



The Unbearable Weight of Gender Inequalities: Development and Validation of the Social Treatment and Experiences of Women (STEW) Scale

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Abstract

Gender inequalities are pervasive across various life domains, yet research has often overlooked how people perceive that women are treated differently than men. To fill this gap, we developed and validated the 16-item multidimensional Social Treatment and Experiences of Women (STEW) scale across different samples of women and different cultural contexts, namely Italy and the UK ($N=1,195$). Using exploratory (Study 1, $N=703$) and confirmatory (Study 2, $N=550$; Study 3a, $N=132$; Study 4, $N=201$; Study 5, $N=233$) factor analysis, we identified four dimensions: workplace inequalities, domestic imbalance, harassment towards women, and social expectations. Studies 3a and 3b ($N=96$) demonstrated convergent, discriminant, and predictive validity of the STEW, linking the STEW's subscales to group-based emotions, reported experiences of sexism, attitudes towards affirmative action, and attitudes towards women's sexual freedom. Replicating the factor structure in the UK, Study 4 found the STEW explained unique variance in group-based emotions and intergroup attitudes beyond personal experiences of sexism. Last, Study 5 showed that the STEW explains unique variance in collective action intentions and feminist identification beyond people's attitudes towards gender equality. Highlighting the importance of conceiving gender inequalities as a multifaceted issue, the STEW provides a robust tool for assessing perceptions of differential treatment of women across domains and can inform more comprehensive interventions promoting gender equality.

Keywords Gender equality · Sex discrimination · Sexual harassment · Employment discrimination · Test validity · Gender role attitudes

In social relations, no single attribute is more primary than gender (Ellemers, 2018; Ridgeway, 2009). Gender is the most significant characteristic that people use to differentiate others, and categorizations based on gender are chronically salient, relatively fixed, and instantly detected (Haslam et al., 2000; Wood & Eagly, 2010). Nowadays, our society increasingly acknowledges that gender is a powerful determinant of one's opportunities and treatment, as well as disparities and discrimination (e.g., EIGE, 2023; Ellemers, 2018; Miller, 2020). The unequal treatment of women can manifest in both overt discrimination and more subtle,

covert forms (Lorber, 2001), and, importantly, does not just refer to a single well-defined domain (Vachhani & Pullen, 2019).

Generally speaking, gender inequalities can be defined as all instances in which people are allowed different opportunities or treatments solely based on their gender (Lorber, 2001). There are many domains where gender inequality persists. The gender employment gap refers to the difference in the employment rate of men compared to women. In Europe, in 2021 it amounted to 10.8%, rising to 20% in countries such as Romania, Italy, and Greece (Eurostat, 2022). This general estimate includes all types of employment; however, the gap may be even larger for full-time permanent positions, as women are often overrepresented in part-time or temporary work. Women are also more likely than men to be targets of sexual harassment or sexual violence. The World Health Organization estimates that about one in three women (30%)

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globally have been subjected to some form of physical and/or sexual abuse (World Health Organization, 2021). Furthermore, gender inequalities can be observed in the family context (e.g., Allen, 2016) as well as education (STEM; e.g., Casad et al., 2021) and health care (Sociás et al., 2016).

A growing interest in comprehensively mapping out domains of gender inequalities has been shown by some academics and policymakers (e.g., Stoet & Geary, 2019). For instance, the European Institute for Gender Equality has identified eight core domains relating to work, money, knowledge, power, time and health, violence against women, and intersecting inequalities (EIGE, 2023). While the data publicly available on each of these components of gender inequalities surely have a story to tell, research has indicated that it is people's perceptions of those inequalities that determine their reactions, and not actual inequality per se (Jetten et al., 2017; Mols & Jetten, 2017). That is, objective inequality is just one of the factors that determine the way people appraise their disadvantage, which is influenced by a variety of social psychological processes, such as social comparison, or the perception of inequality as (il)legitimate (Jetten & Peters, 2019). Despite the importance of evaluating individuals' subjective perceptions, the available tools measuring perceptions of gender inequality either include a few items asking about inequalities in general (e.g., "How similar or different are women's and men's opportunities in life?"; Kinias & Kim, 2012), or focus on women's perceptions of specific forms of gender inequalities at the time (for instance, domestic inequality; Harryson et al., 2012), thus failing to capture the complexity of disadvantages that are oftentimes intertwined.

