of participants as a between-participant factor to test whether the dimensions are attributed more to either the masculine or the feminine domain and to explore possible differences due to participants' gender (Table 3.2). The analysis revealed a significant main effect of Dimension, due to the overall attribution of the different words to either masculine or feminine

[2] Figure 2.2 shows a graphical representation of the results.

ideograms, $F(4, 420) = 10.38$, $p < 0.001$, $d = 0.64$. Pairwise comparisons using Bonferroni correction showed that being primed with competence words led participants to consider ideograms as more masculine than when they were primed with Morality words, $p < 0.001$, 95% CI [1.02, 4.36] or Physical attractiveness words, $p = 0.005$, 95% CI [0.55, 4.90]. Furthermore, after being exposed to Dominance primes, participants evaluated ideograms as more masculine than after having received Morality prime words, $p < 0.001$, 95% CI [1.92, 5.30], Sociability words, $p = 0.040$, 95% CI [0.05, 3.60], or Physical attractiveness, $p < 0.001$, 95% CI [1.35, 5.97]. Finally, ideograms were considered more masculine after being primed with Sociability words than after being primed with Morality words, $p = 0.028$, 95% CI [−3.48, −0.12]. The Dimension × Gender of Participants' interaction did not reach statistical significance, $F(4, 420) = 2.07$, $p = 0.09$.

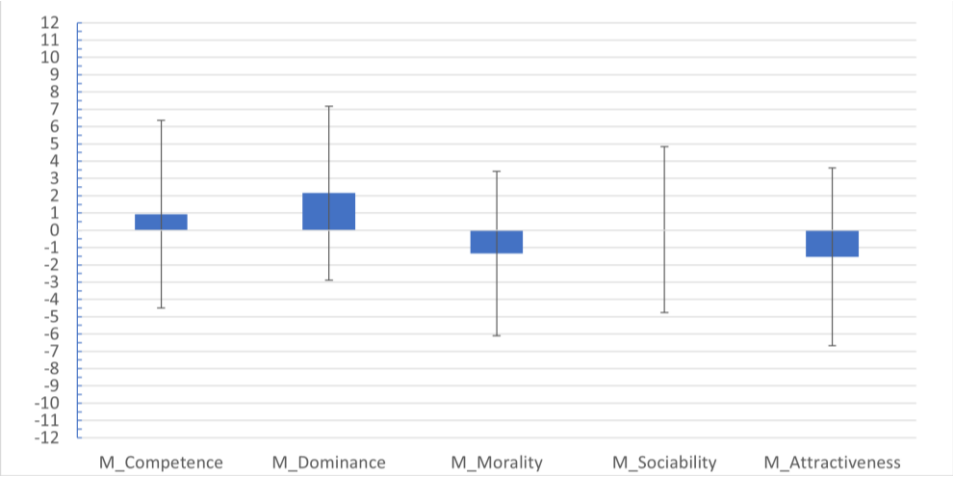


Figure 2.2. Associations of Ideograms to the Feminine and Masculine Domain as a Function of Primed Dimension

T-test

However, since we were interested in exploring whether attributions elicited by different primes differed between women and men, we ran independent sample t-tests on each dimension. Only the *t*-test on sociability words was significant. After being exposed to Sociability words, male participants considered ideograms more masculine ($M = 1.39$; $SD = 4.91$) than female participants did ($M = -0.72$, $SD = 4.64$), $t(105) = 2.26$, $p = 0.029$, $d = 0.44$, 95% CI [0.22, 4.02]. Male participants when primed

with competence words considered ideograms more masculine (M = 2.29, SD = 5.04) than female participants (M = 0.16, SD = 5.54), although the effect was not significant $t(105) = 1.96$, $p = 0.052$. No other significant results emerged in relation to the other dimensions. Findings showed that after being primed with Dominance words, both male (M = 2.18, SD = 4.88) and female (M = 2.13, SD = 5.18) participants evaluated the ideograms as masculine, $t(105) = 0.52$, $p = 0.96$. The opposite occurred for Morality and Physical attractiveness. Specifically, male participants (M = −1.55, SD = 4.10) and female participants (M = −1.38, SD = 5.03) chose the feminine option more after being primed with morality words, $t(105)$, $p = 0.85$. Finally, both male (M = −1.26, SD = 5.36) and female participants (M = −1.74, SD = 5.06) evaluated as feminine the ideograms after being exposed to words referring to Physical Attractiveness, $t(105) = 0.46$, $p = 0.65$.

Finally, to assess the extent to which the single dimensions were overall attributed to either the masculine or the feminine domain separately for male and female participants, we conducted a series of one-sample *t*-tests against 0 (i.e., the mid-point of the femininity-masculinity score) as the fixed value of comparison. As reported in Table 3.2, male participants evaluated as masculine in the dimension of Competence, $t(37) = 2.80$, $p = 0.008$, $d = 0.45$, 95% CI [0.63, 3.95] and Dominance, $t(37) = 2.76$, $p = 0.009$, $d = 0.45$, 95% CI [0.58, 3.79]. Furthermore, male participants evaluated Sociability words as equally attributable to men and women, $t(37) = 1.75$, $p = 0.09$, 95% CI [−0.22, 3.01]. A similar non-significant result concerns males' attribution of Physical Attractiveness primes, $t(37) = -1.45$, 95% CI [−1.26, −3.02]. Moreover, Morality words were considered by both male $t(37) = -2.34$, $p = 0.025$, $d = 0.38$, 95% CI [−2.90, −0.21] and female participants $t(68) = -2.28$, $p = 0.026$, $d = 0.27$ 95% CI [−2.58, −0.17] as pertaining to the feminine domain. Female participants displayed associations to the masculine domain in relation to Dominance primes, $t(68) = 3.14$, $p = 0.001$, $d = 0.41$, 95% CI [0.89, 3.38] and associations to the feminine domain for Physical Attractiveness primes $t(68) = -2.85$, $p = 0.006$, $d = 0.34$, 95% CI [−2.96, −0.52]. Competence primes did not lead female participants to differentiate between the feminine and the masculine domains, $t(68) = 0.24$, $p = 0.81$,

95% CI [−1.17, 1.49]. Finally, female participants evaluated almost equally associated with both the feminine and masculine domain Sociability words, $t(68) = -1.30$, $p = 0.20$, 95% CI [−1.84, 0.39].”

Table 3.2

Means and Standard Deviations of Words Attribution as a Function of Dimension and Participants' Gender.

	Gendered attribution of traits					
	Men		Women		TOT	
	M	SD	M	SD	M	SD
Competence	2.28**	5.05	0.16	5.54	0.92	5.04
Morality	-1.55*	4.10	-1.38*	5.03	-1.44	4.70
Sociability	1.39	4.91	-0.72	4.64	0.03	4.82
Dominance	2.18**	4.87	2.10 ***	5.18	2.15	5.05
Physical Attractiveness	-1.26	5.36	-1.4*	5.06	-1.57	5.15

Note: $^{***}p <.001$; $^{**}p < .01$; $^{*}p < .05$

Discussion

Extending and going beyond previous research, by adopting a multidimensional perspective (e.g., Prati et al., 2019; Pireddu et al., 2022), we tested whether Competence, Morality, Sociability, Dominance, and Physical Attractiveness were associated with either the feminine or the masculine domain at the implicit level. In this vein, the current study adopted an original approach by employing a Semantic Misattribution Procedure to examine gendered implicit beliefs along judgmental dimensions portraying women and men. The underlying idea of this work was that people spontaneously think of men when presented with specific traits (e.g., dominant) and women when primed with other traits (e.g., moral).

In general terms and in line with our hypotheses, results revealed that participants attributed higher masculinity to ideograms after being primed by Competence- or Dominance-related terms. In contrast, Morality and Physical attractiveness were attributed to feminine ideograms to a higher and significant extent than masculine ones. Surprisingly, Sociability was related to feminine and masculine ideograms almost to the same extent.

Furthermore, male participants perceived competence as more related to masculine ideograms, while female participants considered it to be equally related to feminine and masculine ideograms. Morality traits were perceived to be related to feminine ideograms to a higher extent than masculine ones by both male and female participants. As for Sociability traits, male participants considered it to be associated with masculine ideograms to a significant higher degree than feminine ones, whereas female participants attributed it to feminine ideograms to a little higher extent. Dominance was consensually attributed to masculine ideograms by male and female participants. Again, Physical Attractiveness was consensually attributed to feminine ideograms by both male and female participants. This is also in line recent findings, who showed that gender stereotypes have changed in such a way that contemporary gender stereotypes convey a substantial female advantage in communion and a smaller male advantage in the agency but also gender equality in competence along with some female advantage.

In this vein, findings revealed two profiles concerning the characteristics attributed to women and men domains, with two dimensions being common to both profiles, namely Competence, and Sociability. Thus, the masculine profile involves Competence, Dominance, and Sociability, while the feminine one implies Competence, Morality, Sociability, and Physical Attractiveness. Along this line, findings are consistent with the literature on male gender stereotypes by highlighting the presence of dominance as a stereotypical masculine dimension but also a novelty by revealing that men consider sociability as a masculine property to a high degree. Such a finding may reveal a slight change in how men consider themselves in the current time, where gender expectancies tend to become progressively more inter-gendered so that sociability characteristics are appreciated also by men as valuable traits. This is also in line with the evidence collected by Hentschel et al. (2019) on communality attributed to men and women. Following a different trend Kosakowska-Berezecka et al. (2023) found instead that gender gaps in communality are more pronounced in more egalitarian societies. These contrasting findings could be due to the specific measures employed in the different studies. Moreover, findings

extended at the implicit level what has been already pointed out by the literature (e.g., Prati et al., 2019), namely, that women are evaluated along more dimensions than men given that competence, morality, sociability, and physical attractiveness were associated with feminine ideograms.

From a general point of view, findings support and extend quite consistently the literature (e.g., Moscatelli et al., 2020; Pireddu et al., 2022) by displaying competence and dominance as masculine characteristics to a higher extent, while morality and physical attractiveness were more consistently associated with the feminine domain (Menegatti et al., 2021). In general terms, the collected evidence shows that women are attributed traits primarily related to the capacity to build relationships (e.g., being honest and trustworthy). At the same time, men are usually considered to possess traits enabling them to be more goal-oriented, like being dominant (Williams and Tiedens, 2016). However, results went behind the literature, since men attributed to the masculine domain also sociability, which is usually associated with women. This finding can be interpreted as a change in male stereotypes recognizing sociability as a value that can also portray men. It should be noted, however, that these results were obtained from young men for whom sociability is important to be considered as popular guys among friends and mates. What has been found complements what Hentschel et al. (2019) revealed. In their work, men characterized themselves in less stereotypic terms, namely as more sociable (e.g., more friendly and extrovert). As we argue, the explanation provided by Hentschel et al. (2019) revolved around current changes in the perception of gender stereotypes.

Another sign of change resides in women associating competence with men and women almost equally. These findings likely stem from the work domain, where competence plays a crucial role and is required of women, even to a greater extent, as Biernat and Fuegen (2001) claimed. We can speculate that women are aware that in order to succeed, especially in the work domain, it is very important to be performative on the competence dimension. Competence is also one of the requirements that women are expected to display in the Perfection Bias literature reviewed above

(Moscatelli et al., 2020). Moreover, as the literature on the Stereotype Content Model (Fiske et al., 2002) shows, competence is perceived as a high-status trait. It is thus very likely that women consider it as a means of enhancement of their status. In addition, the feminine domain was also associated with physical attractiveness. In this regard, our evidence is consistent with the work of Ramati-Ziber et al. (2020) concerning beauty expectancies. They argue that those beliefs represent social standards in our society and not pursuing principles of beauty can bring a backlash effect on women. In other words, prescriptive beauty norms determine socially desirable characteristics for women (e.g., using makeup, high heels, perfect skin), which are associated with their traditional lower power role and rewards (e.g., being sexually desirable; access to greater resources). Furthermore, the phenomenon that seems to emerge is that women themselves displayed the associations between physical attractiveness and the feminine domain, implying that they may have likely internalized the expectancies related to their physical appearance since, this is related to several positive aspects such as perceived higher status and more popularity (e.g., Fisher et al., 2019). Along this line, they can incur negative consequences when these expectancies are not met. Moreover, in general terms, the feminine domain is composed of four dimensions while the masculine one only by three dimensions rendering women's expected standard more difficult to achieve, especially if they are not physically attractive. What is very important for this contribution is that the multidimensional associations to the female domain point to a "perfection bias" toward women at the implicit level that can render it even more difficult for them to meet the required multiple expectancies.

Strengths, limitations, and future directions

The present study should be considered also for its strengths and shortcomings, which suggest directions for future research. This study highlights the implicit semantic associations concerning the main social judgment dimensions. Although the Semantic Misattribution Procedure displays good statistical indices (e.g., Ye and Gawronski, 2018), the effects obtained with one measure may not generalize to other measures to the extent that these effects are driven by method-related processes

(e.g., Gawronski et al., 2008). This is because performance on various measures can be driven by various processes. Therefore, it is advisable to replicate these findings using alternative measures to ensure appropriate interpretations of the results obtained with a specific measure (Gawronski et al., 2008). Furthermore, the current study includes five dimensions (i.e., Competence, Dominance, Morality, Sociability, and Physical Attractiveness), each constituted by three characteristics (i.e., our prime words). However, the social judgment dimensions have been defined through several characteristics (e.g., Hentschel et al., 2019; Menegatti et al., 2021; Pireddu et al., 2022). Therefore, future research could enlarge the prime words to deepen the understanding of these processes, even from an implicit point of view. Finally, even if our main focus did not consist in investigating gender differences, the explorative analysis that we conducted unveiled interesting aspects related to the differences made by male and female participants. Therefore, future research may want to consider it as an integral part of the experimental design and, consequently, reach an equal representation of the sample.

To conclude, findings might pave the way to further investigation of the expectations embedded in social judgments and provide a means of raising awareness of the implicit processes that mainly influence women in several spheres of life. It is possible, for instance, that gendered beliefs have a stronger correlation with hiring decisions, performance reviews, or pay scales. It would be helpful to analyze whether and how these perceptions change depending on the situation in which they are activated to understand the social judgment dimensions better.

Conclusion

This study highlights how semantic associations between social judgment dimension and masculine and feminine representations are activated implicitly. We can point out some intriguing results. On the one hand, results concerning attributions from primes related to competence and sociability suggest valuable novelty, namely the perceptions of social judgment dimensions and the stereotypical way they are expressed are changing. On the other hand, results underline how deeply

these representations are embedded in our culture. The associations related to physical attractiveness can be taken as an example. In this case, female participants expressed stronger associations between this dimension and the feminine domain. These findings have interesting implications for practitioners. For instance, training on gender bias in organizations, schools, or other contexts might employ the SMP procedure in programs aimed at raising individuals' awareness of their stereotypical beliefs and their pervasive effects. Overall, the results provided a complex picture that reveals that multiple characteristics are used to define (expectancies toward) women and men and highlights how they may be interiorized and evolve along a multifaceted structure even stronger concerning women.

Chapter III

Capturing Perceived Gendered Expectations in the Workplace: Development and Validation of the "Perfection Bias" Scale[3]

Abstract

Research showed that, in the workplace, women have to meet more requirements than men, a phenomenon that has been labelled "perfection bias". In the current research, we developed and validated a tool to capture individuals' perceptions of such a phenomenon and its association with women's well-being. In Study 1 (N = 150 women), we identified a one-factor structure of the scale. Study 2 (N = 360 women) replicated the structure of the scale while Study 3 extended this evidence in a sample of men (N = 471). Study 4 (N = 335 men and women H.R. employees) showed that women's higher awareness of being targets of a perfection bias was negatively related to their well-being. Overall, the measure developed provides a new tool to examine a specific facet of gender discrimination. Findings might provide useful insights for stakeholders and policymakers to raise awareness concerning gendered expectations and enhance workplace equality.

[3] Panerati, S., Moscatelli, S., Ruggieri, D., Menegatti, M., Ciaffoni, S., Mazzuca, S., and Rubini, M. (2024). *Capturing Perceived Gendered Expectations in the Workplace: Development and Validation of the "Perfection Bias" Scale.* [Manuscript submitted for publication]. Department of Psychology, University of Bologna.

Introduction

The accomplishments of gender equality in the last decades have left many people with the impression that, in the working field, women have now obtained the same opportunities as men, reflecting the idea that gender inequality is almost a "thing of the past" (Marken, 2016). Nevertheless, we increasingly encounter testimonies, especially from women who have broken the glass ceiling, indicating that they had to outperform men to succeed (Elsesser, 2022; Hengel, 2017). This is also reflected by the recent Global Gender Gap Report (The Word Economic Forum, 2024) which pointed out that one of the biggest challenges in reaching gender parity concerns the work domain.

A considerable amount of research has looked at the evolution of gender inequalities and the modern challenges to equality (Bhatia & Bhatia, 2021; Charlesworth & Banaji, 2022; Eagly et al., 2020; Heilman & Eagly, 2008; Ryan, 2023), clearly demonstrating the crucial role of gender stereotypes (Heilman et al., 2024). Indeed, stereotypical beliefs might prevent women from being considered suitable for certain positions (Heilman & Caleo, 2018) and, at the same time, they are required to satisfy stricter standards (Biernat & Fuegen, 2001; Biernat & Manis, 1994). For instance, in the workplace, women must perform above and beyond men to be considered "equal" (Hill et al., 2010; NAS Committee on Science and Engineering, 2006; Swinstead, 2014). Recent research has also shown that women who apply for a job position (Menegatti et al., 2021; Moscatelli et al., 2020) or strive to achieve a promotion (Prati et al., 2019) are evaluated on multiple dimensions, whereas men are assessed primarily on the basis of their competence. This implies that women are expected to meet more requirements than men to achieve the same outcome (e.g., Meeusen and Van Laar, 2019; Prati et al., 2019). This phenomenon has been labelled "perfection bias" (Moscatelli et al., 2020).

However, little is known about whether people are aware that women should demonstrate to "have more" than men to obtain the same recognition because of the different evaluative criteria. While some studies have examined individuals' perceptions of gender pay gaps (Hampton & Heywood, 1993), differences in career opportunities, or work conflict (Gutek et al., 1996), no study has so far investigated individual perceptions of the so-called perfection bias. In other terms, no research has delved into the individuals' perception that women suffer from a form of discrimination that derives from the expectation that they should meet more requirements than men and not show any flaws in any domain.

Therefore, across 4 studies, the current research aimed to develop and validate a tool to assess the awareness of multiple expectations towards women (i.e., perfection bias) and whether this is related to women's psychological experience of well-being in the workplace.

Gender stereotypes as the root of biased expectations against women

A wide range of gender biases affect women's career progression (Davison & Burke, 2000; Ryan et al., 2016). These biases include discriminatory policies and discreet actions designed to intimidate and harass women (Dunham, 2017), less favourable performance reviews and fewer organizational rewards for women with equivalent qualifications compared to men (Braddy et al., 2020), and biased recalling of information based on gender-congruent expectations (Heilman, 2012a).

Gender stereotypes have been identified as playing a fundamental role in explaining the biases that affect evaluation procedures and produce barriers to women's careers (Eagly & Karau, 2002; Heilman, 2012b). According to two-dimensional models of social judgment, impressions about women and men are formed on the competence and warmth or agency and communion dimensions (Abele & Wojciszke, 2014; Judd et al., 2005). Specifically, men are seen as competent, competitive, and independent, whereas women are seen as warm, caring, and considerate. Therefore, men are considered more able to pursue their goals, whereas women are seen as more suited for caring responsibilities or household chores (Bullough et al., 2022; Froehlich et al., 2020; Glick et al., 1988). These sets of attributes are thought of as complementary gender stereotypes, whereby women are

high on community and low on competence, and men the other way around (Abele et al., 2008). Hentschel et al. (2019) showed the importance of considering different facets of the social judgment dimensions and their complexity. Along this line, Panerati et al. (2023) adopted an implicit approach to examine the facet-related cognitive associations with the masculine and the feminine domains. Findings showed that the number of facets attributed to the feminine domain was higher than those of the masculine one. Furthermore, different characteristics were associated with the feminine domain (i.e., morality, attractiveness) and the masculine one (i.e., dominance), whereas competence and sociability were associated with both genders.

These stereotypical expectations are rooted very deeply in our society (Ellemers, 2018) and pave the way to gender discrimination through biases in women's evaluations and judgment (Heilman et al., 2024). For instance, the nature of perceived work demands and women's stereotypical expectations may determine a "lack of fit" between the characteristics ascribed to women and those requested by the workplace positions (Eagly & Carli, 2007; Heilman, 2012b). In other words, women are expected to display more communion than agency, but this represents a problem when more competence than communion is associated with certain professional roles (e.g., leaders; Ciancetta & Roch, 2021; Heilman et al., 2024). Even when women counter-stereotypically match the job expectations (e.g., they act more dominantly), more often than not, they experience some form of backlash, which ultimately penalizes them (even) more, as evidenced by the lower ratings of hireability and promotion, by the decrease in salary (Heilman et al., 2004; Williams & Tiedens, 2016) and the more negative supervisors' feedback and organizational rewards (Budig, 2002). At their root, gender stereotypes serve as standards against which people are assessed. In other terms, evaluations of men and women may not be directly comparable: "Good for a woman does not mean the same thing as good for a man" (Biernat & Fuegen, 2001, p.708).