The aim of the current paper is to address this gap in the literature and develop and validate a social psychological measure to assess perceptions that women experience differential treatment compared to men across various domains and within different contexts. This research specifically focused on perceptions of treatment within four domains of gender inequality – workplace inequalities, domestic imbalance, harassment towards women, and social expectations – which we assessed using the Social Treatment and Experiences of Women (STEW) scale. These domains were chosen, and emerged from the studies, as they represent critical areas where gender-based disparities are likely to be relevant to women's everyday experiences.

Specifically, in Study 1 we developed a scale assessing perceptions of the social treatment and experiences of women; in Study 2 we tested its robustness in a different sample; in Studies 3a and 3b we tested its convergent, predictive, and discriminant validity. Whereas Studies 1, 2, 3a, and 3b were conducted in Italy, Study 4 examined the structure and tested the validity of the scale in the UK, which represents a different linguistic and cultural context. Not only do Italy and the UK face different situations in terms of gender equality progress,

ranking 61st and 22nd, respectively, in terms of gender equality, according to the Gender Equality Index (World Economic Forum, 2021), but they are also characterized by different levels of awareness around gender issues. For instance, feminist movements have had a much more influential role in the UK than in Italy (Briatte, 2020; Margolis, 1993). In a recent survey by the Pew Research Centre, 92% of the people in the UK claimed that it is very important that women have the same rights as men, while this percentage was 74% in Italy (Pew Research Centre, 2019). Besides assessing the reliability and the validity of the new scale in a different context, Study 4 sought to test how using a multidimensional scale tapping the perceptions of women's condition at a group level can help understand women's reactions to inequality above their personal experiences of sexism. Finally, Study 5 refined the final version of the items, and further tested the validity of the STEW. Additionally, Study 5 aimed to empirically distinguish perceptions of the societal treatment of women from attitudes towards gender equality.

While we believe that it is theoretically and ethically imperative to examine how women themselves perceive and respond to their social treatment and their experiences, as a first step in this program of research, we advance that this measure can be applied to assess perceptions of women's experiences of gender inequalities across other gender groups as well. It is also important to acknowledge that, stemming from social roots embedded in a patriarchal system, gender inequalities affect all gender groups in different ways – from cisgender women and men (e.g., Richardson et al., 2021) to transgender, non-binary and gender-diverse individuals (e.g., Morgenroth et al., 2023) – and understanding inequality becomes even more complex when considering intersectional identities (Salvati & Koc, 2022; Sardelis et al., 2017). To address the multidimensional nature of gender inequalities, this research prioritizes an initial focus on the experiences that women face *as women* as a necessary foundational step towards untangling the intricate layers of these inequalities. While primarily intended to capture the experiences of cisgender women, we acknowledge the potential relevance of these findings to transgender women, while also recognizing that inequalities in this group involve additional dimensions (e.g., identity denial; Morgenroth et al., 2023). For this reason, we used the term "women" without further specifications.

Domains of Gender Inequality

Uneven Opportunities and Responsibilities in Work and Home Life

One of the most salient aspects of gender inequalities is that women encounter more obstacles than men when starting

and maintaining their professional careers. One such obstacle is the gender pay gap, which indicates that, controlling for job type and level of education of the employee, women are paid less than men (Bishu & Alkadry, 2017). Such a gap is even greater for higher job positions (e.g., managers), in private companies, or for women in racial or ethnic minority groups (Institute for Women's Policy Research, 2024). Similarly, an unequal distribution exists in career types (women dominate feminine-typed occupations, such as jobs involving care or education) and job levels (women are rare in leadership positions; e.g., Petrongolo, 2019). In Italy, the gender employment gap is about 19% (Eurostat, 2024), whereas the overall earning gap is 4.3%, but shows a sharp increase considering private industries (15%; World Economic Forum, 2024). The difference in employment rates between women and men is lower in the UK (6%), where the overall pay gap is 14.3% (House of Commons Library, 2024). In both countries, women are over-represented in health and social work activities, education, and wholesale and retail activities (EIGE, 2023; House of Commons Library, 2024). In many countries across the world, the COVID-19 pandemic worsened job-related gender inequalities, with women disproportionately stopping work or losing their jobs compared to men (Dang & Nguyen, 2021), and female-dominated fields were among the first to be affected, while male-dominated sectors often remained viable (Fisher & Ryan, 2021).