Multiple expectations towards women

To counteract the negative effects that stem from those standards of evaluation, women workers seem to be required to fulfil a greater number of requests to be considered "equally suitable"

as men (Bhardwaj, 2022; González et al., 2019). For instance, recent findings showed that while men only needed to show self-confidence to gain influence in organizational decision-making processes, women also had to display stereotype-congruent prosocial behaviours (Guillén et al., 2018). Similarly, another study showed that while male leaders were primarily expected to exhibit attributes of strength (e.g., being decisive and bold), female leaders were also required to display attributes related to sensitivity (e.g., being sympathetic, and understanding; Johnson et al., 2008). Furthermore, Kim et al. (2020) showed that female managers feel more pressure to put in more hours at work to become more visible in the workplace and get promoted. This puts them under more stress and makes them more likely to plan to leave their jobs. These findings suggest that women need to work harder or show better and more qualities than men to achieve the same outcomes.

Further studies showed that evaluations of female employees are based on more dimensions than those of male employees. Prati et al. (2019) content-analysed performance appraisal of female and male employees to examine the extent to which professional evaluators spontaneously referred to different criteria of evaluation. Findings showed that female employees were evaluated on a range of dimensions (i.e., competence, sociability, and morality), whereas male employees were mainly evaluated on their competence.

This work paved the way for the idea that, in the workplace, women are evaluated against more criteria than men. To directly address this contention, Moscatelli et al. (2020) demonstrated that evaluators rely on a more complex and elaborate set of requirements to select female than male candidates by content analysing (written) reports made by a hiring committee of professional selectors. Results pointed out that while men were evaluated on competence, women were instead assessed on multiple dimensions, namely competence, morality, and sociability. Similarly, when naïve participants were asked to rank the importance of a set of characteristics—such as competence, morality, and sociability—to hire a candidate, they focussed on multiple dimensions for female candidates, but only competence was deemed a crucial attribute for male candidates. Finally, participants were presented with evaluations of a (male vs female) candidate depicted as high in

competence and low in morality and vice versa and asked to rate their likelihood of being hired. The findings showed that the evaluators' assessment of male candidates' (high vs low) level of competence was the main predictor of hiring and retention decisions. Instead, only in cases where female applicants were perceived as having relatively low levels of competence, perceived competence serve as the primary predictor of judgments about them.

When female candidates were depicted as having comparatively low morality, decisions about them were mostly impacted by their perceived morality. Thus, evaluators appeared to be more influenced by information concerning women's flaws. These findings suggested that women applicants must "have it all" to have the same possibilities to be selected as men (Moscatelli et al., 2020): because women are judged on multiple dimensions, they are asked to excel in every domain against which they are evaluated. This effect was labelled "perfection bias", which holds that women not only have to demonstrate more competence than men— as shown by previous research (e.g., Biernat & Fuegen, 2001) — but also are required to meet additional requirements not set for men to be hired and promoted.

These expectations of perfection were also found when investigating the role of facial first impressions on candidates' likelihood of being hired (Menegatti et al., 2021) with multiple traits inferred from applicants' faces significantly affecting impressions and hiring decisions about female applicants but a single dimension affecting male's applicants.

Overall, the findings reviewed above bring out a double-edged sword for women. On the one hand, women are perceived and evaluated on more dimensions (Guillén et al., 2018; Johnson et al., 2008; Prati et al., 2019) and, consequently, requested to meet more criteria than men to achieve the same outcome (Heilman & Okimoto, 2007). On the other hand, being evaluated on multiple work-related and even little-related aspects makes it easier for women to be found "lacking" in some dimensions (Heilman et al., 2004; Moscatelli et al., 2020; Phelan et al., 2008). Nonetheless, as far as we know, no research has directly examined whether individuals are aware of these different and multiple criteria that women have to meet in comparison to men. To address this issue, we developed

and validated a tool aimed at measuring individuals' perception of a Perfection bias concerning women in the workplace. Although stereotypical characteristics can manifest in many different ways, these studies seem to point to a consistent result: for women, it is almost always about demonstrating what men possess, plus something more. Therefore, we believe that the perfection bias captures, in a broad sense, the idea that women "should have it all.

The Current Research

The current studies aimed to develop and validate a Perfection Bias scale. Across four correlational studies, we elaborated and tested a short-scale measure to assess individuals' awareness of the multiple standards that women face in the workplace. In Study 1, after a preliminary item generation phase, we developed and tested this instrument. In Studies 2 and 3, we tested its statistical robustness in a different sample of women and men while also assessing its convergent, incremental, and discriminant validity. Finally, in Study 4, we investigated whether women and men workers acknowledge the perfection bias and whether they differ in such a perception. We also analyzed whether the awareness of perfection bias is related to women's well-being in addition to the broader perception of gender discrimination.

The Bioethical Committee at the authors' university approved all the studies. For all the studies, we reported how we determined data exclusions, sample size, and measures, consistent with reporting standards for quantitative research (Appelbaum et al., 2018). The design and analyses for the studies were not preregistered. The dataset, material, codebook of the variable, and script for the analysis of the studies are available on OSF at the following link: https://osf.io/cztjq/?view_only=a14a28bce56249ada6ca28e2855a5b1d.

Item Generation

As a first step, we developed the Perfection Bias scale items. Although stereotypical characteristics can manifest in many ways, the conclusions that studies on the perfection bias (Moscatelli et al., 2020; Prati et al., 2019) draw seem to point to a consistent result: For women, it is almost always about demonstrating what men possess, plus something extra. We aimed to create a

short and single-factor scale tapping into the general idea that women must appear perfect in the workplace in a general way without referring to specific characteristics or abilities.

The starting point of the current project was to make the scale as short as possible. Hence, the initial pool of six items was intentionally restricted to ensure the conceptual clarity and specificity of the construct under investigation. Overly broad item pools can dilute the operational definition of a construct and introduce noise in measurement (Boateng et al., 2018). By focusing on a smaller, carefully curated set of items, we aimed to enhance the content validity of the scale while minimizing the risk of capturing unrelated dimensions. Moreover, as mentioned, we did not want respondents to focus on specific characteristics or abilities of women and men, but to report their general perception that women are required to demonstrate more than men in the workplace. For this reason, we thought that generating a higher number of items would have likely resulted in very similar and redundant items.

Therefore, first, based on the literature concerning the perfection bias phenomenon (e.g., Menegatti et al., 2021; Moscatelli et al., 2020; Prati et al., 2019), we produced six items that would capture expectations of perfection for women in the workplace. Then, a team of experts judged the face validity of the items. Two items were considered redundant; therefore, they were deleted, and four items were retained.

Study 1

Study 1 aimed to test the scale structure using exploratory factor analysis considering a sample of Italian women from the general population. Since the generated items tapped into the general idea that women should demonstrate more than men in the workplace, we expected the data to be better described by a mono-dimensional structure. Furthermore, the current Study was conducted to investigate whether women, as potential targets of expectancies of perfection, were indeed perceived to be judged more harshly than men in the workplace. The stereotypical expectations against women could represent a more subtle expression of discrimination (vs more overt forms such as hostile sexism); hence, for targets of discrimination, being held to such standards could imply a greater

difficulty in perceiving it effectively. Furthermore, targets of discrimination might perceive expressions of discrimination differently than non-targets, for instance, due to their lived experiences with prejudice and discrimination. Thus, it seems reasonable that women (as compared to men) could rely on different processes when deciding whether an event is attributable to discrimination or not and that targets of prejudice perceive potentially discriminatory behaviour as more discriminatory than non-targets, on average. For these reasons, we decided to first investigate whether women, as the target of those expectations, were aware of the phenomenon.

Method

Participants and procedure

Data for Study 1 were collected in Italy. One hundred fifty women participated in the study (M_{age} = 33.21, SD_{age} = 13.69). This sample was obtained by excluding from the initial sample (N = 175) men (n = 16) and participants who did not specify their gender (n = 9). Demographic characteristics can be found in Table 1S in the Supplementary material. Participants were recruited through social networks (e.g., Facebook) and snowball sampling from the general population and volunteered to fill in an anonymous questionnaire on the Qualtrics platform. In compliance with established ethical principles, participation was voluntary and completely anonymous, and participants provided informed consent before filling in the questionnaire. There was no compensation for participation. The sample size for this study was based on the minimum item–participant ratio recommendations of three to six observations per item in the factor analysis (Cattell, 2012). We left the questionnaire open for two weeks and checked whether the minimum sample size had been reached after that period.

Measure

After filling in the online consent form, participants expressed their agreement from 1 (*completely disagree)* to 7 *(completely agree*) with the four statements of the scale. Participants were asked to provide socio-demographic information (i.e., age, gender, educational level, occupation, and sexual orientation). The study took a few minutes to complete.

Results

Before conducting an exploratory factor analysis on the scale, assumptions of normality and descriptive statistics were checked. Preliminary analyses showed that all skewness indexes ranged between -0.97 and -0.28, whereas all the kurtosis indexes ranged between -0.71 and 0.47, confirming that all the continuous variables were normally distributed.

Since a graphical examination (i.e., plot the distribution on the histogram) confirmed that item distributions were close to normality, we applied the Maximum Likelihood Estimation Model First, a robust broadly implemented procedure that relies on multivariate normality of the data (Muthen & Muthén, 2019). Data analyses were run using IBM SPSS v23. The four items of the Perfection Bias scale (see Table 2S in the supplementary material for the Italian version of the item) were submitted to an exploratory factor analysis (EFA) with promax rotation to identify the underlying structure and test whether the single-factor structure fitted the data well (Table 1). Findings showed that the factor loadings of items 1-3 were excellent (>.80) while item 4 showed a lower factor loading (i.e., .66), which is still considered very good (Howard, 2016). Hence, we decided to retain all the items of the perfection bias scale.

Kaiser–Meyer–Olkin (*KMO* = .81) measure of sampling adequacy test and Bartlett test of sphericity, with χ^2 (6) = 333.01 and $p < .001$, demonstrated that the data were suitable for factor analysis. Furthermore, a correlation check showed no multicollinearity, and the determinant value equal to 0.10.

Table 1

Factor Loadings of the Items for the Perfection Bias Scale

Variable	*M*	*SD*	1	2	3	4	Factor Loadings
1. It seems to me that women, compared to men, must be "flawless" from every point of view to be positively evaluated at work.	5.61	1.41	—				.90
2. Women must show themselves capable in more domains than men to be truly appreciated	5.58	1.37	.77**	—			.85

3. Compared to men, women are more often asked to demonstrate qualities that go beyond job skills.	5.49	1.33	.67**	.74**	—		.82
4. Women cannot show weaknesses to have the same success as men at work.	5.51	1.26	.52**	.55**	.60**	—	.66

Note. $N = 150$; $^{**}p < .01$

The factor extraction, based on Kaiser's criterion (1960), displayed one factor, explaining 73.65% of the variance. In the final model, four items loaded on one factor captured the *Perfection Bias* ($M = 5.51$; $SD = 1.12$; *eigenvalue* 2.95; $\alpha = .88$).

Study 2

Exploratory factor analysis in Study 1 revealed a one-factor solution. In Study 2, we aimed to replicate this structure with a different sample of women by also investigating convergent, incremental, and discriminant validity (see Table 2 for a summary of the measures and hypotheses). To test for convergent validity, the validated instrument needs to be strongly associated with a measure of a similar construct (Hogan, 2019). Thus, we expected the Perfection Bias to be positively correlated with a measure of Perception of Inequalities (adapted by Tougas & Veilleux, 1988; H1a) and negatively correlated with a scale of Perceived Justice, which refers to the degree to which participants recognize inequalities as (un)fair (Ciaffoni et al., 2023; H1b).

Furthermore, we tested incremental validity, which is defined as the degree to which a measure explains or predicts a phenomenon of interest, beyond other validated scales (Haynes & Lench, 2003). Given that incremental validity is usually established by demonstrating that a new scale adds, with respect to a scale measuring similar construct, to predictions concerning outcome variables (in our case anger, moral conviction, discomfort, and individual relative deprivation; Szymanski et al., 2024), we conducted a series of hierarchical multiple regressions which consisted of entering the existing measures (i.e., perception of inequalities and the perceived justice) as predictors in step 1, and then adding the new measure (i.e., the perfection bias scale) in step 2.

Since being aware of group-based discrimination has been linked to the experience of group-based emotions, such as anger (Agostini & van Zomeren, 2021), to test for incremental validity we analysed the associations between perfection bias and two outcome variables (i.e., anger and discomfort) expecting that the more participants were aware of higher expectations towards women, the more they would report experience of anger (H2a) and discomfort (H2b).

Furthermore, studies pointed out that being aware of discrimination might boost the motivation to face it (Hakim, 2006; Liss et al., 2004). In this regard, one of the most powerful motivations for promoting equality is represented by moral convictions of acting for gender equality, conceived as the degree of moral significance that people attach to such action (Mazzuca et al., 2022; Sabucedo et al., 2018). Hence, we expected that a higher awareness of perfection bias would be related to higher moral convictions (Mazzuca et al., 2022) of supporting equal opportunities at work (H2c). Finally, one last outcome variable was selected, namely individual relative deprivation (i.e., the perception that an individual is in a disadvantaged position when compared to a referent group; Smith et al., 2012). At its core, individual relative deprivation stems from social comparison (Kim et al., 2017; Teng et al., 2023), and one of its antecedents revolves around one's recognition of being unfairly discriminated. Hence, we expected that higher participants' perception of perfection bias would be associated with greater individual relative deprivation (H2d).

Discriminant validity is what ensures that two measures are effectively tapping into different dimensions and that there are no associations between two variables that should not be associated with each other (Hogan, 2019). To this aim, we investigated the emotion of pride and the feeling of responsibility concerning gender inequalities. Like anger and discomfort, pride is a group-based emotion, but differently from these, it is a positive emotion arising from taking responsibility for a legitimate achievement (Tracy & Robins, 2007). Therefore, we expected no significant relationship between our scale and pride (H3a). Along this line, it would be intuitive to assume that when people are aware of the perfection bias towards women, they may also be aware that inequality exists outside of individuals' realm of action (perceiving inequality is associated with an external locus of control;

Anguiar et al., 2021) and hence do not feel responsible about inequality experience. Thus, we did expect a non-significant relation between the perfection bias and the feeling of responsibility (H3b).

Table 2

Summary of Types of Validity Tested, Measures Employed and Expected Associations in Study 2

Validity Tested	Measure	What the measure assesses	Expected associations with PB
Convergent validity	Perception of Inequalities scale (adapted from Tougas & Veilleux, 1988)	Subjective perception of personal disadvantage compared to others	Positive and significant correlation (H1a)
Convergent validity	The Perceived Justice of Gender Inequalities at Work (Italian version Ciaffoni et al., 2024)	Fairness attributed to gender inequalities in the workplace.	Negative and significant correlation (H1b)
Incremental validity	Discomfort and anger	Participants' emotions concerning gender inequalities in the workplace	The more participants were aware of higher PB expectations towards women, the more they would report anger (H2a) and discomfort (H2b)
Incremental validity	Moral convictions (adapted from Mazzuca et al., 2022; e.g., "To what extent promoting equal opportunities in the workplace is a part of your most important conviction?")	The degree to which individuals perceive specific issues, such as promoting equal opportunities, as central to their core moral beliefs	Higher awareness of PB would be related to a higher moral conviction of supporting equal opportunities at work (H2c).
Incremental validity	Individual Relative Deprivation scale (adapted from van Rongen et al., 2022; e.g., "I feel at a disadvantage in my work/studies compared to a man")	Subjective perception of personal disadvantage arising from social comparison with others.	Higher participants' perception of PB would be associated with greater individual relative deprivation (H2d).
Discriminant validity	Pride and the feeling of responsibility	Participants' emotions concerning gender inequalities in the workplace	Non-significant relationship between PB and pride (H3a) and PB and feeling of responsibility (H3b).

Method

Participants and procedure

Three hundred and eighty-three Italian participants took part in the study. Since our interest revolved around women, we excluded men and non-binary people (n = 13) and participants who did not complete all the measures (n = 9). The final sample included three hundred-sixty Italian women (M_{age} = 34.37, SD_{age} = 13.26). Demographic characteristics can be found in the Supplementary

material (Table 1S). We recruited the participants from the general population through social networks (e.g., Facebook) and snowball sampling. There was no compensation for participation.

Before filling in the questionnaire, participants signed a consent form in line with the ethical norms of the University. Afterwards, they randomly filled in the perfection bias scale and the other measures (see below). We left the questionnaire open for five weeks and checked whether the minimum sample size had been reached after that period. Finally, participants provided socio-demographic information (e.g., age, occupation, and sexual orientation). The questionnaire took about ten minutes to complete.

An a priori power analysis was conducted using G*Power version 3.1.9.7 (Faul et al., 2009) to determine the minimum sample size required to test the study hypotheses. Results indicated the required sample size to achieve 95% power for detecting a medium effect, at a significance criterion of $\alpha = .05$, was $N = 119$ for the hierarchical regression model including three predictors. Thus, the obtained sample size was adequate to test the study hypotheses for Study 2 and Study 3.

Measures

We measured perfection bias ($M = 5.41$, $SD = 1.16$) as in Study 1. The measure displayed good reliability ($\alpha = .86$). Unless differently specified, for the following measures, participants had to indicate their agreement with each item on a 7-point Likert scale from 1 (*not at all)* to 7 (*very much*).

Furthermore, we used the Italian version of the measurements when possible. If the Italian version of the scale was not available, we applied the procedure of the back translation to ensure equivalence between the original scale and the Italian version (Beins, 2013). In the text, unless differently stated, the scales were adapted using the back translation procedure.

Then the perception of inequalities (adapted from Tougas & Veilleux, 1988; $\alpha = .92$) was measured with three items (e.g., "In your opinion, to what extent gender differences in the workplace are discriminatory for women?"). The perceived justice of gender inequalities at Work ($\alpha = .93$) was made up of six items (e.g., "To what extent do you think that gender inequalities in the workplace are

rightful?"; Italian version from Ciaffoni et al., 2024). The lower the scores on the scale, the lower the fairness attributed to gender inequalities in the workplace.

Then we investigated participants' emotions concerning gender inequalities in the workplace, namely discomfort, anger, pride and the feeling of responsibility. Participants were asked, "What do you feel, as a woman, when you think about gender inequalities in the workplace?" followed by the emotions of discomfort, anger, pride, and the feeling of responsibility. Furthermore, we measured women's perceptions of individual relative deprivation (adapted from van Rongen et al., 2022; α = .94). The scale was composed of seven items (e.g., I feel at a disadvantage in my work/studies compared to a man) on a 7-point Likert scale from 1 (*completely disagree)* to 7 (*completely agree*). Finally, we measured moral convictions through three items (α = .81) adapted from Skitka et al. (2021; e.g., "To what extent promoting equal opportunities in the workplace is a part of your most important conviction?").

Results and Discussion

We organize our findings conceptually in terms of (a) confirmatory factor analysis, and (b) convergent, incremental and divergent validity.

Confirmatory Factor Analysis

Reliabilities, descriptive statistics, and bivariate correlations among all variables were calculated using IBM SPSS v28 (see Table 3). We run a confirmatory factor analysis using Mplus version 8.3 (Muthen & Muthén, 2019). We loaded the four items in a single factor, as emerged in Study 1. Model parameters were estimated using the Maximum Likelihood Method. To examine model fit, we relied on the following indices (Schumacker & Lomax, 2010): comparative fit index (CFI) and Tucker-Lewis index (TLI), both of which should exceed 0.90 to be considered acceptable, and root mean square error of approximation (RMSEA) and standardized root mean square residual (SRMR), both of which should be less than 0.08 (Hu & Bentler, 1999). By examining well-established criteria for fit indices, we found evidence that our specified model fitted the data well, with χ^2 (6) = 3.14, p = .21, CFI = .99, RMSEA = .04 (CI: .00, .12), SRMR = .01. The Cronbach's alphas test for

the single factor showed acceptable results (α = .89; *M* = 5.51; *SD* = 1.21). All bivariate correlations between items were significant and positive (Table 3).

Table 3

Descriptive Statistics and Correlations Between the Variables of Study 2

Variable	*N*	*M*	*SD*	1	2	3	4	5	6	7	8	9
1. Perfection Bias	360	5.51	1.21	—								
2. Perception of Inequalities	360	5.55	1.00	.58**	—							
3. Perceived Justice	360	6.70	0.53	-.28**	-.18**	—						
4. Discomfort	360	4.15	2.09	.35**	.28**	-.14**	—					
5. Anger	360	5.85	1.10	.39**	.32**	-.20**	.34**	—				
6. Individual RD	341	4.48	1.52	.55**	.51**	-.15**	.24**	.23**	—			
7. Moral Conv	360	6.11	0.87	.36**	.27**	-.28**	.29**	.45**	.18**	—		
8. Pride	360	3.16	2.17	.08	.01	.20**	.08	.10	.07	.11*	—	
9. Responsibility	360	3.87	2.03	.01	-.01	-.07	.20*	.01	.03	.08	.17**	—

**$p < .01$; *$p < .05$

Table 4

Correlations Between the Perfection Bias Scale Items of Study 2

Variable	*N*	*M*	*SD*	1	2	3	4
1. Item 1	360	5.55	1.43	—			
2. Item 2	360	5.50	1.42	.78**	—		
3. Item 3	360	5.41	1.41	.67**	.72**	—	
4. Item 4	360	5.57	1.31	.61**	.64**	.61**	—

**$p < .01$

Validity analysis

Convergent validity. In line with the hypothesis, correlations showed a significant relation between Perfection Bias and the perception of inequalities (H1a), while the association between perfection bias and perceived justice was significant and negative (H1b; Table 3).