The underrepresentation of women in the workplace, especially in higher-status leadership positions, has been theorized as representing the glass ceiling effect (Cotter et al., 2001), the sticky floor (Harlan & White Berheide, 1994), the leaky pipeline (Cronin & Roger, 1999), the glass cliff phenomena (Ryan & Haslam, 2005, 2007), and the perfection bias (Menegatti et al., 2021; Moscatelli et al., 2020; Prati et al., 2019). As a common denominator, all these constructs highlight how the workplace perpetuates a system where women are systematically prevented from accessing career tracks that would result in higher economic and social benefits (Bishu & Alkadry, 2017).

One successful model aiming to explain the psychological underpinnings of gender inequalities in the work domain is the lack of fit framework (Heilman, 2012). According to this framework, gender discrimination emerges from stereotypic representations of men as agentic and competent – traits that are required to succeed in high-status positions – but lacking communality (e.g., concern for others and emotional sensitivity), and women as not particularly competent but warm and nurturing, and therefore more suited for responsibilities requiring empathy and caregiving (e.g., Abele & Wojciszke, 2018). Besides describing what is thought to be typical of one gender (Hentschel et al., 2019), gender stereotypes also have a more strictly injunctive function, with people violating stereotypes encountering social punishment (e.g.,

Prentice & Carranza, 2002; Vink et al., 2022). For example, women should be communal (e.g., understanding, and motherly) and not dominant (e.g., tenacious, or angry), while men should be agentic (e.g., career-oriented, and strong) and not emotional (e.g., sensitive or soft; Prentice & Carranza, 2002; Rudman et al., 2012). Notably, because gender stereotypes present complementary strengths and weaknesses for men and women, they suggest that social inequity is due to inherent differences and thus justifiable (Eagly & Steffen, 1984; Glick & Fiske, 1997).

The pervasiveness of stereotypical representations of women as nurturing and more suited for housekeeping also helps explain why women still shoulder the majority of household chores and care responsibilities (e.g., Pailhé et al., 2021). Although nowadays many Western societies are characterized by a dual-earner model, where both partners work full-time, we are still quite far from the ideal of a dual earner-dual carer model, where both men and women contribute equally to paid and unpaid work in their households (Trappe et al., 2015). This domestic imbalance can have negative consequences for women, such as increased stress and lower job satisfaction (Amato et al., 2007; Gutek et al., 1991) and may also limit their opportunities for education, career advancement, and social and economic equality (Bianchi et al., 2000; Milkie et al., 2002). Ultimately, these inequalities perpetuate a cycle of gender inequality, as women's domestic responsibilities may constrain their ability to achieve parity with men in various spheres of life (Hill et al., 2001). Moreover, children growing up in households with imbalanced domestic duties may internalize gender stereotypes even more than others and develop gendered identities, hence perpetuating gender inequalities across generations (Bianchi & Milkie, 2010). Despite the inequalities in the distribution of household chores, it is noteworthy that these imbalances often become so deeply ingrained that individuals may not even perceive them as unjust (Cerrato & Cifre, 2018).

Navigating Social Expectations in a Patriarchal Society

Besides underpinning work and domestic inequalities, gender stereotypes influence people's expectations about how women should behave in other aspects of life as well. With their prescriptive nature, gender stereotypes motivate individuals to adapt their behaviors and life choices to what seems appropriate to their gender group (Ellemers, 2018; Ridgeway & Smith-Lovin, 1999). For example, societal expectations often prioritize motherhood, suggesting that women without children are somehow incomplete or less fulfilled (Ashburn-Nardo, 2017). Women who do not conform to such a societal norm may be seen as less warm,

more self-centered, and overly focused on their careers, especially if they choose to remain child-free. Despite some possible career advantages of non-parental status (Monte & Mykyta, 2016), not conforming to gender stereotypical expectations entails a risk of backlash at work: Childless women were reported to experience more workplace incivility, derogation, and exclusion than other workers, especially in male-dominated organizations (Miner et al., 2014; Verniers, 2020), while their investment in life roles other than worker is underrecognized (ter Hoeven et al., 2017).

Women also face pressure to adhere to beauty standards, which takes away resources from other areas of their lives (Nelson & Brown, 2019) and hold them back in their pursuit of power and independence (Heflick & Goldenberg, 2009). Paradoxically, women, though often sexualized (Calogero, 2012; Fasoli et al., 2017), remain constrained in the expression of their sexuality, encountering stigmatization when they freely express and enjoy it (e.g., Conley et al., 2013). All in all, these widespread societal pressures – extending beyond domestic and work realms – perpetuate gender inequalities and significantly impact women’s lives and well-being.

Harassment as a Form of Gender Inequality

The unequal power dynamics between genders are vividly reflected in the pressing social issue of sexual harassment towards women, intended as any unwelcome sexual advance or behavior of a sexual nature, including verbal or physical conduct, “that might reasonably be expected or be perceived to cause offence, humiliation or intimidation to the person” (World Health Organization, 2011, p. 2). According to a recent survey, 13.5% of Italian working women experienced workplace sexual harassment (e.g., obscene proposals or touching) at some point in their lives (ISTAT, 2024), whereas the percentage rises to more than 50% in the UK (Trades Union Congress, 2023). Whereas the different figures in the two countries might be due to lower awareness and recognition of sexual harassment behaviors in Italy, where patriarchal views of sexual abuse are still pervasive (Moscatelli et al., 2021, 2024), the widespread nature of sexual harassment in both countries is even more evident considering street harassment. Indeed, about 50% of Italian women reported being targets of catcalling – i.e., unsolicited comments and gestures by unfamiliar men in public spaces, often containing (semi-)explicit or implicit references to sexual acts or appearance – at least once in their life (WeWorld-IPSOS Italia, 2021), whereas 64% of UK women of all ages had experienced unwanted verbal or physical sexual harassment in public places (End Violence Against Women Coalition, 2016).

These and other forms of sexual harassment – such as cyber sexual harassment – can have deleterious repercussions for women. In particular, workplace harassment can affect mental and physical health (Herrmann et al., 2022), reduce occupational well-being (Sojo et al., 2016), result in decreased productivity or work withdrawal (Lim & Cortina, 2005; Woodzicka & LaFrance, 2005). Street or stranger harassment, too, is a profoundly harmful experience, although often overlooked (Phillips et al., 2018) because of the subjective and context-dependent nature of these harassment behaviors, which can sometimes appear ambiguous when viewed as isolated incidents (Fileborn & O’Neill, 2023; Vera-Gray & Kelly, 2020). Indeed, catcalling and other forms of street harassment (e.g., horn honking, following someone, unwanted conversation, or sexualized gestures) are linked to a diminished perception of safety and increased fear of rape (Calogero et al., 2021; Davidson et al., 2015; Fairchild & Rudman, 2008).

More generally, women who undergo sexual harassment can feel that they are sexually objectified, that is, perceived and treated as a body of a collection of body parts that are valued for others’ consumption (Fredrickson & Roberts, 1997). Such sexual objectification experiences are associated with increased personal safety anxiety and restricted freedom of movement (e.g., staying indoors, not walking alone) as a precaution to avoid sexual abuse and violence (Calogero et al., 2021). Thus, overall, studies on sexual harassment towards women not only highlight the prominence of this phenomenon across different contexts of life, but also the physical, psychological, and social harm that comes with it, making it a significant part of women’s daily experience of gender inequalities.

The Perception of Gender Inequalities and Its Correlates

A theoretically grounded explanation for why it is important to understand women’s perception of their group’s treatment stems from the theory of relative deprivation (Runciman, 1966; Smith et al., 2012). Central to this theory is the subjective assessment of one’s group status. Feelings of relative deprivation arise when two conditions are met: people assess that their group is being treated differently from another group (hereafter, perceived social treatment and experiences) and appraise such discrepancy as unjust (hereafter, legitimacy perceptions; Smith et al., 2012). Perceiving a different social treatment and finding it illegitimate produces feelings about the social standing of one’s group, such as anger and resentment (Wright & Tropp, 2002). A consistent body of research has demonstrated that group-based relative deprivation is central in predicting intergroup-level attitudes

and behaviors (e.g., Dambrun et al., 2006; Moscatelli et al., 2014), support for social and political movements and collective action aimed to redress the unjust situation (e.g., Agostini & van Zomeren, 2021; Mazzuca et al., 2022).