Incremental validity. To test for the incremental validity of our scale, we first analysed bivariate correlations between the outcome variables in our study: supporting our hypotheses, higher perfection bias scores were positively and significantly associated with anger (H2a) and discomfort (H2b), moral convictions (H2c), and individual relative deprivation (H2d; Table 5). To see whether the new scale had more predictive power than the perceived justice and perception of inequalities concerning the

considered outcome variables, we conducted a series of hierarchical multiple regressions where the existing measures (perception of gender inequalities and perceived justice) were entered into model 1, and the new measure (the perfection bias scale) was added in model 2. Regressions were computed entering the emotions of discomfort and anger, individual relative deprivation, and moral conviction as outcome variables.

Table 5

Unstandardized Regression Coefficients, F Tests, and R^2 of the Hierarchical Regressions for the Outcome Variables of Study 2

	Anger	Moral Conviction	Discomfort	Individual Relative Deprivation
Model 1				
Intercept	4.37 (0.34)***	5.40(0.27)***	1.39(0.67)*	0.39
Perception of Inequalities	0.32(0.06)***	0.19(0.04)***	0.56(0.11)***	0.76(0.07)**
Perceived Justice	-0.20(0.07)**	-.26(0.06)***	-0.23(0.14)	-0.09(0.10)
R^2_{adj}	0.12	0.12	0.08	0.26
Standard error	1.03	0.82	2.00	1.31
F (df = 2, 357)	24.64***	25.32**	17.25***	58.44***
Model 2				
Intercept	3.83(0.36)***	4.97(0.28)***	0.35(0.70)	-0.73(0.46)
Perception of Inequalities	0.17(0.07)*	0.07(0.05)	0.26(0.13)*	0.45(0.08)**
Perceived Justice	-0.13(0.07)	-0.20(0.06)***	-0.10(0.14)	0.06(0.09)
Perfection Bias	0.23(0.06)***	0.19(0.04)***	0.45(0.11)***	0.47(0.07)***
R^2_{adj}	0.16	0.16	0.12	0.34
ΔR^2	0.40	0.04	0.04	0.09
Standard Error	1.01	0.80	1.96	1.24
F (df = 3, 356)	23.12***	24.02***	17.94***	59.04***
ΔF (df = 1,356)	17.77***	18.90***	17.69***	45.23***

*$p < .05$; **$p < .01$, ***$p < .001$

Findings showed that including the Perfection Bias measurement in the model increased the variance explained for all variables under consideration (except for moral conviction), and that our scale was a significant and positive predictor of anger, discomfort, and relative deprivation above and beyond what was already explained by the perception of inequality and perceived justice.

Discriminant validity. As shown in Table 4, the Perfection Bias scale did not present significant associations with pride (H3a) and responsibility (H3b).

Consistently with the results of Study 1, the results of Study 2 confirmed that the single-factor model fit the data well and provided some evidence of the convergent, predictive, and discriminant validity of the newly developed instrument. To test the robustness of the scale, data from a sample of men were then collected.

Study 3

In the previous studies, we identified the structure of the Perfection Bias scale via EFA, found additional evidence via CFA, and established its validity with a women's sample. Hence, the Perfection Bias scale might help to capture women's awareness of higher expectations placed on them and their perceptions when facing these expectations. However, in principle, men should also be able to perceive the occurrence of a perfection bias against women in the workplace. Whether men, as members of the advantaged group, see or do not see specific manifestations of gender inequality, such as the perfection bias, is crucial for their willingness to change the status quo (Mazzuca et al., 2022).

Furthermore, the importance of men standing with women in the fight for gender equality has been increasingly acknowledged in recent years (Iyer & Ryan, 2009; Stewart, 2017). Therefore, in this study, we wanted to test if our new scale can be used among men too. In particular, we aimed to test the scale robustness by replicating its factor structure in a sample of men, and also to test convergent, incremental, and discriminant validity (see Table 6 for a summary of the measures and hypotheses).

To test for convergent validity, we looked at the correlations between the Perfection Bias, awareness of inequalities between men and women (Glick & Whitehead, 2010), and perceived justice (Ciaffoni et al., 2024). We expected a positive and significant correlation with perceived inequalities (H1a), but a significant and negative one with perceived justice (H1b). As for incremental validity, we followed the same procedure as in Study 2, by considering two outcome variables, namely the willingness to promote gender equality in everyday life and the emotion of indignation. Previous studies have demonstrated that men frequently do not combat gender inequality because they do not understand the extent of discrimination against women (Mazzuca et al., 2022). We expected that men

who acknowledged that women in the workplace face perfection bias would be more inclined to engage in promoting gender equality in everyday life (e.g., intervening personally when faced with incidents of discrimination, for example by explaining or pointing out that a certain behaviour is not correct; H2a). Additionally, as the emotion of indignation has been associated with solidarity towards disadvantaged groups (Ciaffoni et al., 2024; Prentoulis & Kyriakidou, 2019; Ullmann-Margalit & Sunstein, 2001), we expected a significant and positive relation between indignation and the perfection bias scores (H2b).

Finally, we considered a third outcome variable for incremental validity, namely, group relative gratification (Mazzuca et al., 2022; Moscatelli et al., 2014). This construct has been frequently associated with high-status groups and stems from the idea that the ingroup is in a better position concerning a dimension of comparison (Eller et al., 2020). In other words, relative gratification is usually felt when the social comparison produces the impression that one, being an individual of an ingroup, is getting more than the other one (individual and/or group). Therefore, we expected that being aware of the perfection bias, a process that hinders women's chances in the workplace, would have been associated with group relative gratification (H2c). Based on the intergroup emotion framework, we assessed the discriminant validity of the scale by looking at the association between Perfection Bias and the emotion of pride. In this regard, Smith and Ellsworth (1985) pointed out that individuals tend to evaluate whether a situation affects them (vs others). Thus, framing the same intergroup inequality (e.g., women's disadvantage in the working field) either as an ingroup advantage or outgroup disadvantage should lead to different emotions since this framing leads to focus the attention on either the ingroup or the outgroup (Harth et al., 2008). Particularly, at the group level, focusing on an ingroup's achievement over an outgroup should lead to group-based pride (Leach et al., 2002). Since our focus revolves around (the outgroup of) women and their disadvantage in the working field, we expected to find a non-significant correlation with pride (H3a).

Finally, we tested the discriminant validity of our scale with the zero-sum belief scale (Ruthig et al., 2017). Zero-sum belief is a construct that is somewhat related to gender inequalities (e.g., as a

predictor of sexism and collective action; Kosakowska-Berezecka et al., 2020), but that appears different from the perception of gender inequalities per se. One explanation is that men and women's lives are, to some extent, interdependent. This can elicit the idea that women and men's goals are mutually interdependent, and this, in turn, might decrease the perception of gender discrimination as a zero-sum situation in which one gender's gain is strictly associated with the other gender's loss (Bosson et al., 2012). In line with this reasoning, we expected to find a non-significant correlation with the zero-sum beliefs scale (H3b).

Table 6
Summary of Type of Validity tested, Measures Employed and Expected Associations in Study 3

Validity Tested	Measure	What the measure assesses	Expected Associations with PB
Convergent validity	Perception of Inequalities scale (adapted from Tougas & Veilleux, 1988)	Subjective perception of personal disadvantage compared to others	Positive and significant correlation (H1a)
Convergent validity	Awareness of Inequalities in the Workplace (adapted from Glick & Whitehead 2010; "In your opinion, are there gender inequalities in the workplace?").	Perception of gender inequalities in the workplace.	Significant and negative correlation (H1b)
Incremental validity	Everyday collective action (Italian version from Mazzuca et al., 2022; e.g., "Discuss with friends and colleagues the need to tackle gender inequality at work").	Willingness to engage in everyday collective action	Men who acknowledged that women in the workplace face perfection bias would engage more in promoting gender equality in everyday life (H2a)
Incremental validity	Indignation	Participants' emotions concerning gender inequalities in the workplace	Significant and positive association (H2b)
Incremental validity	The scale of Group Relative Gratification (Mazzuca et al., 2022; e.g., "Making a career and obtaining high-level job positions is easier for men than for women")	The perception that one's group is relatively advantaged or better off compared to other groups.	Being aware of the perfection bias, a process that hinders women's chances in the workplace, would have been associated with higher group relative gratification (H2c).
Discriminant validity	Pride	Participants' emotions concerning gender inequalities in the workplace	Non-significant correlation (H3a).
Discriminant validity	Zero-sum belief scale (adapted from Ruthig et al., 2017; e.g., "More good jobs for women means fewer good jobs for men").	Belief that gains for one group or individual necessarily result in losses for another.	Non-significant correlation (H3b)

Method

Participants and procedure

Of the 504 Italian participants who completed the survey, those who were either women or non-binary people ($n = 17$) or who did not complete all the measures ($n = 16$) were excluded, resulting in a final sample size of $N = 471$ ($M_{age} = 33.31$, $SD_{age} = 12.87$). We recruited the participants through social networks (e.g., Facebook) and snowball sampling. Before filling in the online questionnaire, participants signed a consent form in line with the ethical norms of the Authors' University. There was no compensation for participation. Participants filled in the perfection bias scale and the other measures (see below) in randomized order, and provided socio-demographic information (i.e., age, educational level, and occupation). The study took about ten minutes to complete. Demographic characteristics can be found in the Supplementary material (Table 1S).

Measures

Participants filled in the perfection bias scale, as described in the previous studies ($M = 3.76$, $SD = 1.63$; $\alpha = .92$). As for Study 3, we used the Italian version of the measurements when possible. If the Italian version of the scale was not available, we applied the procedure of the back translation as reported in Study 2.

Unless differently specified, for the other measures participants had to indicate their agreement with each item on a 7-point Likert scale, from 1 (*not at all*) to 7 (*very much*). They then completed a single-item measure of awareness of inequalities in the workplace (adapted from Glick & Whitehead 2010; "In your opinion, are there gender inequalities in the workplace?"). Responses were given on a 7-point Likert scale from 1 (*men are more disadvantaged)* to 7 (*women are more disadvantaged*). Perception of perceived justice ($\alpha = .93$) was assessed as in Study 2. To measure indignation and pride, participants were asked, "When thinking about inequalities between men and women in the workplace, to what extent do you feel indignation [pride]?".

The scale of group relative gratification (Mazzuca et al., 2022; Pettigrew et al., 2008) was composed of seven items (1 = *completely disagree*; 7 = *completely agree*). An example of the item

was “Making a career and obtaining high-level job positions is easier for men than for women” (α = .93). To measure the willingness to engage in everyday collective action we used two items (e.g., “Discuss with friends and colleagues the need to tackle gender inequality at work”; α = .68; Italian version of Mazzuca et al., 2022).

Finally, we administered the zero-sum belief scale (adapted from Ruthig et al., 2017; 1 = *completely disagree*; 7 = *completely agree*). An example item was “More good jobs for women means fewer good jobs for men” (α = .83).

Results and Discussion

Confirmatory Factor Analysis

We loaded the 4 items onto the factor in line with the structure that emerged from the factor analyses in Studies 1 and 2. The specified model fitted the data well, with χ^2 (6) = 700.71, p = *.24*, CFI = .99, RMSEA = .03 (*CI*: .00, .10), SRMR = .01.

Validity analyses

Reliabilities, descriptive statistics, and bivariate correlations among all variables using IBM SPSS v28 (Table 6). All bivariate correlations between items were significant and positive (Table 7).

Table 6

Descriptive Statistics and Correlations Between Study 3 Variables

Variable	*N*	*M*	*SD*	1	2	3	4	5	6	7	8
1. Perfection Bias	471	3.76	1.63	—							
2. Awareness of inequality	471	3.82	0.68	.38**	—						
3. Perceived justice	471	6.51	0.76	-.29**	-.16	—					
4. Group RG	471	4.35	1.36	.73**	.56**	-.25**	—				
5. Everyday CA	471	5.70	1.18	.37**	.28**	-.27**	.33**	—			
6. Indignation	471	4.92	1.63	.42**	.25**	.41**	.36**	.47*	—		
7. Pride	471	1.58	1.24	-.05	-.07	.11**	-.04	-.07	.003	—	
8. Zero-sum beliefs	220	1.95	0.95	.05	.06	-.04	-.01	.05	.02	.04	—

*p < .05; **p < .01

Table 7

Descriptive Statistics and Correlation Between the Perfection Bias Scale Items

Variable	*N*	*M*	*SD*	1	2	3	4
1. Item 1	471	3.50	1.76	—			
2. Item 2	471	3.69	1.84	.79**	—		
3. Item 3	471	3.96	1.89	.73**	.75**	—	
4. Item 4	471	3.87	1.80	.72**	.71**	.70**	—

** $p < .01$

Convergent validity. Our scale was significantly and positively correlated with awareness of inequalities (supporting H1a) and perceived justice (in support of H1b; see Table 6).

Incremental validity. To test for the incremental validity of our scale, we first analysed all bivariate correlations between all variables in our study. As expected, higher perfection bias scores were positively and significantly associated with higher group relative gratification, everyday collective action, and the emotion of indignation. Then, to see whether the new scale had more predictive power than the awareness of inequalities and perceived justice, we conducted hierarchical multiple regressions, firstly testing a model without the Perfection Bias scale in the first step (model 1) and then adding it in the second step (model 2). Regressions were computed on the following outcomes: the emotions of indignation, everyday collective action, and group relative gratification. Results are shown in Table 8.

Table 8

Unstandardized Regression Coefficients, F Tests, and R^2 of the Hierarchical Regressions for the Outcome Variables of Study 3

	Indignation	Everyday Collective Action	Group Relative Gratification
Model 1			
Intercept	4.22 (0.42)***	4.96(0.32)***	0.60(0.32)
Awareness of inequalities	0.46(0.10)***	0.32(0.08)***	1.08(0.08)***
Perceived Justice	-0.62(0.07)***	-0.30(0.05)***	-0.23(0.05)***
R^2_{adj}	0.21	0.11	0.34
Standard error	1.46	0.11	1.11
F (df = 2, 467)	60.16**	30.17**	122.82***
Model 2			

Intercept	3.86(0.41)***	4.76(0.32)***	0.60(0.32)
Awareness of inequalities	0.20(.10)*	0.18(.08)*	0.68(0.06)***
Perceived Justice	-0.51(0.07)***	-0.24(0.05)***	-0.04(0.04)
Perfection Bias	0.30(0.04)***	0.17(0.03)***	0.50(0.30)***
R^2_{adj}	0.28	0.16	0.63
ΔR^2	0.70	0.04***	0.28***
Standard Error	1.39	1.09	0.84
F (df = 3, 467)	50.83***	29.16***	261.19***
ΔF (df = 1, 467)	47.28***	24.15***	353.13***

*$p < .05$; **$p < .01$; ***$p < .001$

Supporting our hypotheses (H2a, H2b, H2c), findings showed that including the perfection bias measurement in the model, 2 increased the variance explained for all the outcome variables and the perfection bias score was always a significant predictor.

Discriminant validity. In this study, we looked at the association between the Perfection Bias scale and the emotions of pride and the zero-sum beliefs scale. As shown in Table 6, Perfection Bias scale was not correlated either with the feeling of pride (H3a) or zero-sum beliefs scores (H3b).

Consistently with the results of Study 1 and 2, the results of Study 3 confirmed that the single-factor model of perfection bias fit the data well and provided some evidence of the convergent, predictive, and discriminant validity of the newly developed instrument in a sample of men too. To further extend our understanding of the phenomenon, we investigated whether workers acknowledge the perfection bias and whether they differ in such a perception depending on their gender. It is interesting to notice that the perfection bias scores of men were lower than those of women in Studies 1 and 2. To statistically check whether this discrepancy was statistically significant, we compared women's scores on perfection bias (Studies 1 and 2) with men's scores. Findings showed a significant difference, $F(2, 978) = 188.79$, $p < .001$. Men (Study 3) reported lower scores ($M = 3.76$, $SD = 1.63$) than women in Study 1 ($M = 5.51$, $SD = 1.21$; $p < .001$) as well as in Study 2 ($M = 5.51$, $SD = 1.21$, $p < .001$). No statistically significant differences were found between women's scores in Studies 1 and 2.

Additionally, we investigated whether the awareness of perfection bias was related to women's well-being in addition to the broader perception of gender discrimination.

Study 4

Previous studies pointed out the robustness and validity of the Perfection Bias Scale. Study 4 aimed to take a step forward by investigating whether the perfection bias was detectable in a workplace context (i.e., an Italian Public Administration) and whether this perception differed between female and male employees. Moreover, we examined whether the awareness of the perfection bias might be associated with women's well-being in addition to the more general perceived gender discrimination in the workplace. This last step would allow us to demonstrate not only that the perfection bias might affect women's mental health in organizations but also that it has a unique contribution in this process over and beyond more general gender discrimination.

First, building on previous findings indicating that women tend to perceive more gender discrimination than men even within a female-dominated work environment (e.g., Blau & Tatum, 2000), we hypothesized that women would exhibit higher awareness regarding both perfection bias (H1a) and perceived gender discrimination (H1b) than men. As for well-being, research has consistently shown the direct negative relationship between perceived gender discrimination and well-being (e.g., Hackett et al., 2024; Pietiläinen et al., 2020), which encompasses positive mental health states, including the pursuit of joy, contentment, and personal fulfillment (van Agteren et al., 2021). Furthermore, recent studies have demonstrated that perceived gender discrimination can adversely affect specific work-related aspects of psychological well-being, such as organizational commitment (Foley et al., 2005) and burnout (Wang et al., 2020).

Additionally, drawing from consistent findings demonstrating a positive association between perceived gender discrimination and negative mental health outcomes for women (e.g., Blau & Tatum, 2000; Gutek et al., 1996), we expected that awareness of perfection bias (H2a) and perceived gender discrimination (H2b) would positively and significantly correlate with mental well-being for women, but not for men.

Finally, we reasoned that being aware of the existence of a perfection bias against women in the workplace would very likely affect women's well-being but not men's, who are not the target of

such bias. Therefore, we tested the hypothesis that the perfection bias would be significantly associated with the mental well-being of women within the women sample only. In particular, we hypothesized that the awareness of the perfection bias would uniquely and significantly contribute to reported mental well-being of women in the organization over and beyond the effect of perceived gender discrimination (H3).

Method

Participants and Procedure

The online questionnaire was presented as part of research on human resources practices and employee well-being. The link to the questionnaire was distributed through the internal communicative channels of the organization, and complete anonymity of responses was ensured. Before completing the questionnaire, participants agreed to data-informed consent and then provided demographic information.

Two participants were excluded because they did not provide answers to the mental well-being and perfection bias scales. The final sample was composed of 335 Italian employees (M_{age} = 50.81, SD_{age} = 9.12, ranging from 25 to 66 years old; 181 women).

Additional sociodemographic information can be found in Table 1S in the Supplementary material. Since the questionnaire was administered to all employees of the organization, it was not possible to determine the sample size in advance. We included in the analyses those who responded within the first month. A sensitivity power analysis was conducted using G*Power (Faul et al., 2009), which indicated that with our sample size and statistical power set at .80, we achieved an effect size of .12 at an alpha level of .05.

Measures

As in previous studies, the presentation of the measures used in Study 4 was randomized. To measure the awareness of perfection expectations, the Perfection Bias scale, as validated in the previous studies, was used (M = 2.66, SD = 1.23; α = .96). Participants were also administered an adapted Italian version of the perceived gender discrimination scale by Blau et al. (2005). The scale

consisted of 4 items (e.g., “My gender negatively affects my career advancement opportunities”; α = .92), and responses were given on a Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

Finally, the shorter Italian version of the general health questionnaire (GHQ-12) by Giorgi et al. 2014; adapted from Goldberg and Williams, 1988) was used to measure employees’ psychological state at work. This scale has consistently shown its effectiveness in measuring mental well-being with results comparable to longer versions of the tool (Goldberg et al., 1997). It consisted of 12 items (α = .86), asking participants how often, on a response scale from 1 (*never*) to 5 (*every day*), they would feel in a positive manner (e.g., “Felt capable of making decisions”) or in a negative manner (e.g., “Lost your self-confidence”).

Results

Descriptive statistics and correlations among the study variables for women and men are reported in Table 8. To test Hypothesis 1, we conducted a series of independent t-tests with employee gender as the grouping variable. Results showed that perceived gender discrimination was significantly higher for women than for men, $t(333) = -7.76$, $p < .001$, $d = 0.86$ (H1a), and that perfection bias was reported significantly more by women than by men, $t(333) = -11.78$, $p < .001$, $d = 1.29$ (H1b). Finally, mental well-being was significantly higher for men than women, $t(333) = 4.81$, $p < .001$, $d = 0.51$.

Table 9

Descriptive Statistics and Correlations for Study 4

	Variable	Women	Men	Total	1	2	3
		M(SD)	*M(SD)*	*M(SD)*			
1.	Perceived Gender Discrimination	$2.71(1.00)_a$	$1.88(.93)_b$	2.33(1.05)	-	$.72^{**}$	.02
2.	Perfection Bias	$3.21(1.09)_a$	$1.88(.96)_b$	2.60(1.23)	$.56^{**}$	-	-.05
3.	Mental Well-being	$3.53(.61)_a$	$3.84(.56)_b$	3.67(.60)	$-.34^{**}$	$-.49^{**}$	-

Note. Different subscripts indicate significant differences within the row ($p < .05$).
Note. Correlations for women are reported below the diagonal of the correlation matrix; for men, above.
** $p < .01$

To test Hypothesis 2, we computed Pearson correlation coefficients separately for men and women (Table 9). Among women, there was a significant negative correlation between perfection bias and mental well-being, with higher perfection bias awareness associated with low levels of reported mental well-being (H2a). Similarly, there was a significant negative correlation between mental well-being and perceived gender discrimination (H2b), while the latter being positively correlated to perfection bias. Among men, the correlations between mental well-being and perfection bias, and between mental well-being and perceived gender discrimination were not significant. However, results showed a significant positive correlation between perfection bias and perceived gender discrimination.

Finally, to test Hypothesis 3, we performed a hierarchical regression analysis to identify the contribution of perfection bias in explaining the reported mental well-being of women in the organization beyond perceived gender discrimination (Table 10). In the first model, we entered perceived gender discrimination first since it is a more general construct, and then perfection bias score in the second step. Findings showed that model 2 explained more variance, $F(1,179) = 29.12$, $p < .001$, $R^2_{adj} = .24$, than model 1. Whereas perceived discrimination contributed significantly to the regression model in the first step, $F(1,179) = 22.85$, $p < .001$, $R^2_{adj} = .11$, it became non-significant in model 2. Specifically, model 2, which includes perceived gender discrimination ($\beta = -.09$, $p = .270$) and perfection bias ($\beta = -.44$, $p < .001$), showed a significant enhancement over the initial model, $\Delta F(1,179) = 31.50$, $p < .001$, $\Delta R^2 = .13$. Overall, incorporating the awareness of perfection bias explained 24% of the total variance in the reported mental well-being among women employees.

Table 10

Standardized Regression Coefficients, F Tests and R^2 of the Hierarchical Regression Analysis for Study 4

	b	*ß*
Model 1		
Perceived Gender Discrimination	-.20***	-.34***
R^2_{adj}	.11	.11
F (df = 1, 179)	22.85***	22.85***
Model 2		
Perceived Gender Discrimination	-.05	-.09
Perfection Bias	-.25***	-.44***
R^2_{adj}	.24	.24
ΔR^2	.13	.13
F (df = 1, 179)	29.12***	29.12***
ΔF (df = 1, 179)	31.50***	31.50***

***$p < .001$

Overall, the results showed that female employees acknowledge more than men that women were held to higher expectations within their organization. Moreover, women perceived higher gender discrimination and reported lower well-being compared to men. Finally, as expected, we found that the lower mental well-being reported by working women was not only related to a general perception of gender discrimination but also to a specific awareness of gendered expectations. Thus, this scale can help identify an additional aspect of gender discrimination that is linked to employees' well-being in the workplace.

General Discussion

The current research aimed to validate and develop a short measure tackling individuals' perception concerning the existence of the "perfection bias" phenomenon in the workplace, that is, the tendency to expect women to satisfy more requirements than men. Indeed, previous research demonstrated that women are held to higher and more diverse requirements compared to men to achieve the same level of recognition (e.g., Moscatelli et al., 2020; Prati et al., 2019). Despite the

great attention towards gender inequalities in the workplace, in our knowledge, it was still missing a tool capturing the individual perceptions concerning the phenomenon. Furthermore, we tested whether the awareness of such expectations might play a role in women's well-being. Our findings, based on four quantitative studies with distinct samples, provide robust evidence for a single-factor structure that reflects the multiple requests placed on women.

In Study 1, we carried out an exploratory factor analysis on a sample of women and found a one-factor structure of the Perfection Bias scale. We subsequently replicated this factor structure in Study 2, which involved a different sample of women from the general population, providing further support for the scale's robustness. Furthermore, we examined the relationship between our scale and related constructs, providing evidence for its convergent and predictive validity. Specifically, we tested for the incremental validity of the Perfection Bias scale by also considering two other scales (i.e., awareness of gender discrimination and perceived justice concerning gender inequalities) evaluating gender discrimination. The Perfection Bias scale predicted the expected outcomes and showed the expected correlations with group-based emotions of anger and discomfort, as well as moral conviction (i.e., being willing to support equal opportunities for women). Higher perceptions of perfection expectations placed on women were associated with greater experiences of anger and discomfort, showing how women's awareness of perfection bias leads to discomfort and negative, harmful emotions.

Study 3 proved the scale's fit in a sample of men from the general population and showed that, despite men reporting perceived lower perfection expectations, those who were more aware of gender inequalities reported higher indignation and higher support towards everyday collective action on behalf of women. Finally, Study 4 pointed out that the Perfection Bias scale contributed to a more accurate detection of the phenomenon by comparing women's and men's perceptions of gender discrimination at work. Findings showed that women, more than men, perceived more gender discrimination within their organization. These findings are also in line with our previous studies. In fact, women reported higher perception of perfection bias expectations (Studies 1 and 2) than men

(Study 3). In this regard, one can speculate that historically dominant groups, such as men, could perceive any status gained by a lower-status group (women) as coming to the dominant group's detriment (Kehn & Ruthig 2013). Hence, compared to women, men have more reasons to legitimize the current social system because it privileges them (Sidanius & Pratto, 1999) and, in turn, may be more motivated to minimize perceptions of discrimination against low-status groups (Blodorn et al., 2012).

Hierarchical regression analyses demonstrated that perfection bias explained a greater variance in the mental well-being of working women, in addition to what was explained by a general measure of perceived gender discrimination.

Overall, our research advances beyond previous literature by providing the validity of a short measure that can be used to assess women's awareness of inequalities at a group level by investigating their overall perception of being targeted against expectations of perfection in the workplace. It may be interesting to notice that recognizing group-based disadvantage was associated with outcomes both at the individual (i.e., moral convictions, anger, and decreased well-being; Agostini & van Zomeren, 2021; Schmitt et al., 2014) and at the group level (e.g. support for everyday collective action (Radke et al., 2016; Selvanathan et al., 2020). These findings complement those of Prati et al. (2019) and Moscatelli et al. (2020). While previous results focused on external evaluations (e.g., selectors or participants in the role of selectors), this research, focused on the general perception that women, as the target group of discrimination, have regarding the existence of perfection bias.

The findings of these studies pointed out how important the awareness of discrimination is to understand how people respond to a system in which they are submitted to disadvantaged conditions (Jetten et al., 2021; Pettigrew et al., 2008), but also how important it is to raise the awareness of inequalities within the advantaged group of men. In this regard, Kaiser and Miller (2001) showed that even when inequality is evident and provable, minority group members might face negative consequences when raising awareness about discrimination. Furthermore, Anisman-Razin et al. (2018) pointed out that while male participants expressed negative evaluations and attitudes toward

women who discussed gender discrimination, female participants reacted differently based on their feminist identification. Women who identified as low feminists had views closer to men than did women who identified as high feminists. Those results highlight the importance of working on (and raising) awareness of gender inequalities, as a way to advance the social status quo (Saguy et al., 2008; Saguy & Kteily, 2017).

In fact, underestimating the existence of these discriminatory dynamics may represent a barrier to overcoming gender discrimination from several perspectives (Anisman-Razin et al., 2018). For instance, they influence educational formation and career choices, as women tend to avoid counter-stereotypical roles and pursue fewer career advancements (Avolio et al., 2020; Casad et al., 2021; Moor, 2015). Thus, these findings emphasize a potential use of the scale in the workplace, particularly concerning future actions related to diversity and inclusion policies.

Theoretical and Practical Implications

This research has the potential to significantly contribute to a deeper comprehension of the processes underpinning gender inequality and workplace discrimination against women. Focusing on the multiple expectations placed on women, especially in the workplace (though not exclusively there), can help us understand why it is much more difficult for them to be recruited, maintain their job positions, and be promoted to higher-status roles. In this respect, it is important to note that perfection bias is likely to be related to but distinct from other forms of bias reviewed in the literature. In particular, studies on the shifting standards phenomenon (Biernat et al., 2010; Biernat & Fuegen, 2001) showed that people set different standards of competence for women in different stages of decision-making, moving from initial lower standards and intra-gender comparisons (e.g., “She is very skilled for a woman”) to requiring more evidence in final, inter-gender comparisons. Even though perfection bias, too, refers to gendered expectations and standards, it captures a more general idea that women should be perfect along multiple dimensions (Menegatti et al., 2021; Moscatelli et al., 2020; Prati et al., 2019) and, as proved by the current set of studies, such an overarching

requirement to women appears to be easily recognized as a bias toward women by both women and men.

Moreover, as Study 4 has shown, experiencing multiple expectations in the workplace can lead to distressing mental experiences, which in turn may dampen job performance. This can jeopardize the maintenance of job positions or even prevent women from applying for or being promoted to higher status job. Thus, numerous and high expectations may lead women to develop a complex gender and job identity, potentially causing them to abandon higher job aspirations.

This study significantly enhances our understanding of the processes underpinning workplace discrimination against women and gender inequality. First, it might contribute to a better understanding of processes deeply related to gender inequalities in the workplace. In fact, the Perfection Bias scale appears to provide additional insights into the perception of discrimination. Our findings suggest that awareness of multiple expectations placed on women captures a specific phenomenon related to the burdens they face in the workplace. At least, being aware of the multiple expectations placed on women, especially in the work context can lead women and men who are aware of such discrimination to get involved in actions to change the status quo. In this regard, it could be interesting to notice that men (compared to women) reported lower perceptions concerning both gender discrimination and perfection expectancies. This could provide some insights into the importance of endorsing awareness-raising campaigns and interventions (e.g., Boring & Philippe, 2021).

Along the same line, moving to a more practical level, the findings of our studies can be used in training professional selectors to make them aware that their recruitment strategies may be influenced by societal expectations, which can jeopardize their selection decisions. In particular, selectors might be trained to recognize how women can be marginalized due to being burdened with multiple expectations that may not be relevant to their job positions. Increasing women's economic participation and achieving gender parity in the workplace represents a key factor for addressing

gender inequalities. Our contribution might provide insights to institutional leaders, both in the public and private domain, so they can act to accelerate the progress toward gender parity.

Furthermore, our findings might provide useful insights into what concerns women themselves. Gendered expectations not only hinder women's opportunities in the workplace but also affect selectors and organizations' expectations regarding the requirements women need to meet. The flip side of the coin is represented by more indirect barriers to women's careers. In fact, stereotypical expectations have been seen as preventing women's self-efficacy and choice intentions, which in turn affect their active career development (Deemer et al., 2014). For instance, these expectations influence career choices (Fluchtmann et al., 2024; Hentschel et al., 2021) and applications to be hired or promoted (Filandri & Pasqua, 2021).

Limitations

The present study should be considered in light of its strengths and shortcomings, which suggest directions for future research. It highlights the significance of higher expectations placed on women when working and being evaluated across different groups in Italy. The Perfection Bias scale assessed the phenomenon from a general point of view, namely the perception of a general tendency to assess women on multiple criteria. Despite the promising results, it would be useful to deepen the knowledge concerning the individual perceptions of men and women on specific dimensions of judgment to better understand the perfection bias phenomenon. Moreover, it should be noted that we did not include reverse items in our scale, and this might lead to bias such as the acquiescence one. Nevertheless, the literature shows that, especially for short scale, combining direct and reverse items raises several issues, such as starting from decreasing the reliability of the measure, reducing the fit to the expected factorial structure, and producing lower scores for the reverse items (Vigil-Colet et al., 2020). Therefore, the combination of positive and negative items seems to seriously affect the scale's internal consistency. Hence a remedy to this situation might only make matters worse (Salazar, 2015).

It should also be noted that the fourth item of the scale ("Women cannot show weaknesses to have the same success as men at work") presented through the studies lower factor loading than the other items. This could be due to how the item is worded, as it hints at a more negative meaning than others. In fact, "not showing weaknesses" could be considered as the other side of the coin compared to showing oneself "perfect." As largely proved in the literature, people react differently and give more weight and consideration to negative than positive information (Peeters, 1971; Peeters & Czapinski, 1990). Future research could deepen the results observed here and examine whether the expectation that women should not show weaknesses – despite being clearly related to the idea of perfection – represents a somewhat different yet crucial facet of the perfection bias towards women.

Furthermore, future studies should recognize the complexity of gender inequalities and consider additional outcomes related to this phenomenon. Although gendered expectations seem to be quite robust across cultures (Kosakowska-Berezecka et al., 2023), gender issues and policies vary between countries. Hence, it would be interesting to investigate perfection expectations in different contexts. It is reasonable to assume that what is expected and requested of women is affected by the circumstances and culture women live in. Moreover, except for Study 4, our sample was a convenient one and the studies involved women and men from the general population. Despite the great importance of having a picture of what's going on in our society (also to offer insights on how to address societal issues), likewise, it is fundamental to investigate whether recruiters are aware of those processes when evaluating candidates. Indeed, unawareness of the existence of a "perfection bias" could underrate the influence that such stereotypical expectations exert on their evaluations contributing to bringing forward vicious processes that hinder women's careers and disadvantages in the workplace.

Finally, considering the phenomenon through an intersectional lens may enlarge our knowledge about how people perceive social expectations and encourage new perspectives that take over the overlap of various social identities (e.g., Williams et al., 2020). Future studies could, for

instance, look more closely at experiences that cut across several stigmatized social identities, like women who belong to minority groups (e.g., sexual or ethnic minorities).

Conclusion

The Perfection Bias scale is designed as a brief tool to assess awareness concerning a specific aspect of gender discrimination in the working field. Specifically, it aims to capture the perceptions related to higher expectations placed on women when evaluated at the organizational level. This construct presents aspects of novelty concerning the broader concept of gender discrimination. Our findings suggested that, in the workplace, it is not just a matter of pointing out differences in the treatment workers receive based on their gender. Rather, the higher expectations placed on women represent a unique phenomenon that affects them both professionally and personally. Furthermore, the challenge with a brief scale is to achieve both simplicity and methodological rigour.

The preliminary evaluation of the psychometric properties of the Perfection Bias scale suggested that it might be considered a good tool for capturing a specific process that leads to women's discrimination in the workplace. Furthermore, findings showed that being aware of this process is closely related to various aspects of life, both at the individual and societal level. In particular, the results of the current studies could be considered as preliminary evidence of tools that can help to enhance the understanding of the obstacles women face in the workplace. Such tools could help in developing interventions and policies to prevent bias that can affect women's evaluations and raise awareness of the detrimental effects that expecting perfection has on both women’s careers and their well-being.

Chapter IV

Introduction

Gender inequalities in information seeking for high-status job roles

Gender roles and stereotypes develop early in life (Miller & Budd, 1999) and are a primary reason for rejecting certain occupations and developing career preferences (Trusty et al., 2000). One of the reasons why this happens could be ascribed to gender stereotypes. At their root, they depict men as higher on competence or agency (e.g., more intelligent, and able); whereas women are seen as warmer or more communal (e.g., more caring, and helpful; Fiske et al., 2007). Hence, the literature reveals that conceptions of men and women are not only different but also tend to be oppositional, with women seen as lacking what is thought to be most prevalent in men and vice versa (e.g., agency; Heilman, 2012). These expectations affect many areas of our lives, influencing processes such as candidate selection in the workplace. For instance, selectors usually rely on different standards depending on the candidate's gender: since women are usually seen as communal, they are considered less suitable for all those jobs that require agentic ability and decision-making skills (Cortina et al., 2021). Adopting a gender stereotypes framework in the workplace, the shifting standards model (Biernat & Manis, 1994) suggests that when candidates are judged they are compared relying on within-category judgment standards: for instance women are not seen as (quite) competent, hence selectors' expectations in the initial phase of selection are usually low concerning this characteristic and fewer cues allowed them to move the candidate on to the next step of the evaluation (e.g., calling back the female candidate). In other words, it is somewhat easier for women to overcome the initial screening phase, due to the low standards or expectations about women's abilities. Nevertheless, when it comes to hiring, women are requested to meet higher standards and are requested to provide more evidence since their abilities are seen as lacking in certain areas (Biernat & Kobrynowicz, 1997). As a result, evaluators usually require less proof to find women suitable in the initial phase (e.g., "she is very skilled, for a woman"), but they may establish greater criteria later on (Biernat, & Fuegen, 2001).

Along this line, recent research (e.g., Prati et al., 2019; Moscatelli et al., 2020) expanded this perspective by adopting a multidimensional approach to gender stereotypes in personnel selection. What emerged was that people seemed to rely on a more complex set of requirements when evaluating women than men. Specifically, while men were evaluated based primarily on their competence, women's assessment relied on more dimensions, such as morality, competence, and sociability. This tendency was labelled as Perfection Bias since women had to satisfy more requirements than men to be selected. In other words, they need to strive for "perfection". In this regard, it is important to note that perfection bias is likely to be related to but distinct from the shifting standards phenomenon (Biernat et al., 2010; Biernat & Fuegen, 2001). Indeed, even though perfection bias, too, refers to gendered expectations and standards of evaluations, it captures a more general and fixed idea that women should be "perfect" along multiple dimensions when evaluated (Menegatti et al., 2021; Moscatelli et al., 2020; Prati et al., 2019).

Overall, the fact that women's judgment relies on more criteria shows a complex scenario for women who have to deal with the workplace and this tendency is even more accentuated in male-dominated jobs (Rudman et al., 2012). Indeed, women have to demonstrate not only the characteristics selectors are looking for but also have it to a higher extent than men since they are considered to lack those (counter-stereotypical) abilities (e.g., assertiveness, dominance).

Overview of the study

Gender stereotypes in the workplace have been studied using several methods. For instance, much of the evidence on gender discrimination derives from field experiments such as correspondence studies (González et al., 2019) and self-report questionnaires (Axt et al., 2019). However, explicit methods usually are affected by a certain degree of control regarding the answers and can, in turn, be affected by biases such as social desirability and self-presentation (Nosek, 2007). Therefore, from the literature emerges an increasing of works adopting a more indirect methods to avoid those biases. One of these is represented by the information search approach that relies on the

idea that people's information search is influenced by contextual information such as the candidate's gender. For instance, Ditonto et al. (2014) pointed out that participants adopted a different search strategy based on a candidate's gender. They sought out more competence-related information about women candidates than they do for their masculine counterparts, as well as more information related to "compassion issues". Along this line, the present research aimed to investigate the multiple expectations placed on women in an experimental setting and corroborate the idea that women should be performative on multiple dimensions to be recruited. Participants were asked to navigate several candidates' characteristics related to social judgment (i.e., competence, sociability, morality, dominance). Furthermore, we included information concerning attractiveness and private life since literature showed their impact in evaluating women in the workplace (Malik et al., 2023; Verniers, 2020).

This is, to our knowledge, the first attempt to investigate the perfection bias processes considering these wide ranges of characteristics as well as the first one considering the perfection bias in managerial positions, both male-oriented and evenly represented by women and men. Overall, we expected that a greater amount of information would be selected for women candidates independently of the type of job (H1). Based on the perfection bias perspective, we expected information related to competence to be primarily searched for female and male candidates (H2). Nevertheless, for women, participants would search for information related to other dimensions such as morality, sociability private life and physical appearance more than men (H3). Moreover, we wanted to investigate whether the likelihood of being called back for a job interview differs significantly between male and female candidates (RQ1). This research question is based on the idea that the initial stages of recruitment may involve lower requests for women in the initial phase but shift to harsher criteria when the decision is about hiring a female candidate (Phelean et al., 2008). Furthermore, we expected that participants would demonstrate a stronger tendency to select male candidates than female ones for the high-status position (H4). This hypothesis aligns with prior research showing that female

candidates are often perceived as less suitable for leadership or managerial roles due to persistent stereotypes associating men with competence, assertiveness, and authority (Axt et al., 2019; Heilman, 2012). Furthermore, the perfection bias suggests that women are subjected to stricter and more multidimensional scrutiny during the evaluation process (Moscatelli et al., 2020). In addition, one recent survey revealed that nearly ninety-one per cent of employers involved in hiring and recruiting use the Internet to investigate candidates' private lives (James, 2013), mining a broad array of personal data from online social network sites (Sprague, 2011). Thus, we were interested in examining whether participants would be more likely to consult the social network profile of the female candidate than the male one (H5). This prediction was also grounded in the idea that gender stereotypes not only shape perceptions of professional abilities but also extend into expectations about personal and private domains (Malik et al., 2023; Verniers, 2020): women are often subjected to scrutiny regarding their private lives, such as their family responsibilities, marital status, or work-life balance (Cuddy et al., 2004; Heilman & Okimoto, 2008). This heightened interest in private life reflects a bias where women are judged not only on their professional qualifications but also on societal expectations about their roles outside of the workplace (Eagly & Karau, 2002). Finally, we wanted to investigate whether being more aware of the existence of a perfection bias against women would be a "protective" factor for female candidates in the selection process with employees decreasing the amount of information concerning the female candidate (H6a) and a higher probability of hiring them (H6b).