In the context of women's experiences, some research has found that greater perceptions of gender inequalities are associated with reduced life satisfaction (Kinias & Kim, 2012), and that more frequent experiences of gender inequalities are associated with more psychological distress and reduced emotional well-being (Harryson et al., 2012; Klonoff et al., 2000; Landrine et al., 1995). Furthermore, greater perceptions of gender inequalities were associated with stronger support for governmental efforts to reduce gender inequality in Austria, West Germany, and Great Britain (Davis & Robinson, 1991). Overall, these studies highlight the importance of examining the subjective experiences of gender inequality and their psychosocial reactions. However, they did not differentiate between different facets of inequality, nor did they disentangle perceiving a different social treatment of women and men and considering such treatment as unjust.

Conceptual Challenges in Understanding Perceived Gender Inequality

Despite its importance, research on perceived gender inequality lacks some clarity regarding what perception or attitude is investigated. By differentiating between recognizing a discrepancy in treatment between groups and interpreting such a discrepancy as inequality, we can better understand the challenges in studying this construct. On the one hand, some research focused on people's perceptions of how things *should be* and whether women should be treated more similarly to men (e.g., Dotti Sani & Quaranta, 2017; Kaufman & Taniguchi, 2006). Hoxmeier et al. (2024) recently reviewed measurements of such beliefs and found 38 different operationalizations of gender equitable attitudes, most of which captured the multidimensional aspects of gender inequality across diverse domains, including employment, politics, and domestic life. Conceptually, gender equitable attitudes can be thought of as complementary to legitimacy perceptions: when people perceive a disparity between groups as illegitimate, they may tend to endorse a more egalitarian view. Conversely, if the difference is seen as fair, they may be less likely to endorse equity.

On the other hand, some studies directly looked at how things *are*, examining whether people perceive that women and men are not being treated the same way, and to what extent (e.g., Johnson et al., 2017; Kinias & Kim, 2012; Tougas & Veilleux, 1988). This is what we refer to as the perceived social treatment and experiences of women. In

this respect, some studies investigated this aspect with a few general items, such as "How similar or different are women's and men's opportunities in life?" (e.g., Kinias & Kim, 2012), some from an economic or work-related point of view (e.g., Tougas & Veilleux, 1988) and less often in other domains, such as the gendered division of household chores (e.g., Harryson et al., 2012) or personal experience of harassment (e.g., Johnson et al., 2017; Koss et al., 2007). This approach may fail to unravel the complexity of gender inequalities, as it does not simultaneously account for the multidimensionality of the unequal treatment and experiences of women within society.

A novel approach to capture the heterogeneity of women's perceived social treatment was proposed by Corning (2000). Across a series of studies with mostly White female university students living in the USA, the author developed and validated the Perceived Social Inequity–Women's Form (PSIS-W), which measured women's personal experience of gender inequality and – although building up to an overall index – included six different factors, namely harassment/assault, managing multiple roles (ex. working mother), career competence, career encouragement, physical appearance, and lack of academic role models. However, Corning's scale was specifically designed for capturing the personal experience of gender inequity (i.e., how much discrimination one faces as a woman) and not the individuals' perceptions around the social treatment of women (i.e., how much and how are women treated differently because they are women). Similarly, the Schedule of Sexist Events (Bowleg et al., 2008; Klonoff & Landrine, 1995) was conceived to measure women's personal frequency of experience of sexist discrimination around four dimensions (sexist degradation, sexism in distant relationships, sexism in close relationships, and sexist discrimination in the workplace) rather than their perceptions around the social treatment of women. To our knowledge, limited attention has been given to women's perceptions of women's social treatment and experience.