Pre-test

We wanted to explore the perfection bias through managerial roles since they are usually considered high-status positions. Thus, we conducted a pre-test to investigate the perception related to five roles to assess the perceived status associated with them. Seventy-three Italians from the general population participated in the pre-test (44 women, 28 men, and 1 not-specified; M_{age} = 34.33; SD_{age} = 15.97). The questionnaire was administered online using a link generated on the Qualtrics platform. After signing the consent form, participants were asked to think about the Italian context and then to

evaluate the status/prestige of 5 job roles on a 7-point Likert scale ranging from 1 (*Not at all prestigious*) to 7 (*Completely prestigious*). Then, we asked participants to express to what extent they consider those jobs more represented by men vs women (from 0% completely masculine vs 100% completely feminine). Participants then provided some sociodemographic information (e.g., age, and gender). After collecting the data and conducting preliminary analyses, we ran a repeated measures ANOVA with the job roles as within factors. Findings showed that all the roles were perceived as high-status jobs (i.e., above the middle point of the scale; Table 1.4). The analysis revealed a significant main effect of the roles, $F(1,72) = 19.08$, $p < .001$.

Table 1.4

Repeated measure ANOVA Testing the Perceived Prestige of Job Roles

Roles	Prestige	
	M	*SD*
Sales Manager for a mobile telephone company	4.33_{a}	1.13
Full professor at the University	$5.82_{b,d}$	1.05
General Manager for the Postal Service	$5.12_{b,c}$	1.28
Creative Director of an advertising agency	5.47_{b}	0.96
Hotel General Manager	5.41_{b}	1.21

Note: Means with different subscripts differ significantly within column ($p < .05$)

To test the perception concerning the percentage of men and women employed for each job, we ran a repeated measure ANOVA (Table 2.4). Higher values indicated that the role was perceived as more masculine. Results showed that participants made different estimations of the gender representation concerning the roles, $F(1,61) = 6.93$, $p < .001$.

Table 2.4

Repeated measure ANOVA Testing the Perceived Masculine vs Feminine Representation of the Roles of Study 6

Roles		
	M	*SD*
General manager for Poste	$38.34_{a,d}$	14.02
General manager Hotel	$39.86_{a,d}$	13.83
Creative director advertising agency	49.20_{b}	14.10
Full professor at the University	$45.85_{c,b}$	12.03
Manager for sales of the mobile telephone company	$41.52_{c,d}$	12.74

Note: Means with different subscripts differ significantly within column ($p < .05$)

We decided to include only two positions in the study, namely the Creative Director of an advertising agency and the Hotel General Manager since they were both perceived higher in status almost to the same extent and differed in terms of gender representation.

Study 6

Method

Participants and design

One hundred and seventy-three participants from the general population in Italy took part in the study (82 women, 71 men, 2 non-binary, and 8 not-specified; M_{age} = 38.10; SD_{age} = 14.4). Most of the participants were workers (63,2%), followed by working students (17,2%) and students (12,2%). The study consisted of a between-subject 2 (gender of the candidate: man vs woman) x 2 (managerial role: general manager vs creative director) experimental design.

Before starting data collection, to establish an adequate sample size for the study, we used an a priori power analysis on the G*Power calculator version 3.1.9.7 (Faul et al., 2009). Results indicated the required sample size to achieve 95% power for detecting a medium effect (r = 0.15), at a significance

criterion of $\alpha = .05$, was $N = 107$ for the linear multiple regression, including three predictors (i.e., our independent variable, moderating variable, the interaction).

Procedure and measure

The questionnaire was administered online via a link to the Qualtrics platform. Before filling in the questionnaire, the participants signed a consent form in line with the ethical norms of the University of Bologna. It stated that participation was voluntary and would not affect their physical or psychological health, that they could withdraw at any time without consequences, and that the data would be collected and analysed anonymously. Then, participants read the aim of the study, such as understanding which information companies rely on when recruiting an employee.

After this initial phase, the following instructions were presented: "*When companies want to recruit employees, they often rely on recruitment agencies that organize the information of job seekers in databases accessible to recruiters. Your task will be to take the perspective of a recruiter for the organization "Innovation for a New World SPA" (vs "Best Holiday Hotel"). We ask you to search through the candidate's information in the database to decide whether he (vs she) is suitable for the position of Creative Director (vs General Manager) in your company*".

Participants were provided with little information about the candidate, including a fictitious name, age, gender, and a fictitious email address. Subsequently, participants were presented with a brief description of the job role, depicting the main tasks and responsibilities retrieved from real job posts (figures 2S and 3S in supplemental material report the job advertisement concerning the two roles). Then, participants were informed that further information about the candidate was available on an online database and that they could select additional information they wanted to evaluate the candidate. The information was related to six main areas: namely competence (e.g., ability to achieve professional goals), sociability (e.g., ability to show openness to others), morality (e.g., sincerity toward colleagues), dominance (e.g., ability to communicate assertively), and private life (e.g.,

hobbies). After the selection of information ended, participants expressed the probability of (a) calling back and (b) hiring the candidate on a 7-point Likert scale ranging from 1 (*Not at all*) to 7 (*Completely*). Then they indicated to what degree they would consult the (c) candidate's social network profile (i.e., "If given the opportunity, would you like to view a social network profile (e.g., LinkedIn of the candidate?") on a 7-point Likert scale ranging from 1 (*Not at all*) to 7 (*Completely*). Then the four items of the perfection bias scale (Panerati et al., 2024) were administered (e.g., "Compared to men, women are more often asked to demonstrate qualities that go beyond job skills; $\alpha = .92$). Each item scored on a 7-point Likert scale ranging from 1 (*Strongly disagree*) to 7 (*Strongly agree*).

Finally, participants reported some of their sociodemographic information (e.g., age, gender, and occupation). Upon the completion of the survey, participants were thanked for their participation and provided with a debriefing on the purpose of the study. They were informed that the main goal of the research was to investigate the impact of gender stereotypes and the expectations they elicit affect the hiring process.

Results

Before testing our hypotheses, assumptions and descriptive statistics were checked (Table 4S in supplementary material). The data collected were analysed using IBM SPSS v23 software.

Differences in the information search based on facets, candidates's gender and role

We ran a mixed multi-factorial repeated ANOVA in which the number of characteristics selected for each dimension was considered a factor within subjects, while candidate gender and role were the between factors (i.e., 2x2x6). We tested whether there were differences in the selected information across the six facets (i.e., competence, sociability, morality, dominance, personal life, and physical appearance).

The analysis showed a main effect concerning the number of information selected, $F(1,161) = 4.26$, $p = .001$. The multi-factorial ANOVA points out a significant main effect of the candidate's

gender, $F(1,159) = 15.16$, $p < .001$. Participants selected a significantly greater number of characteristics for women than men. No significant main effect emerged regarding the type of role. Furthermore, there was a significant within-group difference in the dimension $F(5,795) = 201.96$, $p < .001$ (Table 3.4).

Table 3.4

Within-factor Comparison between the Number of Information Selected Based on each Dimension

Measure Direct effect

Facets	M	SD	N
Competence	3.87_a	0.13	163
Sociability	1.87_b	0.12	163
Morality	1.21_c	0.11	163
Dominance	1.97_b	0.13	163
Physical Asp	0.16_d	0.04	163
Private life	0.55_e	0.07	163

Note: Means with different subscripts differ significantly within column ($p < .05$)

There was a significant interaction between the candidate's gender and the facets selected, $F(5,795) = 4.17$, $p = .003$. $\eta^2_p = .026$, indicating that the characteristics participants sought varied significantly depending on the candidate's gender (Figure 1.4).

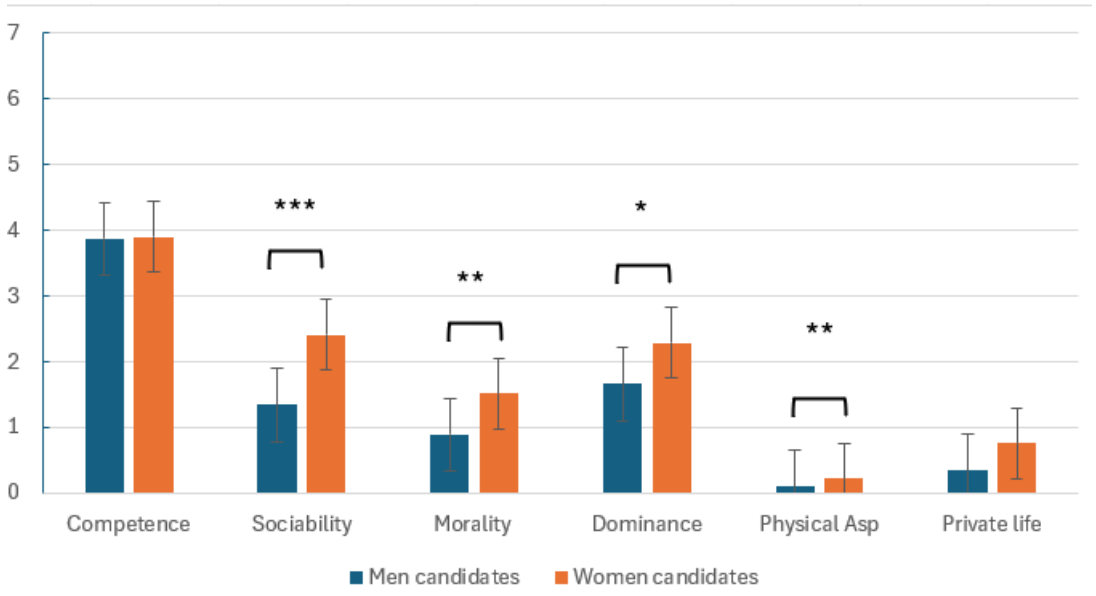


Figure 1.4. Interaction effects between the candidate's gender and the facets selected of Study 6
Note: * $p < .05$, ** $p < .01$; *** $p < .001$

Particularly, participants sought more information for women candidates (M = 2.41, SE = 0.17) than men ones (M = 1.34, SE = 0.18) regarding sociability, $F(1,161) = 19.39$, $p < .001$. This tendency was observed as well for morality, with participants more concerned about getting information for the women candidate than for the man (M = 0.89, SE = 0.16), $F(1,161) = 8.47$, $p = .004$. Figure 1.4 also shows a significant difference regarding the amount of information selected about dominance since more characteristics were selected for women (M = 2.29, SE = 0.17) than for men (M = 1.66, SE = 0.19), $F(1,161) = 5.76$, $p < .017$. Finally, despite being one of the lower facets selected, the physical aspect was more sought out for women candidates (M = 0.10, SE = 0.06) than for men (M = 0.22, SE = 0.52), $F(1,161) = 7.14$, $p < .009$. No significant differences were detected for competence ($p = .92$) and private life ($p = .11$).

There was a significant interaction between the role of the candidate and the facets selected, $F(5,795) = 2.87$, $p = .014$, $\eta^2_p = 0.018$, suggesting that participants considered different characteristics depending on whether the candidate was applying for the role of General Manager or Creative Director. Finally, no three-way interactions emerged.

Job Interview, Hiring, and Social Network Profile Decision

Then we tested the differences in the probability of calling back the candidate for a job interview, the hiring decision, and the willingness to access the social network of the candidate based on the candidate's gender and role. The results showed no significant effects on the likelihood of calling back the candidate for a job interview, $F(3,152) = 0.03$, $p = .99$. In addition, there were no significant effects on the likelihood of hiring the candidate, $F(3,152) = 1.54$, $p = .21$. Lastly, the analysis of the likelihood of consulting a Social Network Profile of the candidate did not show any significant differences, $F(3,150) = 2.28$, $p = .08$. To further explore our data, we tested whether considering only the candidate's gender as the independent variable, there would be significant

differences in the three dependent variables previously analyzed. The results showed no significant differences in the likelihood of calling back the candidate for a job interview, $F(1,154) = 0.02$, $p = .89$. Concerning the hiring decision, the results were significant and pointed out that participants were more likely to hire the men candidates ($M = 5.28$, $SD = 0.95$) compared to the women ones ($M = 4.84$, $SD = 1.51$), $F(1,153) = 4.40$, $p = .04$. Moreover, participants were more likely to consult a social network profile of the woman candidate ($M = 4.80$, $SD = 1.80$) than for the man, $F(1,152) = 4.53$, $p = .04$.

Mediational analyses

We tested our hypotheses through a mediational model, including the candidate's gender as a predictor (0 = men, 1= women), the probability of hiring the candidate as a criterion, and the total number of characteristics selected as mediators. The analyses were conducted using SPSS, vers. 4.0 of its macro PROCESS (Model 4, Hayes, 2017). The results of the mediational model confirmed our hypotheses (Table 4.4; Fig 2.4), explaining a significant proportion of variance in the probability of hiring the candidate, $R^2 = .11$, $F(2,152) = 9.59$ $p < .001$.

Table 4.4

Direct and Indirect Associations of the Mediational Model of Study 6

DV	*IV*	*β*	*se*	*t*	*p*	*95% CI Lower*	*95% CI Upper*
Characteristics TOT	Candidate gender	0.57	0.74	3.70	< .001	1.286	4.227
The probability of hiring the candidate	Candidate gender	-0.16	0.21	-1.01	.315	-0.624	0.202
	Characteristics TOT	-0.30	0.02	-3.79	< .001	-0.126	-0.039
Indirect Associations							
		β	*BootSE*			*BootLLCI*	*BootULCI*

Candidate gender → Characteristics TOT → The probability of hiring the candidate	-0.22	0.10	-0.464	-0.065

Notes. Standardized β are shown.

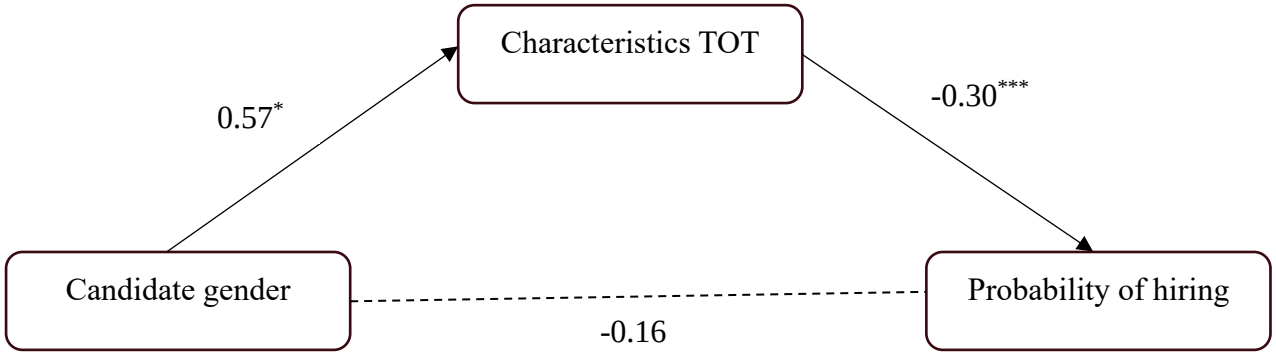


Figure 2.4. Mediational Model of Study 6

Notes. ** $p < .01$; *** $p < .001$

Candidate gender: 1 = men; 2 = women

Dotted lines indicate non-significant relationships; Standardized β are shown.

Although the direct association between gender and hiring probability was not statistically significant after accounting for the number of characteristics selected, the indirect pathway suggests that the amount of information sought may play a role in the observed relationship between candidate gender and hiring probability. Specifically, the number of characteristics selected mediates the relationship between a candidate's gender and hiring probability, with more characteristics selected for women candidates, which then negatively impacts their probability of being hired.

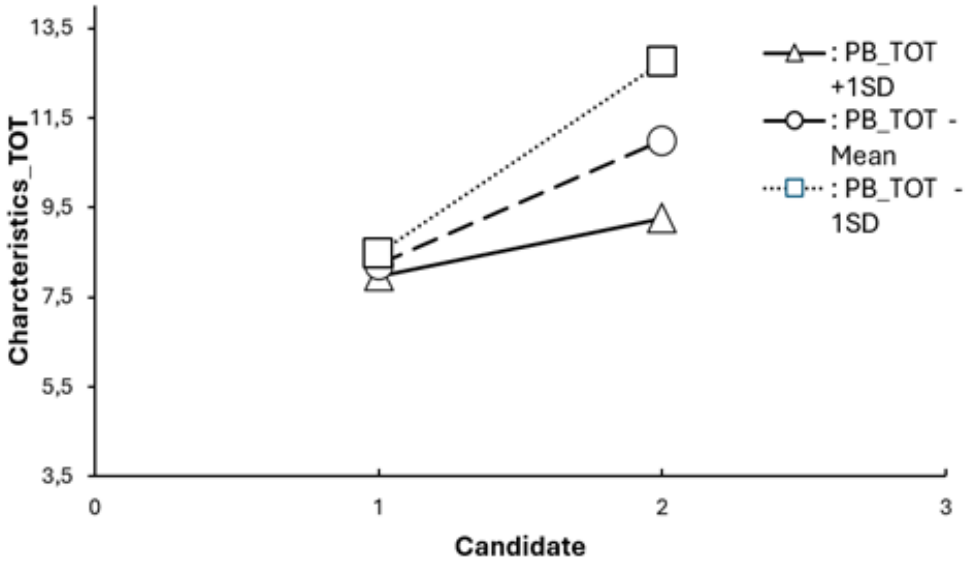
Moderation analyses

Moderation analyses were performed using PROCESS v4.2, model 1 (Hayes, 2024). The first model tested the candidate's gender as the independent variable, the total number of information selected by participants as the dependent variable, and the perfection bias scale as the moderator. The candidate's gender was significantly associated with the total number of information selected. Specifically, when the candidate was a man, a lower number of characteristics were selected than for the women candidate ($b = 2.77$, $SE = .72$, $p = .001$). In addition, there was a significant interaction

between the perfection bias and the characteristics selected, $F(3,147)= 9.52$, $p < .001$. As shown in Figure 3.4, when the participants evaluated the woman candidate and they reported lower perfection bias awareness, they significantly selected more information to evaluate her ($b = -.89$, $SE = .44$, $p = .04$). For the male candidate, there was not a significant interaction effect.

Figure 3.4

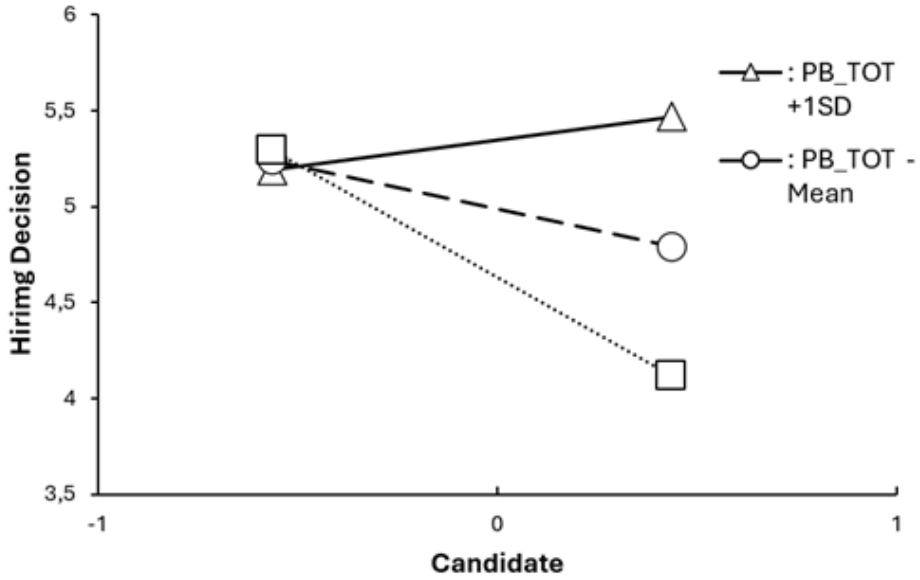
The moderating role of Perfection Bias on the Relationship between the Candidate's Gender and the Total Number of Characteristics Selected



Note. 1 = Man Candidate, 2 = Woman Candidate

The subsequent moderation analysis tested a model using the candidate's gender as the independent variable, the likelihood of hiring the candidate as the dependent variable, and the perfection bias as the moderator (Figure 4.4). The candidate's gender ($b = -.45$, $SE = .19$, $p = .02$) and perfection bias scale ($b = -.47$, $SE = .20$, $p = .02$) had a significant direct effect on the likelihood of hiring the candidate. In addition, there was a significant interaction between the Perfection Bias and the candidate's gender $F(3,145) = 11.42$, $p < .001$. In other words, when the participants evaluated the woman candidate and they reported a higher perfection bias awareness, they would have hired her to a greater extent ($b = -.44$, $SE = .12$, $p < .001$). For the men candidates, there was not a significant moderation effect between the perfection scale and the final decision to hire the candidate. Finally,

an additional moderation analysis was run to examine the moderating role of perfection bias on the relationship between the candidate's gender and the likelihood of consulting a social network profile of the candidate. Results indicated that there were no significant moderation effects.



Note. -1 = Man Candidate, +1 = Woman Candidate.

Figure 4.4

The Moderating Role of Perfection Bias on the Relationships Between the Candidate's Gender and the Likelihood of Hiring the Candidate

Discussion

The present research aimed to examine the perfection bias through an information process procedure concerning high-status roles. Specifically, the goal was to test whether perfection bias influenced the information search and the ultimate decisions (i.e., hiring and calling back) concerning men and women applicants. Building upon previous research that has investigated the phenomenon of perfection bias (e.g., Prati et al., 2019), we hypothesized that a greater number of information, in general, would be sought in the evaluation of women in comparison to men. As expected, findings pointed out that participants selected more information for the women candidates in both the roles of General Manager and Creative Director. Furthermore, the most relevant dimension for the evaluations of applicants was found to be competence regardless of their gender. However, it was found that the applicants had the same likelihood of being called back for a job interview.

Nevertheless, there was a significant difference in their likelihood of being hired. Indeed, participants reported that they would have hired to a greater extent men candidates compared to women ones. Furthermore, participants were more interested in consulting the Social Network Profiles of women than those of men. Finally, it may be interesting to notice that the awareness concerning the perfection bias phenomenon was related to fewer characteristics selected and to a higher probability of hiring women applicants.

The findings contribute to the growing body of evidence highlighting the role of perfection bias as a substantial process that hinders women's careers (Menegatti et al., 2021b; Moscatelli et al., 2020c; Prati et al., 2019b). This study represents a step ahead in the comprehension of the characteristics and abilities that women are required to possess in the workplace. In the present research, a multidimensional approach allowed us to acknowledge that women are evaluated against more characteristics than men. Furthermore, some of these criteria were not directly related to their ability to perform the job's tasks, such as sociability, and morality. Some characteristics are quite irrelevant to the fulfilment of the job's tasks, for instance, those related to physical appearance. Hence, the recruitment process appeared to be more complex for women than for men, since there is a disparity in the evaluative criteria used to assess women's and men's suitability for job roles, especially those that are considered high-status. As a related consequence, their disadvantage in the recruitment process ultimately translates into a reduced likelihood of being hired compared to men. This study's findings further support the evidence for the shifting standards model (Biernat & Fuegen, 2001b). Indeed, the candidates had the same likelihood of being called back for a job interview independently of their gender and role. Nevertheless, men were significantly more likely to be hired for the job position compared to women. This result is coherent with the shifting standards idea, namely, women are held to lower minimum standards at the beginning of the recruitment process (e.g., called back for an interview) but have to provide higher evidence of their values in the subsequent stages of selection (e.g., being hired; Biernat and Feugen, 2001). The unfair evaluation of candidates in the

hiring process might be attributed to the belief that women will require more capacities and skills than men to do certain jobs. This conviction may derive from the perceived lack of fit between women's stereotypical characteristics and job requirements (Heilman et al., 2015). In particular, individuals may exhibit greater biases when the job is a high-status/managerial one. These positions involve a series of abilities and personal attributes traditionally associated with men, such as leadership skills, assertiveness, and the ability to take control in group situations. Therefore, when evaluating female candidates for such roles, individuals may tend to seek out a greater amount of information on them to compensate for the perceived lack of fit.

The moderation analyses allowed us to take a step further by underlying the importance of awareness concerning this phenomenon. Indeed, results indicated that individuals who obtained higher scores on the Perfection Bias Scale (i.e., with a greater awareness of expectations of perfection against women), selected fewer characteristics for women candidates and were more likely to hire them. Therefore, it may seem that being aware that access to the job market is unfair and expecting women to have an exaggerated set of capacities could act as a protective factor against gender discrimination in the selection phase. Individuals more aware may be more careful in making evaluations driven by stereotypical expectations.

Limitations and Future Research Directions

A first objection that could be advanced to the study is that the design may not have hindered the occurrence of desirability bias. For instance, participants may have limited the selection of information for the woman candidate because they did not want to seem biased. For instance, in our study, there were no significant differences in the number of characteristics sought related to the private life between the two applicants. Nevertheless, previous literature has demonstrated that women's recruitment process is affected by their private lives. For instance, mothers usually face more obstacles in employment than childfree women (Heilman & Okimoto, 2008). However, also

childfree female candidates may face penalties because of the “maybe baby” expectations (Peterson Gloor et al., 2022), according to which they might go on maternity leave in the future.

Another constraint revolved around our sample composed of lay participants and not professional recruiters. Therefore, future research should consider reproducing the study with such populations to help grasp better the process involved in a real-life context. Moreover, the employment of a between-subject design, in which participants evaluated either the man or the woman candidate created an artificial context. Indeed, when recruiters evaluate candidates, they pass judgment on several applications all at once. Therefore, future research would have to take into account this aspect, for instance by implementing within-subjects designs. The difference in the likelihood of consulting a social network profile of the candidates is an interesting result backing the evidence that candidates’ accounts are a source of information when evaluating applicants (Hedenus et al., 2021). Future studies might decide to investigate which information from social media profiles recruiters’ access and their influence on the evaluations. Similarly, future research could use a more thorough design that completely crosses positive and negative information about job candidates (e.g., by comparing assessments of highly qualified women across multiple dimensions with assessments of competent men who are less qualified than women on other dimensions). Further research may also look more closely at whether people use distinct evaluation techniques when deciding between male and female applicants. It is crucial to find out if selectors are more concerned with obtaining data to support the marginalization of women or if they take the time to analyze and debate negative data about women more than negative data about males. Finally, the results of the moderation analyses revealed that being aware of the existence of perfection bias may act as a protective factor against gender discrimination in recruitment. Hence, it may be worth examining more in-depth how the awareness that women’s requirements are more than those of men could prevent the occurrence of perfection bias.

Chapter V

General Discussion

The current dissertation aimed to deepen the understanding of the multiple stereotypical expectations against women in the workplace through the lens of a perfection bias approach. The project investigated the stereotypical implicit associations from an implicit point of view, then it moved forward by validating a tool able to capture the awareness concerning the multiple expectations women face in the workplace. Finally, through a selection process, the last study explored the phenomenon by implementing an information-seeking approach with a twofold aim. On one hand, the study expanded the previous knowledge about perfection bias by considering high-status positions and whether it affects the probability of women being hired. On the other hand, it investigated whether the awareness concerning multiple expectations against women acted as a "protective" factor producing more equal evaluations between women and men.

Study 1 tested whether Competence, Morality, Sociability, Dominance, and Physical Attractiveness were associated with either the feminine or the masculine domain adopting a Semantic Misattribution Procedure. Findings support and extend the literature (e.g., Moscatelli et al., 2020; Pireddu et al., 2022) by displaying competence and dominance as masculine characteristics to a greater extent, while morality and physical attractiveness were more consistently associated with the feminine domain (Menegatti et al., 2021). Overall, findings showed that while women were attributed traits primarily related to the capacity to build relationships (e.g., being honest and trustworthy), men were usually considered to possess traits more goal-oriented, like being dominant (Williams & Tiedens, 2016). The study investigated also men's and women's self-attributions providing intriguing results; for instance, men attributed sociability to the masculine domain, which has been usually associated with women. We interpreted this as a change in masculine stereotypes recognizing sociability as a characteristic that can also portray men as shown by Hentschel et al. (2019) who pointed out that men have started characterising themselves in less stereotypic terms (e.g., more

friendly and extrovert). Another interesting result revolved around women associating competence with the masculine and feminine domains almost equally. These findings were coherent with scientific evidence concerning workplace assessments, where competence plays a crucial role and is required of women, even to a greater extent (Biernat and Feugen; 2001). Competence was also preliminary characteristic candidates were expected to display in the Perfection Bias literature reviewed above (Moscatelli et al., 2020). In addition, the feminine domain was also unanimously associated with physical attractiveness. In this regard, our evidence was consistent with the one provided by Ramati-Ziber et al. (2020) stating that attractiveness represents social standards in our society and that not pursuing principles of beauty can bring a backlash effect on women. In other words, women's socially desirable traits—such as wearing cosmetics, and high heels—are determined by prescriptive beauty standards and are linked to their conventional lower power status and "rewards" (like having more wealth or being sexually attractive). Additionally, it appears that women themselves have shown implicit associations between physical attractiveness and the feminine domain, suggesting that they may have internalized expectations related to their physical appearance (e.g., Fisher et al., 2019).

Taking a step forward, Studies 2-5 investigated whether people were aware of the multiple expectations against women and how this was related to both social (e.g., supporting action to social change) and individual outcomes (e.g., women's well-being). In this vein, we created and validated a measurement tool capturing multiple expectations placed on women compared to men in the workplace founding a one-factor structure of the Perfection Bias scale. We subsequently replicated this structure in a second study, which involved a different sample of women from the general population, providing further support for the scale's robustness. The Perfection Bias scale showed positive correlations with group-based emotions of anger and discomfort, as well as moral conviction (i.e., being willing to support equal opportunities for women). After examining the scale's fit in a sample of men drawn from the general population, we demonstrated that men's higher awareness of gender inequality was associated with outrage and support for regular collective action on behalf of

women. Lastly, Study 5 pointed out that by contrasting how men and women perceive gender discrimination in the workplace, the Perfection Bias scale helped detecting the phenomenon more accurately. Results indicated that women were more conscious than men of gender discrimination in their workplace. Additionally, for women but not for men, the awareness of perfection bias was linked to (poorer) well-being. These findings complement those of Prati et al. (2019) and Moscatelli et al. (2020) who showed the existence of a perfection bias from an external evaluative perspective. In other words, their results focused on the characteristics selected by external evaluations either by selectors or participants in the role of selectors, of different judgment dimensions. The results of these studies highlighted the significance of raising awareness of inequalities within the privileged group of men, as well as the importance of discrimination awareness in understanding how people react to a system in which they are subjected to disadvantaged conditions (Jetten et al., 2021; Pettigrew et al., 2008; Walker & Mann, 1987). From several angles, underestimating the presence of these discriminatory processes might be a roadblock to facing gender discrimination (Anisman-Razin et al., 2018) both for women and men. For women, they affect professional and educational choices (e.g., less likely to seek career advancements and shun occupations that defy stereotypes; Casad et al., 2021; Moor, 2015), but also their well-being (Stroebe et al., 2010b). For men recognizing the phenomenon represents a first step to successfully supporting the advancement of women in workplace settings, for instance by treating women as equals, and challenging sexist behaviour (Madsen et al., 2020), but also but also empower them to keep fighting (Estevan-Reina et al., 2021).

These results thus highlight a possible useful application of the scale in the workplace. In this regard, Study 6 aimed to broaden the evidence of perfection bias by adopting an information search approach. Participants were asked to consider several candidates' characteristics related to social judgment dimensions (i.e., competence, morality, and dominance). This was, to our knowledge, the first attempt to investigate the perfection bias considering such a great range of characteristics as well as the first one considering the associations between the perfection bias and the probability of being

hired in managerial positions. Furthermore, we wanted to investigate whether being more aware of the existence of a perfection bias against women would represent a “protective” factor associated with more equal evaluations between women and men candidates. Findings showed that participants often expressed a desire for more attributes to assess female applicants for both positions. Furthermore, regardless of the candidates' gender, competence was determined to be the most relevant aspect of their evaluations. However, the gap in their chances of getting a job was substantial. Participants stated that they would have recruited more men than women for the open positions. Nonetheless, each applicant had an equal chance of being contacted for a follow-up interview. Additionally, participants were more interested in looking at women's social network profiles than men's. Furthermore, results pointed out that only for women there was a positive association with the number of characteristics selected which in turn was associated with a lower probability of being hired. Finally, the awareness concerning the perfection bias phenomenon was related to fewer characteristics selected and to a higher probability of hiring women applicants.

The current research adds to the increasing amount of data showing that women's careers are significantly hindered by multiple expectations against them (Menegatti et al., 2021b; Moscatelli et al., 2020c; Prati et al., 2019b). Using a multifaceted approach, we showed that women were usually associated with (Study 1), being expected of (Studies 2-5) and assessed on (Study 6) a greater number of attributes than men. Additionally, several of these qualities—like morality and sociability—had little to do with their capacity to carry out the duties of the position. Some characteristics, including those of physical appearance, are completely unrelated to the performance of the job's duties (with few exceptions). Because men's and women's fit for employment responsibilities are evaluated using different criteria, the hiring process seems more complex for women than for men. For instance, their disadvantage during the hiring process eventually resulted in a lower chance of getting employed than men counterparts, even if the candidates had an equal chance of being invited back for a job interview. This is consistent with the shifting standards perspective, which holds that women must demonstrate

their values more in later stages of the selection process (such as being hired) but are held to lower minimum standards at the start of the recruitment process (such as being called back for an interview; Biernat and Feugen, 2001). The perception that women need to demonstrate more abilities and talents than men to fulfil a role may be the cause of the biased assessment of applicants throughout the recruiting process. The apparent mismatch between women's stereotyped traits and job requirements may be the source of this belief (Heilman et al., 2015). Hence this trend may be more evident when the job is a managerial one since it is carried out based on characteristics traditionally associated with the masculine domain, such as leadership skills, assertiveness, and the ability to take control in group situations. Therefore, when evaluating women for such roles, individuals may seek out a greater amount of information to compensate for the perceived lack of fit. Finally, the experimental study allowed us to take a step further by underlying the importance of awareness concerning equal treatment towards women. Indeed, results indicated that individuals with a greater awareness of expectations of perfection against women selected a lower number of characteristics for women candidates and were more likely to hire them. Therefore, it may seem that being aware that access to the job market is unfair and expecting women to have an exaggerated set of capacities could act as a protective factor against gender discrimination in the selection phase. Individuals more aware may be more careful in making evaluations driven by stereotypical expectations. The present findings contribute to a growing literature underlining the multidimensionality of gender biases in professional contexts, particularly in managerial professions. While the general phenomenon of the perfection bias is well-documented, the present research speaks to its consequences at a finer grain by investigating how these various dimensions of competence, morality, sociability, and physical appearance serve different functions in women's versus men's evaluation. This again reinforces earlier evidence that women are judged on more diverse criteria, unduly burdening them and fostering inequitable outcomes in hiring processes and promotions.

Limitations and future directions

The present study should be considered in light of its strengths and shortcomings, which suggest directions for future research. First, except for Study 5, our samples were composed of lay participants and not professional recruiters. Despite HR workers (Study 5, Chapter 3) displaying a tendency to underestimate the influence of stereotypical expectations to evaluate candidates, results may be not generalizable to professionals who usually received a specific formation and training to evaluate applicants. Therefore, future research should consider reproducing the study with such populations to help grasp better the process involved in a real-life context. Secondly, although the Semantic Misattribution Procedure proved to be an effective tool for measuring implicit cognitive associations, it may not fully capture the complexity of real-world attributions, where implicit biases might interact with other factors such as organizational culture, the type of job or candidate's identity intersectionality. Third, even if the Perfection Bias Scale was validated, the objective of the scope is still focused only on gender evaluative standards. Subsequent development of the scale could expand its scope to include race, ethnicity and socio-economic status in tackling differential treatment in workplaces beyond the known forms of gender bias. Indeed, considering the phenomenon through an intersectional lens may enlarge our knowledge about how people perceive social expectations and encourage new perspectives that take over the overlap of various social identities (e.g., Williams et al., 2020). Future studies could, for instance, look more closely at experiences that cut across several stigmatized social identities, like women who belong to minority groups (e.g., sexual or ethnic minorities).

Furthermore, our samples were collected in Italy, therefore it would be interesting to expand the results by looking at countries' differences. Finally, previous literature has demonstrated that women's recruitment process is affected by their private lives. For instance, mothers usually face more obstacles in employment than childfree women. Nevertheless, our results showed no significant differences in the number of characteristics sought related to the private life between the two

applicants. This brings forward the issue of the possible occurrence of the desirability bias. Future studies could address this issue by implementing more subtle ways to investigate this issue. In this regard, the difference in the likelihood of consulting a social network profile of the candidates is an interesting result backing the evidence that candidates' accounts are a source of information when evaluating applicants (Hedenus et al., 2021). Future studies, for instance, might decide to investigate which information from social media profiles recruiters' access or the influence that the candidate picture exerts on the evaluations. Finally, expanding the scope of this research to include cross-cultural comparisons could provide insight into whether perfection bias manifests similarly across different societies. Understanding how cultural values and norms influence the perpetuation of gender stereotypes would help to develop more effective, culturally tailored interventions aimed at reducing workplace inequality globally.

Theoretical and Practical Implications

This research has the potential to significantly contribute to a deeper comprehension of the processes underpinning gender inequality and workplace discrimination against women. Focusing on the multiple expectations placed on women, especially in the workplace (though not exclusively there), can help us understand why it is much more difficult for them to be recruited, maintain their job positions, and be promoted to managerial roles. Hence, this study bears important theoretical and practical implications.

Theoretically, the research contributes to the growing literature corpus dealing with gender stereotyping and discrimination in the workplace, especially through perfection bias development. This will add a new layer to our understanding of how gendered expectations may influence or define the evaluation of professional competence and success. By integrating both implicit and explicit measures, the present study offers a multi-dimensional view of the more rigorous judgment enacted against women compared to men along several social dimensions. This extends prior models of gender stereotypes, such as the Stereotype Content Model (Fiske et al., 2002), which traditionally

focuses on the dichotomy of competence and warmth.
From a practical standpoint, the Perfection Bias Scale has the potential to be used by any organization or human resources department for estimating whether there is gender bias in its evaluative processes. For instance, it may be applied to recruitment, performance reviews, or promotion evaluations. More importantly, it can also be used to raise perfection bias awareness and inform the training programs designed to raise bias awareness with the view to diminishing the effect of such discriminatory practices and promoting gender equity in the workplace.
Findings of the SMP also suggest that some of these stereotypes may be in evolution. This is evident across the dimension of sociability, which is equally attributed to the two genders. This, therefore, implies that organizations need to be updated through training and evaluative criteria too, to reflect the possibility of these shifting norms. Such leadership traits as sociability and competence can be encouraged in a gender-neutral way and will help bring about inclusivity in cultures at workplaces and reduce the implicit barriers experienced by women in career advancement.

Conclusion

Factual gender equality in the workplace is still difficult to attain despite decades of improvement. Implicit biases in assessments may be present beneath the surface of overt discrimination and injustices, such as the glass ceiling (Ryan et al., 2016) or the pay gap (European Commission, 2019; World Economic Forum, 2020). Global Labour Organization (2022) point out the importance of promoting awareness of when and to what degree gender stereotypes affect women's discrimination to implement policies and interventions to eradicate the gender gap. Women may be expected to perform well in any area that is used to evaluate them since they are assessed on a variety of criteria. In other words, as prior research has shown (e.g., Biernat and Fuegen 2001), women must not only show more skill in their professional sector than their male counterparts but also fulfil extra conditions not imposed on males to be recruited and pursue a career. This may be a potent tool that can reduce women's employment prospects and increase their likelihood of being

turned down if they don't meet high requirements for qualifications in all areas taken into consideration. Indeed, knowing which beliefs and stereotypes triggered and affected women's hiring chances in particular contexts, can be beneficial for all the stakeholders.

In conclusion, this study advances our understanding of the perfection bias and its far-reaching implications for gender equality in the workplace. The results underscore the need for ongoing efforts to raise awareness of implicit gender expectations, promote inclusive hiring practices, and create supportive organizational cultures that value diversity in all its forms.

References

Abele, A. E., Cuddy, A. J., Judd, C. M., & Yzerbyt, V. Y. (2008). Fundamental dimensions of social judgment. In *European Journal of Social Psychology* (Vol. 38, Issue 7, pp. 1063–1065). John Wiley & Sons, Ltd. Chichester, UK. https://perso.uclouvain.be/vincent.yzerbyt/Abele%20et%20al.%20EJSP%202008.pdf

Abele, A. E., & Wojciszke, B. (2014). Communal and agentic content in social cognition: A dual perspective model. In *Advances in Experimental Social Psychology* (Vol. 50, pp. 195–255). Elsevier. https://www.sciencedirect.com/science/article/pii/B9780128002841000047

Agars, M. D. (2004). Reconsidering the Impact of Gender Stereotypes on the Advancement of Women in Organizations. *Psychology of Women Quarterly*, *28*(2), 103–111. https://doi.org/10.1111/j.1471-6402.2004.00127.x

Amemiya, J., & Bian, L. (2024). Why are there no girls? Increasing children's recognition of structural causes of the gender gap in STEM. *Cognition*, *245*, 105740. https://doi.org/10.1016/j.cognition.2024.105740

Arceo-Gomez, E. O., Campos-Vazquez, R. M., Badillo, R. Y., & Lopez-Araiza, S. (2022). Gender stereotypes in job advertisements: What do they imply for the gender salary gap? *Journal of Labor Research*, *43*(1), 65–102. https://doi.org/10.1007/s12122-022-09331-4

Axt, J. R., Casola, G., & Nosek, B. A. (2019). Reducing Social Judgment Biases May Require Identifying the Potential Source of Bias. *Personality and Social Psychology Bulletin*, *45*(8), 1232–1251. https://doi.org/10.1177/0146167218814003

Beins, B. C. (2013). Back translation. *The Encyclopedia of Cross-Cultural Psychology*, 117–118. https://doi.org/10.1002/9781118339893.wbeccp041

Belingheri, P., Chiarello, F., Fronzetti Colladon, A., & Rovelli, P. (2021). Twenty years of gender equality research: A scoping review based on a new semantic indicator. *Plos One*, *16*(9), e0256474. https://doi.org/10.1371/journal.pone.0256474

Bhardwaj, S. (2022). Decision-making in the recruitment of women on corporate boards: Does gender matter? *Equality, Diversity and Inclusion: An International Journal*, *41*(6), 813–830. https://doi.org/10.1108/EDI-08-2021-0188

Bhatia, N., & Bhatia, S. (2021). Changes in Gender Stereotypes Over Time: A Computational Analysis. *Psychology of Women Quarterly*, *45*(1), 106–125. https://doi.org/10.1177/0361684320977178

Biernat, M. (2012). *Standards and expectancies: Contrast and assimilation in judgments of self and others*. Psychology Press. https://www.taylorfrancis.com/books/mono/10.4324/9780203338933/standards-expectancies-monica-biernat

Biernat, M., & Fuegen, K. (2001a). Shifting Standards and the Evaluation of Competence: Complexity in Gender-Based Judgment and Decision Making. *Journal of Social Issues*, *57*(4), 707–724. https://doi.org/10.1111/0022-4537.00237

Biernat, M., & Fuegen, K. (2001b). Shifting Standards and the Evaluation of Competence: Complexity in Gender-Based Judgment and Decision Making. *Journal of Social Issues*, *57*(4), 707–724. https://doi.org/10.1111/0022-4537.00237

Biernat, M., & Kobrynowicz, D. (1997). Gender-and race-based standards of competence: Lower minimum standards but higher ability standards for devalued groups. *Journal of Personality and Social Psychology*, *72*(3), 544-557. https://doi.org/10.1037/0022-3514.72.3.544

Biernat, M., & Manis, M. (1994). Shifting standards and stereotype-based judgments. *Journal of Personality and Social Psychology*, *66*(1), 5.