Current Research

Addressing gaps in prior research, this study aims to develop and validate the Social Treatment and Experiences of Women (STEW) scale through a qualitative pilot and six independent studies. These studies focused on women's perceptions of belonging to a group that receives differential treatment across various domains and explored how these perceptions relate to psychological outcomes. Crucially, the STEW scale assesses women's perceptions of their social treatment without assessing the perceived legitimacy of that treatment. While perceptions of inequality may relate

to judgments of fairness, these are distinct constructs: recognizing disparities between groups versus viewing those disparities as (un)justifiable (Jetten et al., 2017). According to social identity theory (Tajfel & Turner, 1979), individuals can acknowledge intergroup inequalities without necessarily viewing them as unfair, and vice versa. For instance, Begeny et al. (2020) observed that despite expressing general disapproval of gender inequality, many UK veterinary managers failed to recognize gender bias within their profession and, paradoxically, these same individuals were instrumental in perpetuating it. Therefore, we argue that it is important to rely on an adequate measure that assesses perceptions of women's social treatment and experience and captures women's perceptions of their social experiences, independently of perceived legitimacy.

We conducted one qualitative pilot and six quantitative studies in Italy and the UK. Study 1 developed the instrument and tested its factorial structure, while Study 2 confirmed the structure. Studies 3a and 3b focused on psychometric evaluation, including convergent, predictive, and discriminant validity. Replicating the structure in the UK, Study 4 further assessed psychometric properties and tested the conceptual distinction between perceptions of societal treatment of women and personal experiences of gender discrimination. Finally, Study 5 refined the items and further tested the STEW's validity while also empirically testing the conceptual distinction between perceptions of societal treatment (what they observe) and attitudes towards gender equality (what they believe should occur). All studies primarily involved women (with a few nonbinary participants socialized as women). While we believe the instrument can be extended to other gender groups, it was theoretically and ethically necessary to first examine women's perceptions of their own social treatment and experiences. All studies were approved by the Bio-Ethical Committee of the authors' institution.

Item Generation and Pilot Study

To develop and choose items for the STEW, we utilized a three-part strategy. First, we conducted a review of the literature and examined publicly available statistics related to gender inequalities in Europe and Italy. Second, we held a focus group with several women in which we asked them about their own experiences and perceptions of gender inequalities, and third, a team of experts in social psychology discussed and finalized the items. This multi-step approach was intended to capture gender-based discrepancies in social treatment and experiences across areas relevant to women's everyday lives, while allowing us to detect both high and low levels of awareness of these inequalities.

Based on the literature review, we identified three primary domains: disparities in the domestic domain, inequalities in the workplace, and harassment towards women. Other areas of disadvantage that emerged were related to sexualization, beauty standards, and parental and social expectations in general.

For the focus group, we asked eight women to discuss their life experiences of gender inequalities. They were recruited from the first author's professional and personal network and their mean age was 32.38 years (age range 21–50). The focus group was held remotely, due to the COVID-19 pandemic restrictions as well as to allow the participation of women with different geographical and social backgrounds. Participants did not know each other, lived in different Italian cities, reported different sexual orientations (six straight, one bisexual, and one pansexual), and were in different relational configurations: single ($n=2$), in a relationship ($n=2$), married ($n=1$), and divorced ($n=3$), with a new relationship ($n=1$) or not ($n=2$). The differences in their background and life experiences enriched the discussion providing an opportunity to highlight similarities and diversities in their experiences. We recorded their inputs and discussion and found that they broadly captured the following themes: disproportionate division of household chores (e.g., "I hate that my mum always had to take care of the house, while my dad just wouldn't") and involvement in childcare (e.g., "I always invested more than my husband in parenting our kids"); workplace inequalities (e.g., "although I teach in a school where the majority of employees are women, the headmasters are always men"); catcalling and sexualization of women (e.g., "I cannot tell you how many times a man made sexual comments to me on the streets"); and anticipated social punishment (e.g., "When I am trying a nice outfit on, I think of the offensive things that others are going to think or say of me, like that, I want to be provocative or seductive"). The themes that appeared in the pilot study aligned with the topics we identified through the literature review and helped shape the content of the items and their specific wording. Last, the team of experts judged the face validity of the items and made a first selection. From this multi-phasic approach, we generated an initial item pool of 27 items (see Table 1).

Study 1

In Study 1, we administered the initial 27 items generated for the scale with the aim of identifying the initial scale structure and selecting the best items using exploratory factor analysis. This and the following studies focused on women to align with the scale's emphasis on their own social experiences.

Method

The sample size for this study, as well as for the following studies, was based on the minimum item – participant ratio recommendations of three to six observations per item in the factor analysis (Cattell, 1978). Data was collected between December 2020 and March 2021. In this study, we recruited 887 Italian female participants through personal contacts and free advertisements on social media from the general population. From this initial sample, we eliminated participants who failed to complete the STEW items ($n=163$), those who failed more than one of three attention checks, stating “If you are paying attention, please select ‘strongly disagree’” ($n=17$), and those who did not disclose their gender ($n=4$). The final sample was made of 703 women ($M_{age} = 46.57$, $SD=13.29$; age ranged from 18–74). Most people reported their nationality as Italian ($n=596$; 84.79%), their sexual orientation as straight ($n=557$; 79.23%) and were mostly employed ($n=487$; 69.27%). Full demographic information for all studies can be found in Table S1 in the online supplement. There were no missing data.

After giving informed consent, participants were asked to rate their level of agreement with our pool of 27 items from 1 (*Strongly disagree*) to 7 (*Strongly agree*) and reported demographic information (age, nationality, gender, and sexual orientation). To ensure that we measured participants’ perceptions of the social treatment and experiences of women and not their gender equitable attitudes, our items followed these instructions: “Indicate whether you believe each statement describes occurrences in your society. For instance, choose ‘strongly disagree’ if you perceive the item reflects a phenomenon that does not occur at all in your society, and ‘strongly agree’ if you believe it describes a prevalent phenomenon. Your responses should reflect your beliefs about these statements’ applicability to your society, not your personal views around these issues or whether or not you think they are fair.” The survey took approximately 8 minutes to complete.

Results and Discussion

Before conducting an exploratory factor analysis of the 27 items, we checked the assumptions and descriptive statistics. A graphical examination revealed that most item distributions were not canonically normal, and therefore, we applied the principal axis factoring model, which makes no distributional assumption and is robust against deviations from normality (Fabrigar et al., 1999). Supposing that the factors would be correlated, we applied an oblique rotation (the Promax rotation), generally recommended because it begins with an orthogonal rotation but then

removes the orthogonality constraints leaving factors free to correlate (Grieder & Steiner, 2022). Kaiser–Meyer–Olkin (KMO=0.96) measure of sampling adequacy test and Bartlett’s test of sphericity, $\chi^2(351)=7903.50$ and $p<.001$, demonstrated the data were suitable for factor analysis. Correlations showed no evidence of multicollinearity, with $0.116 < r < .541$ and the determinant value equal to 1.099×10^{-5} .

The factor extraction, based on Kaiser’s (1960) criterion, displayed four factors, explaining 52.91% of the variance. All 27 items and their factor loadings are included in Table 1. The first factor reflected several social expectations directed at women; the second reflected inequalities taking place in the workplace. The third factor reflected home-based issues of gender inequalities. Finally, the last factor reflected harassment towards women.

We excluded five items (item #10, #13, #24, #25 and #27) with a cross-loading larger than 0.30 and repeated the same analysis. At this point, we had a clear factor structure, but the first factor retained 11 items, while the second and fourth had four items each and the third had three items. To balance out the number of items in the first factor to the others without losing meaningful content covered by these items, we decided to revisit its structure, by examining both the statistics and the content of the items loading onto the first factor. Statistically, we decided to retain only the best loading factors (factor-loading greater than 0.60). We also dropped one item on sexual social expectations (“Differently from a man, a woman who maintains an active sexual life without a stable relationship is seen as someone who is ‘no-good’”) which seemed redundant with another item with a higher loading and clearer wording (“A woman who initiates sexual activities is seen as being sexually promiscuous”). Last, we repeated the same analysis with fewer items imposing the extraction of four factors.

Final Model Statistics

Table 2 represents the factor structure of the final model. In the final model, five items loaded onto the first factor capturing *social expectations* ($M=4.71$; $SD=1.20$; *eigenvalue* 6.37; $\alpha=0.80$), accounting for 39.81% of the total variance. This factor captured expectations about women’s sexual life, women’s clothing, women’s maternity, and women’s involvement in childcare and parenting.