Blair, I. V., & Banaji, M. R. (1996). Automatic and controlled processes in stereotype priming. *Journal of Personality and Social Psychology*, *70*(6), 1142-1163. https://doi.org/10.1037/0022-3514.70.6.1142

Blau, F. D., & Kahn, L. M. (2017). The gender wage gap: Extent, trends, and explanations. *Journal of Economic Literature*, *55*(3), 789–865. https://doi.org/10.1257/jel.20160995

Blau, G., & Tatum, D. (2000). Correlates of Perceived Gender Discrimination For Female Versus Male Medical Technologists. *Sex Roles*, *43*(1/2), 105–118. https://doi.org/10.1023/A:1007043813257

Blažev, M., Popović, D., & Šverko, I. (2024). Longitudinal Patterns in Gender-Typed Career Interests and Career Stereotypes Among Boys and Girls in Middle Adolescence. *Journal of Career Assessment*, 10690727241267757. https://doi.org/10.1177/10690727241267757

Blodorn, A., O'Brien, L. T., & Kordys, J. (2012). Responding to sex-based discrimination: Gender differences in perceived discrimination and implications for legal decision making. *Group Processes & Intergroup Relations*, 15(3), 409-424. https://doi.org/10.1177/1368430211427172

Boring, A., & Philippe, A. (2021). Reducing discrimination in the field: Evidence from an awareness raising intervention targeting gender biases in student evaluations of teaching. Journal of Public Economics, 193, 104323. https://doi.org/10.1016/j.jpubeco.2020.104323

Bosson, J. K., Vandello, J. A., Michniewicz, K. S., & Lenes, J. G. (2012). American men's and women's beliefs about gender discrimination: For men, it's not quite a zero-sum game. *Masculinities & Social Change*, *1*(3), 210–239. https://doi.org/10.4471/mcs.2012.14

Braddy, P. W., Sturm, R. E., Atwater, L., Taylor, S. N., & McKee, R. A. (2020). Gender Bias Still Plagues the Workplace: Looking at Derailment Risk and Performance With Self–Other Ratings. *Group & Organization Management*, *45*(3), 315–350. https://doi.org/10.1177/1059601119867780

Brambilla, M., & Leach, C. W. (2014). On the Importance of Being Moral: The Distinctive Role of Morality in Social Judgment. *Social Cognition*, *32*(4), 397–408. https://doi.org/10.1521/soco.2014.32.4.397

Budig, M. J. (2002). Male advantage and the gender composition of jobs: Who rides the glass escalator? *Social Problems*, *49*(2), 258–277. https://doi.org/10.1525/sp.2002.49.2.258

Bullough, A., Guelich, U., Manolova, T. S., & Schjoedt, L. (2022). Women's entrepreneurship and culture: gender role expectations and identities, societal culture, and the entrepreneurial environment. *Small Business Economics*, *58*(2), 985-996. https://doi.org/10.1007/s11187-020-00429-6

Casad, B. J., Franks, J. E., Garasky, C. E., Kittleman, M. M., Roesler, A. C., Hall, D. Y., & Petzel, Z. W. (2021). Gender inequality in academia: Problems and solutions for women faculty in STEM. *Journal of neuroscience research*, *99*(1), 13-23. https://doi.org/10.1002/jnr.24631

Cattell, R. (2012). *The Scientific Use of Factor Analysis in Behavioral and Life Sciences*. Springer Science & Business Media.

Charlesworth, T. E. S., & Banaji, M. R. (2022). Patterns of Implicit and Explicit Stereotypes III: *Long-Term Change in Gender Stereotypes*. *Social Psychological and Personality Science*, *13*(1), 14–26. https://doi.org/10.1177/1948550620988425

Ciaffoni, S., Rubini, M., & Moscatelli, S. (2024). Turning ingroup wounds into bonds: Perceptions of gender inequalities predict attitudes toward other minorities. *Frontiers in Psychology*, *14*. https://doi.org/10.3389/fpsyg.2023.1327262

Ciancetta, L. M., & Roch, S. G. (2021). Backlash in performance feedback: Deepening the understanding of the role of gender in performance appraisal. *Human Resource Management*, *60*(4), 641–657. https://doi.org/10.1002/hrm.22059

Comrey AL and Lee HB (1992) A first course in factor analysis (2nd edition). Hillsdale, NJ: Lawrence Erlbaum Associates.

Cortina, C., Rodríguez, J., & González, M. J. (2021). Mind the job: The role of occupational characteristics in explaining gender discrimination. *Social Indicators Research*, *156*(1), 91–110. https://doi.org/10.1007/s11205-021-02646-2

Cuberes, D., & Teignier, M. (2014). Gender Inequality and Economic Growth: A Critical Review. *Journal of International Development*, *26*(2), 260–276. https://doi.org/10.1002/jid.2983

Cuddy, A. J., Fiske, S. T., & Glick, P. (2008). Warmth and competence as universal dimensions of social perception: The stereotype content model and the BIAS map. *Advances in Experimental Social Psychology*, *40*, 61–149. https://doi.org/10.1016/s0065-2601(07)00002-0

Davison, H. K., & Burke, M. J. (2000). Sex discrimination in simulated employment contexts: A meta-analytic investigation. *Journal of Vocational Behavior*, *56*(2), 225–248. https://doi.org/10.1006/jvbe.1999.1711

Diehl, A. B., Stephenson, A. L., Dzubinski, L. M., & Wang, D. C. (2020). Measuring the invisible: Development and MULTI-INDUSTRY validation of the Gender Bias Scale for Women Leaders. *Human Resource Development Quarterly*, *31*(3), 249–280. https://doi.org/10.1002/hrdq.21389

Ditonto, T. M., Hamilton, A. J., & Redlawsk, D. P. (2014). Gender stereotypes, information search, and voting behavior in political campaigns. *Political Behavior*, *36*, 335–358. https://doi.org/10.1007/s11109-013-9232-6

Dunham, C. R. (2017). Third generation discrimination: The ripple effects of gender bias in the workplace. *Akron L. Rev.*, *51*, 55. https://doi.org/10.2139/ssrn.3019163

Eagly, A. H., & Carli, L. L. (2007). *Through the labyrinth: The truth about how women become leaders*. Harvard Business Review Press. https://doi.org/10.5860/choice.45-6881

Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological Review*, *109*(3), 573-598. https://doi.org/10.1037/0033-295x.109.3.573

Eagly, A. H., Karau, S. J., & Makhijani, M. G. (1995). Gender and the effectiveness of leaders: A meta-analysis. *Psychological Bulletin*, *117*(1), 125-145. https://doi.org/10.1037/0033-2909.117.1.125

Eagly, A. H., Nater, C., Miller, D. I., Kaufmann, M., & Sczesny, S. (2020). Gender stereotypes have changed: A cross-temporal meta-analysis of U.S. public opinion polls from 1946 to 2018. *American Psychologist*, *75*(3), 301–315. https://doi.org/10.1037/amp0000494

Eckes, T. (2002). Paternalistic and envious gender stereotypes: Testing predictions from the stereotype content model. *Sex Roles*, *47*, 99–114. https://doi.org/10.1023/A:1021020920715

Eller, A., Abrams, D., Wright, S. C., & Davies, B. (2020). Effects of intergroup contact and relative gratification vs. Deprivation on prejudice on both sides of the U.S./Mexico status divide. *Journal of Applied Social Psychology*, *50*(7), 406–417. https://doi.org/10.1111/jasp.12669

Estevan-Reina, L., De Lemus, S., Megías, J. L., Kutlaca, M., Belmonte-García, M., & Becker, J. (2021). Allies Against Sexism: The Impact of Men's Egalitarian Versus Paternalistic Confrontation on Women's Empowerment and Well-Being. *Sex Roles*, *84*(9–10), 536–553. https://doi.org/10.1007/s11199-020-01184-4

Fanning, K., Williams, J., & Williamson, M. G. (2021). Group Recruiting Events and Gender Stereotypes in Employee Selection*. *Contemporary Accounting Research*, *38*(4), 2496–2520. https://doi.org/10.1111/1911-3846.12710

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*(4), 1149–1160. https://doi.org/10.3758/BRM.41.4.1149

Fisher, A. N., & Ryan, M. K. (2021). Gender inequalities during COVID-19. *Group Processes & Intergroup Relations*, *24*(2), 237–245. https://doi.org/10.1177/1368430220984248

Fiske, S. T., Cuddy, A. J., & Glick, P. (2007). Universal dimensions of social cognition: Warmth and competence. *Trends in Cognitive Sciences*, *11*(2), 77–83.

Fiske, S. T., Cuddy, A. J., Glick, P., & Xu, J. (2018). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. In *Social cognition* (pp. 162–214). https://doi.org/10.4324/9781315187280-7

Foley, S., Hang-Yue, N., & Wong, A. (2005). Perceptions of Discrimination and Justice: Are there Gender Differences in Outcomes? *Group & Organization Management*, *30*(4), 421–450. https://doi.org/10.1177/1059601104265054

Formanowicz, M., & Hansen, K. (2022). Subtle Linguistic Cues Affecting Gender In(Equality). *Journal of Language and Social Psychology*, *41*(2), 127–147. https://doi.org/10.1177/0261927X211035170

Foschi, M. (2000). Double Standards for Competence: Theory and Research. *Annual Review of Sociology*, *26*(1), 21–42. https://doi.org/10.1146/annurev.soc.26.1.21

Froehlich, L., Olsson, M. I., Dorrough, A. R., & Martiny, S. E. (2020). Gender at work across nations: Men and women working in male-dominated and female-dominated occupations are differentially associated with agency and communion. *Journal of Social Issues, 76*(3), 484-511. https://doi.org/10.1111/josi.12390

Gaucher, D., Friesen, J., & Kay, A. C. (2011). Evidence that gendered wording in job advertisements exists and sustains gender inequality. *Journal of Personality and Social Psychology*, *101*(1), 109-128. https://doi.org/10.1037/a0022530

Gërxhani, K., Kulic, N., & Liechti, F. (2021). *Double standards? Coauthorship and gender bias in early stage academic hiring*. Working Paper. https://www.centre-lives.ch/sites/default/files/2021-02/LIVES_WP_86_Gerxhani-Kulic-Liechti.pdf

Giorgi, G., Perez, J. M. L., D'Antonio, A. C., Perez, F. J. F., Arcangeli, G., Cupelli, V., & Mucci, N. (2014). The general health questionaire (GHQ-12) in a sample of italian workers: mental health at individual and organizational level. *World Journal of Medical Sciences, 11*(1), 47-56. DOI: 10.5829/idosi.wjms.2014.11.1.83295

Glick, P., & Fiske, S. T. (2001). An ambivalent alliance: Hostile and benevolent sexism as complementary justifications for gender inequality. *American Psychologist*, *56*(2), 109.

Glick, P., & Whitehead, J. (2010). Hostility Toward Men and the Perceived Stability of Male Dominance. *Social Psychology*, *41*(3), 177–185. https://doi.org/10.1027/1864-9335/a000025

Glick, P., Zion, C., & Nelson, C. (1988). What mediates sex discrimination in hiring decisions? *Journal of Personality and Social Psychology*, *55*(2), 178. https://doi.org/10.1037/0022-3514.55.2.178

Global Gender Gap Report 2024. (2024, September 10). World Economic Forum. https://weforum.org/publications/global-gender-gap-report-2024/

González, M. J., Cortina, C., & Rodríguez, J. (2019). The role of gender stereotypes in hiring: A field experiment. *European Sociological Review*, *35*(2), 187–204. https://doi.org/10.1093/esr/jcy055

Goswami, S., & Gupta, H. N. (2012). Perception of sex discrimination at workplace and psychological consequences of women at work. *Social Science International*, *28*(1), 93.

Grangeiro, R. da R., Rodrigues, M. S., Silva, L. E. N., & Esnard, C. (2021). Scientific metaphors and female representativeness in leadership positions: A bibliometric analysis. *Psychology: Organizations and Work Journal*. https://hal.science/hal-03396281/

Guillén, L., Mayo, M., & Karelaia, N. (2018). Appearing self-confident and getting credit for it: Why it may be easier for men than women to gain influence at work. *Human Resource Management*, *57*(4), 839–854. https://doi.org/10.1002/hrm.21857

Guimond, S., & Dambrun, M. (2002). When Prosperity Breeds Intergroup Hostility: The Effects of Relative Deprivation and Relative Gratification on Prejudice. *Personality and Social Psychology Bulletin*, *28*(7), 900–912. https://doi.org/10.1177/014616720202800704

Gutek, B. A., Cohen, A. G., & Tsui, A. (1996). Reactions to Perceived Sex Discrimination. *Human Relations*, *49*(6), 791–813. https://doi.org/10.1177/001872679604900604

Hackett, R. A., Hunter, M. S., & Jackson, S. E. (2024). The relationship between gender discrimination and wellbeing in middle-aged and older women. *Plos One*, *19*(3), e0299381. https://doi.org/10.1371/journal.pone.0299381

Haines, E. L., Deaux, K., & Lofaro, N. (2016). The Times They Are a-Changing … or Are They Not? A Comparison of Gender Stereotypes, 1983–2014. *Psychology of Women Quarterly*, *40*(3), 353–363. https://doi.org/10.1177/0361684316634081

Hakim, C. (2006). Women, careers, and work-life preferences. *British Journal of Guidance & Counselling*, *34*(3), 279–294. https://doi.org/10.1080/03069880600769118

Halladay, B., & Landsman, R. (2022). Perception matters: The role of task gender stereotype on confidence and tournament selection. *Journal of Economic Behavior & Organization*, *199*, 35–43. https://doi.org/10.1016/j.jebo.2022.04.018

Hampton, M. B., & Heywood, J. S. (1993). Do Workers Accurately Perceive Gender Wage Discrimination? *ILR Review*, *47*(1), 36–49. https://doi.org/10.1177/001979399304700103

Hangartner, D., Kopp, D., & Siegenthaler, M. (2021). Monitoring hiring discrimination through online recruitment platforms. *Nature*, *589*(7843), 572–576. https://doi.org/10.1038/s41586-020-03136-0

Harth, N. S., Kessler, T., & Leach, C. W. (2008). Advantaged Group's Emotional Reactions to Intergroup Inequality: The Dynamics of Pride, Guilt, and Sympathy. *Personality and Social Psychology Bulletin*, *34*(1), 115–129. https://doi.org/10.1177/0146167207309193

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications.

Hayes, A. F. (2024). *Introduction to Mediation, Moderation, and Conditional Process Analysis, Second Edition: A Regression-Based Approach* (3rd ed.). Guilford Publications.

Haynes, S. N., & Lench, H. C. (2003). Incremental validity of new clinical assessment measures. *Psychological Assessment*, *15*(4), 456.

Hedenus, A., Backman, C., & Håkansson, P. (2021). Whom do you know? Recruiters' motives for assessing jobseekers' online networks. *The International Journal of Human Resource Management*, *32*(8), 1754–1777. https://doi.org/10.1080/09585192.2019.1579245

Heilman, M. E. (2012a). Gender stereotypes and workplace bias. *Research in Organizational Behavior*, *32*, 113–135. https://doi.org/10.1016/j.riob.2012.11.003

Heilman, M. E. (2012b). Gender stereotypes and workplace bias. *Research in Organizational Behavior*, *32*, 113–135. https://doi.org/10.1016/j.riob.2012.11.003

Heilman, M. E., & Caleo, S. (2018). Combatting gender discrimination: A lack of fit framework. *Group Processes & Intergroup Relations*, *21*(5), 725–744. https://doi.org/10.1177/1368430218761587

Heilman, M. E., Caleo, S., & Manzi, F. (2024). Women at Work: Pathways from Gender Stereotypes to Gender Bias and Discrimination. *Annual Review of Organizational Psychology and Organizational Behavior*, *11*(1), annurev-orgpsych-110721-034105. https://doi.org/10.1146/annurev-orgpsych-110721-034105

Heilman, M. E., Manzi, F., & Braun, S. (2015). Presumed incompetent: Perceived lack of fit and gender bias in recruitment and selection. In *Handbook of gendered careers in management* (pp. 90–104). Edward Elgar Publishing. https://doi.org/10.4337/9781782547709.00014

Heilman, M. E., & Okimoto, T. G. (2007). Why are women penalized for success at male tasks?: The implied communality deficit. *Journal of Applied Psychology*, *92*(1), 81.

Heilman, M. E., & Okimoto, T. G. (2008). Motherhood: A potential source of bias in employment decisions. *Journal of Applied Psychology*, *93*(1), 189-198. https://doi.org/10.1037/0021-9010.93.1.189

Heilman, M. E., Wallen, A. S., Fuchs, D., & Tamkins, M. M. (2004). Penalties for success: Reactions to women who succeed at male gender-typed tasks. *Journal of Applied Psychology*, *89*(3), 416. https://doi.org/10.1037/0021-9010.89.3.416

Heinrichs, K., & Sonnabend, H. (2023). Leaky pipeline or glass ceiling? Empirical evidence from the German academic career ladder. *Applied Economics Letters*, *30*(9), 1189–1193. https://doi.org/10.1080/13504851.2022.2041168

Hentschel, T., Heilman, M. E., & Peus, C. V. (2019). The Multiple Dimensions of Gender Stereotypes: A Current Look at Men's and Women's Characterizations of Others and Themselves. *Frontiers in Psychology*, *10*. https://doi.org/10.3389/fpsyg.2019.00011

Hernandez Bark, A. S., Junker, N. M., Kark, R., Morgenroth, T., Peus, C., & Van Dick, R. (2022). Editorial to Part I “Revisioning, Rethinking, Restructuring Gender at Work: Quo Vadis Gender Stereotypes?” *Journal of Applied Social Psychology*, *52*(8), 563–567. https://doi.org/10.1111/jasp.12900

Hogan, T. P. (2019). *Psychological Testing: A Practical Introduction*. John Wiley & Sons.

Iyer, A., & Ryan, M. K. (2009). Why Do Men and Women Challenge Gender Discrimination in the Workplace? The Role of Group Status and In-group Identification in Predicting Pathways to Collective Action. *Journal of Social Issues*, *65*(4), 791–814. https://doi.org/10.1111/j.1540-4560.2009.01625.x

Jackman, M. R. (1994). *The velvet glove: Paternalism and conflict in gender, class, and race relations*. Univ of California Press. https://books.google.com/books?hl=it&lr=&id=Ov-rEItPrE0C&oi=fnd&pg=PR13&dq=Jackman,+1994&ots=-HsFkf0Pt2&sig=w563-S4_my3E03qcG-eFBKsEDMY

Johnson, S. K., Murphy, S. E., Zewdie, S., & Reichard, R. J. (2008). The strong, sensitive type: Effects of gender stereotypes and leadership prototypes on the evaluation of male and female leaders. *Organizational Behavior and Human Decision Processes*, *106*(1), 39–60. https://doi.org/10.1016/j.obhdp.2007.12.002

Jones, K. P., Peddie, C. I., Gilrane, V. L., King, E. B., & Gray, A. L. (2016). Not So Subtle: A Meta-Analytic Investigation of the Correlates of Subtle and Overt Discrimination. *Journal of Management*, *42*(6), 1588–1613. https://doi.org/10.1177/0149206313506466

Judd, C. M., James-Hawkins, L., Yzerbyt, V., & Kashima, Y. (2005). Fundamental dimensions of social judgment: Understanding the relations between judgments of competence and warmth. *Journal of Personality and Social Psychology*, *89*(6), 899-913. https://doi.org/10.1037/0022-3514.89.6.899

Kehn, A., & Ruthig, J. C. (2013). Perceptions of gender discrimination across six decades: The moderating roles of gender and age. Sex roles, 69, 289-296. https://doi.org/10.1007/s11199-013-0303-2.

Kim, H., Callan, M. J., Gheorghiu, A. I., & Matthews, W. J. (2017). Social comparison, personal relative deprivation, and materialism. *British Journal of Social Psychology*, *56*(2), 373–392. https://doi.org/10.1111/bjso.12176

Kim, K. Y., Atwater, L., Jolly, P. M., Kim, M., & Baik, K. (2020). The Vicious Cycle of Work Life: Work Effort Versus Career Development Effort. *Group & Organization Management*, *45*(3), 351–385. https://doi.org/10.1177/1059601119880377

Koch, A. J., D'Mello, S. D., & Sackett, P. R. (2015). A meta-analysis of gender stereotypes and bias in experimental simulations of employment decision making. *Journal of Applied Psychology*, *100*(1), 128-161. https://doi.org/10.1037/a0036734

Kosakowska-Berezecka, N., Besta, T., Bosson, J. K., Jurek, P., Vandello, J. A., Best, D. L., Wlodarczyk, A., Safdar, S., Zawisza, M., Żadkowska, M., Sobiecki, J., Agyemang, C. B., Akbaş, G., Ammirati, S., Anderson, J., Anjum, G., Aruta, J. J. B. R., Ashraf, M., Bakaitytė, A., … Žukauskienė, R. (2020). Country-level and individual-level predictors of men's support for gender equality in 42 countries. *European Journal of Social Psychology*, *50*(6), 1276–1291. https://doi.org/10.1002/ejsp.2696

Leach, C. W., Carraro, L., Garcia, R. L., & Kang, J. J. (2017). Morality stereotyping as a basis of women's in-group favoritism: An implicit approach. *Group Processes & Intergroup Relations*, *20*(2), 153–172. https://doi.org/10.1177/1368430215603462

Liss, M., Crawford, M., & Popp, D. (2004). Predictors and Correlates of Collective Action. *Sex Roles*, *50*(11/12), 771–779. https://doi.org/10.1023/B:SERS.0000029096.90835.3f

Louvet, E., Cambon, L., Milhabet, I., & Rohmer, O. (2019). The relationship between social status and the components of agency. *The Journal of Social Psychology*, *159*(1), 30–45. https://doi.org/10.1080/00224545.2018.1441795

Madsen, S. R., Townsend, A., & Scribner, R. T. (2020). Strategies That Male Allies Use to Advance Women in the Workplace. *The Journal of Men's Studies*, *28*(3), 239–259. https://doi.org/10.1177/1060826519883239

Malik, N., Singh, P. V., & Srinivasan, K. (2023). When Does Beauty Pay? A Large-Scale Image-Based Appearance Analysis on Career Transitions. *Information Systems Research*, isre.2021.0559. https://doi.org/10.1287/isre.2021.0559

Matt C. Howard (2016) A Review of Exploratory Factor Analysis Decisions and Overview of Current Practices: What We Are Doing and How Can We Improve?, *International Journal of Human-Computer Interaction,* 32:1, 51-62, https://doi.org/10.1080/10447318.2015.1087664

Mazzuca, S., Moscatelli, S., Menegatti, M., & Rubini, M. (2022). Men's reactions to gender inequality in the workplace: From relative deprivation on behalf of women to collective action. *Frontiers in Psychology*, *13*, 999750. https://doi.org/10.3389/fpsyg.2022.999750

Menegatti, M., Pireddu, S., Crocetti, E., Moscatelli, S., & Rubini, M. (2021b). The Ginevra de'Benci effect: Competence, morality, and attractiveness inferred from faces predict hiring decisions for women. *Frontiers in Psychology*, *12*, 658424. https://doi.org/10.3389/fpsyg.2021.658424

Milkman, K. L., Akinola, M., & Chugh, D. (2015). What happens before? A field experiment exploring how pay and representation differentially shape bias on the pathway into organizations. *Journal of Applied Psychology*, *100*(6), 1678-1712. https://doi.org/10.1037/apl0000022

Miller, L., & Budd, J. (1999). The Development of Occupational Sex-role Stereotypes, Occupational Preferences and Academic Subject Preferences in Children at Ages 8, 12 and 16. *Educational Psychology*, *19*(1), 17–35. https://doi.org/10.1080/0144341990190102

Moscatelli, S., Menegatti, M., Ellemers, N., Mariani, M. G., & Rubini, M. (2020a). Men Should Be Competent, Women Should Have it All: Multiple Criteria in the Evaluation of Female Job Candidates. *Sex Roles*, *83*(5), 269–288. https://doi.org/10.1007/s11199-019-01111-2

Moscatelli, S., Menegatti, M., Ellemers, N., Mariani, M. G., & Rubini, M. (2020b). Men should be competent, women should have it all: Multiple criteria in the evaluation of female job candidates. *Sex Roles*, *83*, 269–288. https://doi.org/10.1007/s11199-019-01111-2

Muthen, L. K., & Muthén, B. O. (2019). Mplus version 8.3: User's guide. *Los Angeles: Muthén & Muthén.[Google Scholar]*.

Nosek, B. A. (2007). Implicit–Explicit Relations. *Current Directions in Psychological Science*, *16*(2), 65–69. https://doi.org/10.1111/j.1467-8721.2007.00477.x

Otterbacher, J., Bates, J., & Clough, P. (2017, May 2). Competent Men and Warm Women: Gender Stereotypes and Backlash in Image Search Results. *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*. CHI '17: CHI Conference on Human Factors in Computing Systems, Denver Colorado USA. https://doi.org/10.1145/3025453.3025727

Panerati, S., Rubini, M., Giannella, V. A., Menegatti, M., & Moscatelli, S. (2023). A multidimensional implicit approach to gender stereotypes. *Frontiers in Psychology*, *14*. https://doi.org/10.3389/fpsyg.2023.1280207

Peeters, G. (1971). The positive-negative asymmetry: On cognitive consistency and positivity bias. *European Journal of Social Psychology*, *1*(4), 455-474. https://doi.org/10.1002/ejsp.2420010405

Peeters, G., & Czapinski, J. (1990). Positive-negative asymmetry in evaluations: The distinction between affective and informational negativity effects. *European review of social psychology*, *1*(1), 33-60. https://doi.org/10.1080/14792779108401856

Peterson Gloor, J. L., Okimoto, T. G., & King, E. B. (2022). “Maybe baby?” The employment risk of potential parenthood. *Journal of Applied Social Psychology*, *52*(8), 623–642. https://doi.org/10.1111/jasp.12799

Petrongolo, B. (2019). The gender gap in employment and wages. *Nature Human Behaviour*, *3*(4), 316–318. https://doi.org/10.1038/s41562-019-0558-x

Pettigrew, T. F., Christ, O., Wagner, U., Meertens, R. W., van Dick, R., & Zick, A. (2008). Relative deprivation and intergroup prejudice. *Journal of Social Issues*, *64*, 385–401. https://doi.org/10.1111/j.1540-4560.2008.00567.x

Phelan, J. E., Moss-Racusin, C. A., & Rudman, L. A. (2008). Competent Yet Out in the Cold: Shifting Criteria for Hiring Reflect Backlash Toward Agentic Women. *Psychology of Women Quarterly*, *32*(4), 406–413. https://doi.org/10.1111/j.1471-6402.2008.00454.x

Pietiläinen, M., Nätti, J., & Ojala, S. (2020). Perceived gender discrimination at work and subsequent long-term sickness absence among Finnish employed women. *European Journal of Public Health*, *30*(2), 311–316. https://doi.org/10.1093/eurpub/ckz156

Prati, F., Menegatti, M., Moscatelli, S., Kana Kenfack, C. S., Pireddu, S., Crocetti, E., Mariani, M. G., & Rubini, M. (2019a). Are Mixed-Gender Committees Less Biased Toward Female and Male Candidates? An Investigation of Competence-, Morality-, and Sociability-Related Terms in Performance Appraisal. *Journal of Language and Social Psychology*, *38*(5–6), 586–605. https://doi.org/10.1177/0261927X19844808

Prati, F., Menegatti, M., Moscatelli, S., Kana Kenfack, C. S., Pireddu, S., Crocetti, E., Mariani, M. G., & Rubini, M. (2019b). Are Mixed-Gender Committees Less Biased Toward Female and Male Candidates? An Investigation of Competence-, Morality-, and Sociability-Related Terms in Performance Appraisal. *Journal of Language and Social Psychology*, *38*(5–6), 586–605. https://doi.org/10.1177/0261927X19844808

Prentoulis, M., & Kyriakidou, M. (2019). Media and collective action in Greece: From indignation to solidarity. *International Journal of Communication*, *13*, 22–40.

Purcell, D., MacArthur, K. R., & Samblanet, S. (2010). Gender and the Glass Ceiling at Work: Gender and the Glass Ceiling at Work. *Sociology Compass*, *4*(9), 705–717. https://doi.org/10.1111/j.1751-9020.2010.00304.x

Raymondie, R. A., & Steiner, D. D. (2022). Backlash against counter-stereotypical leader emotions and the role of follower affect in leader evaluations. *Journal of Applied Social Psychology*, *52*(8), 676–692. https://doi.org/10.1111/jasp.12778

Reby, D., Banerjee, R., Oakhill, J., & Garnham, A. (2022). The development of explicit occupational gender stereotypes in children: Comparing perceived gender ratios and competence beliefs. *Journal of Vocational Behavior*, *134*, 103703. https://doi.org/10.1016/j.jvb.2022.103703

Rudman, L. A., Moss-Racusin, C. A., Phelan, J. E., & Nauts, S. (2012). Status incongruity and backlash effects: Defending the gender hierarchy motivates prejudice against female leaders. *Journal of Experimental Social Psychology*, *48*(1), 165–179. https://doi.org/10.1016/j.jesp.2011.10.008

Ruthig, J. C., Kehn, A., Gamblin, B. W., Vanderzanden, K., & Jones, K. (2017). When Women's Gains Equal Men's Losses: Predicting a Zero-Sum Perspective of Gender Status. *Sex Roles*, *76*(1–2), 17–26. https://doi.org/10.1007/s11199-016-0651-9

Ryan, M. K., & Haslam, S. A. (2005). The Glass Cliff: Evidence that Women are Over-Represented in Precarious Leadership Positions. *British Journal of Management*, *16*(2), 81–90. https://doi.org/10.1111/j.1467-8551.2005.00433.x

Ryan, M. K., Haslam, S. A., Morgenroth, T., Rink, F., Stoker, J., & Peters, K. (2016). Getting on top of the glass cliff: Reviewing a decade of evidence, explanations, and impact. *The Leadership Quarterly*, *27*(3), 446–455. https://doi.org/10.1016/j.leaqua.2015.10.008

Sabucedo Cameselle, J. M., Dono Martín, M., Alzate García, M., & Seoane Pesqueira, M. G. (2018). *The Importance of Protesters' Morals: Moral Obligation as a Key Variable to Understand Collective Action*. https://minerva.usc.es/xmlui/handle/10347/20116

Schaumberg, R. L., & Flynn, F. J. (2017). Self-reliance: A Gender Perspective on its Relationship to Communality and Leadership Evaluations. *Academy of Management Journal*, *60*(5), 1859–1881. https://doi.org/10.5465/amj.2015.0018

Sidanius, J., & Pratto, F. (1999). Social dominance: An intergroup theory of social hierarchy and oppression. New York, NY: Cambridge University Press

Skitka, L. J., Hanson, B. E., Morgan, G. S., & Wisneski, D. C. (2021). The Psychology of Moral Conviction. *Annual Review of Psychology*, *72*(1), 347–366. https://doi.org/10.1146/annurev-psych-063020-030612

Smith, H. J., Pettigrew, T. F., Pippin, G. M., & Bialosiewicz, S. (2012). Relative Deprivation: A Theoretical and Meta-Analytic Review. *Personality and Social Psychology Review*, *16*(3), 203–232. https://doi.org/10.1177/1088868311430825

Snizek, W. E., & Neil, C. C. (1992). Job Characteristics, Gender Stereotypes and Perceived Gender Discrimination in the Workplace. *Organization Studies*, *13*(3), 403–427. https://doi.org/10.1177/017084069201300305

Sprague, R. (2011). Invasion of the social networks: Blurring the line between personal life and the employment relationship. *U. Louisville L. Rev.*, *50*, 1-34.

Stewart, A. L. (2017). Men's collective action willingness: Testing different theoretical models of protesting gender inequality for women and men. *Psychology of Men & Masculinity*, *18*(4), 372. https://doi.org/10.1037/men0000068

Stroebe, K., Barreto, M., & Ellemers, N. (2010a). When Searching Hurts: The Role of Information Search in Reactions to Gender Discrimination. *Sex Roles*, *62*(1), 60–76. https://doi.org/10.1007/s11199-009-9700-y

Stroebe, K., Barreto, M., & Ellemers, N. (2010b). When Searching Hurts: The Role of Information Search in Reactions to Gender Discrimination. *Sex Roles*, *62*(1–2), 60–76. https://doi.org/10.1007/s11199-009-9700-y

Stroh, L. K., Langlands, C. L., Simpson, P. A., Stockdale, M. S., & Crosby, F. J. (2004). Shattering the glass ceiling in the new millennium. *The Psychology and Management of Workplace Diversity*, 147–167.

Szymanski, D. M., Carretta, R. F., Strauss Swanson, C., Bissonette Mink, D., & Haring, G. (2024). Sexual Objectification in Family of Origin Scale: Development and Psychometric Evaluation. *Sex Roles*, *90*(4), 539–551. https://doi.org/10.1007/s11199-024-01446-5

Tabachnick BG and Fidell LS (2007). Using multivariate statistics. Fifth Edition. Pearson Education Inc.

Teng, F., Wang, X., Li, Y., Zhang, Y., & Lei, Q. (2023). Personal Relative Deprivation Increases Men's (but Not Women's) Hostile Sexism: The Mediating Role of Sense of Control. *Psychology of Women Quarterly*, *47*(2), 231–249. https://doi.org/10.1177/03616843221145877

Tougas, F., & Veilleux, F. (1988). The influence of identification, collective relative deprivation, and procedure of implementation on women's response to affirmative action: A causal modeling approach. *Canadian Journal of Behavioural Science/Revue Canadienne Des Sciences Du Comportement*, *20*(1), 15-28.

Tracy, J. L., & Robins, R. W. (2007). The psychological structure of pride: A tale of two facets. *Journal of Personality and Social Psychology*, *92*(3), 506-525. https://doi.org/10.1037/0022-3514.92.3.506

Trusty, J., Robinson, C. R., Plata, M., & Ng, K. (2000). Effects of Gender, Socioeconomic Status, and Early Academic Performance on Postsecondary Educational Choice. *Journal of Counseling & Development*, *78*(4), 463–472. https://doi.org/10.1002/j.1556-6676.2000.tb01930.x

Ullmann-Margalit, E., & Sunstein, C. R. (2001). Inequality and Indignation. *Philosophy & Public Affairs*, *30*(4), 337–362. https://doi.org/10.1111/j.1088-4963.2001.00337.x

van Agteren, J., Iasiello, M., Lo, L., Bartholomaeus, J., Kopsaftis, Z., Carey, M., & Kyrios, M. (2021). A systematic review and meta-analysis of psychological interventions to improve mental wellbeing. *Nature Human Behaviour*, *5*(5), 631–652. https://doi.org/10.1038/s41562-021-01093-w

Van Borm, H., & Baert, S. (2022). *Diving in the minds of recruiters: What triggers gender stereotypes in hiring?* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4114837

Verniers, C. (2020). Behind the maternal wall: The hidden backlash toward childfree working women. *Journal of Theoretical Social Psychology*, *4*(3), 107–124. https://doi.org/10.1002/jts5.65

Walker, I., & Mann, L. (1987). Unemployment, relative deprivation, and social protest. *Personality and Social Psychology Bulletin*, *13*, 275–283. https://doi.org/10.1177/0146167287132012

Wang, L. J., Tanious, A., Go, C., Coleman, D. M., McKinley, S. K., Eagleton, M. J., Clouse, W. D., & Conrad, M. F. (2020). Gender-based discrimination is prevalent in the integrated vascular trainee experience and serves as a predictor of burnout. *Journal of Vascular Surgery*, *71*(1), 220–227. https://doi.org/10.1016/j.jvs.2019.02.064

White, M. J., & White, G. B. (2006). Implicit and Explicit Occupational Gender Stereotypes. *Sex Roles*, *55*(3), 259–266. https://doi.org/10.1007/s11199-006-9078-z

Williams, M. J., & Tiedens, L. Z. (2016). The subtle suspension of backlash: A meta-analysis of penalties for women's implicit and explicit dominance behavior. *Psychological Bulletin*, *142*(2), 165–197. https://doi.org/10.1037/bul0000039

Wisneski, D. C., & Skitka, L. J. (2017). Moralization through moral shock: Exploring emotional antecedents to moral conviction. *Personality and Social Psychology Bulletin*, *43*(2), 139–150. https://doi.org/10.1177/0146167216676479

Ye, Y., & Gawronski, B. (2018). Validating the semantic misattribution procedure as an implicit measure of gender stereotyping. *European Journal of Social Psychology*, *48*(3), 348–364. https://doi.org/10.1002/ejsp.2337

Supplementary material

Table 1S

Descriptive Statistics of the Studies 1-4 Chapter 4

Baseline characteristic	Study 1 (*N* = 150)		Study 2 (*N* = 360)		Study 3 (*N* = 470)		Study 4 (*N* = 335)	
	n	%	*n*	%	*n*	%	*n*	%
Gender								
Women	150	100	360	100	-	-	181	54.03
Men	-	-	-	-	471	100	154	45.97
Marital status								
Single	32	21.3	69	19.2	117	24.8	54	16.01
In a relationship	35	23.3	80	22.2	105	22.3	248	74.00
Married/cohabitating	57	38.0	151	41.9	167	3.5	-	-
Divorced	5	3.3	6.0	1.7	4	0.8	26	7.80
Widowed	2	1.3	3.0	.08	2	0.4	-	-
Do not want to say it	9	6	17	4.7	35	7.4	7	2.1
Missing	10	6.67	34	9.44	41	8.7	-	-
Highest educational level								
High school	51	34	128	35.5	162	34.4	-	-
Bachelor's degree	27	18	60	16.7	80	17	-	-
Master's degree	35	23.3	82	22.8	113	24	-	-
Master	13	8.7	31	8.6	32	6.8	-	-
Professional Diploma	4	2.7	5	1.4	13	2.8	-	-
PhD	8	5.3	20	5.6	24	5.1	-	-
Other	3	2	5	1.4	14	3	-	-
Missing	9	6	29	8.06	33	7	-	-
Employment								
Student	34	22.7	86	23.9	120	25.5	-	-
Employed-Student/ Employed	84	56	186	51.7	287	60.9	335	100
Looking for first job	4	2.7	4	1.1	8	1.7	-	-
Homemaker	3	2.0	4	1.1	-	-	-	-
Retired	3	2.0	12	3.3	10	2.1	-	-
Other	13	8.7	39	10.8	13	2.8	-	-
Missing	9	6	29	8.06	33	7	-	-
Sexual orientation								
Straight	110	73.3	269	74.7	385	81.7	256	76.42
Bisexual	18	12.0	28	7.8	5	1.1	-	-
Homosexual	3	2.0	8	2.2	16	3.4	8	2.39
Other	3	2.0	7	1.9	4	.8	4	1.19
Do not want to say it	6	4.0	14	3.9	20	4.2	67	20
Missing	10	6.7	34	9.4	41	8.7	-	-

Ti ricordiamo la posizione lavorativa per cui Roberto R. si è candidato è di

General Manager

Best Holiday Hotel

Bologna 40127, Emilia-Romagna

➢ *Candidati!*

Il ruolo di ***General Manager****, come figura al vertice delle strutture alberghiere, consiste nel supervisionare le attività di marketing, di vendita e operative. Si occupa della pianificazione, direzione e coordinamento delle attività relative alla gestione e produzione di beni e servizi per i clienti.*

Figure 2S

Job advertisement of study 6

Ti ricordiamo la posizione lavorativa per cui Roberto R. si è candidato è di

Direttore/direttrice creativo/a

Innovation for a New World SPA

Bologna 40127, Emilia-Romagna

➢ *Candidati!*

Il ruolo di ***Direttore/Direttrice Creativo/a*** *consiste nell'individuare le linee strategiche della comunicazione pubblicitaria, affiancando il reparto marketing e di progettazione grafica nella pianificazione, direzione e coordinamento delle attività relative alla gestione e nella realizzazione dei progetti richiesti dai clienti.*

Figure 3S

Job advertisement of study 6

Table 4S

Descriptive Statistics and Correlation of the Study 6 Variables

Variable	*n*	*M*	*SD*	1	2	3	4	5
1. Charact_TOT	163	9.83	4.93	—				
2. Job interview	156	5,78	1.08	.14	—			
3. Hiring	155	5,03	1.31	-.33**	.41**	—		
4. Social Network	154	4,51	1.96	-.03	.08	.14	—	
5. PB_TOT	151	4,43	1,66	-.23**	.01	.29**	.27**	—

Note. Charact_TOT, the total of characteristics selected; PB_TOT, the Perfection Bias Scale total score.

** $p < .01$