Four items loaded on the second factor capturing *workplace inequalities* ($M=5.79$; $SD=0.92$; *eigenvalue* 1.30; $\alpha=0.80$), accounting for 8.07% of the total variance. The items loading on this factor reflected the increased difficulties and the reduced possibilities that women face for being hired compared to men, the higher risk of being fired in times of crisis, and the penalty that mothers but not fathers receive when going back to work after the birth of a child.

Table 1 Initial factor loadings of the item pool for the STEW (Study 1)

Item	Factor			
	1	2	3	4
1. A woman who is too outgoing is often labelled as somewhat of a bimbo.	0.73	-0.05	0.03	0.00
2. A woman who initiates sexual activities is seen as being sexually promiscuous.	0.63	-0.09	0.13	0.05
3. Differently from a man, a woman who maintains an active sexual life without a stable relationship is seen as someone who is 'no-good'.	0.62	-0.15	0.08	0.22
4. Women without children are seen as being worse people, than men without children.	0.62	0.07	-0.01	-0.04
5. A woman who dresses in trackies and hoodie is considered by others to be neglecting herself.	0.62	0.01	0.01	0.04
6. After having a child, a woman is expected to stay home and take care of the child until they are old enough to care for themselves.	0.61	0.16	0.09	-0.20
7. When women receive unwanted sexual advances, they often think it is their fault.	0.61	-0.02	-0.02	-0.02
8. Compared to a man, a woman who masturbates is judged more negatively.	0.55	0.06	0.00	0.05
9. Often, in the media or in formal situations, women are addressed by their name (Carla) and not by their title (Dr. Rossi).	0.51	0.26	-0.06	-0.08
10. Even in female-dominated workplaces (e.g. schools), men are considered and valued more by female colleagues and superiors.	0.42	0.35	-0.14	-0.02
11. Women often impose limits on themselves when choosing clothes or places to go in order to avoid situations from which unpleasant incidents may arise (e.g. receiving sexual comments).	0.42	0.02	-0.07	0.24
12. Often when women experience violence they are blamed or held at least partly responsible.	0.40	0.05	0.04	0.19
13. A woman's private life is more often talked about than her work achievements.	0.35	0.31	-0.01	0.18
14. All other things being equal, women encounter more difficulties in establishing a career than men do.	0.08	0.71	0.00	-0.04
15. In times of crisis, women are more likely to lose their jobs than men.	-0.08	0.70	-0.01	0.13
16. When seeking employment, women are less likely to be hired than a man who has the same credentials.	0.15	0.66	0.01	-0.09
17. After having a child, women experience greater negative outcomes at work than men do.	-0.02	0.50	0.06	0.22
18. Typically, it is women who clean the house.	0.09	-0.02	0.81	-0.05
19. Typically, women are responsible for washing and ironing clothes for others in the house.	-0.02	0.00	0.81	0.03
20. Often, the "mental burden" of running a home and caring for a family is the responsibility of women.	0.00	0.29	0.35	0.10
21. Compared to a man, a woman is more likely to receive sexual advances at a job interview or in the workplace.	-0.04	0.14	-0.01	0.65
22. A woman's clothing choice is commented on more often than a man's clothing choice.	0.09	-0.01	0.00	0.63
23. Compared to men, women are often subjected to unwelcome sexual jokes.	0.19	0.07	-0.03	0.53
24. Women happen to be the object of whistles or jokes in the street when they walk around without a man.	0.36	-0.14	0.01	0.48
25. When a woman dresses to go to work, she knows that her clothing is likely to be the target of comments from colleagues and superiors.	0.35	-0.05	-0.11	0.45
26. At night, it is more dangerous for a woman to walk alone than for a man to walk alone.	-0.08	0.11	0.18	0.41
27. Many more women than men are killed by their partners.	-0.20	0.33	0.05	0.36

Note. Factor 1=Social Expectations; Factor 2=Workplace Inequalities; Factor 3=Domestic Imbalance; 4=Harassment Towards Women; Bolded factor loadings highlight the items that were kept in the final scale. Items #10, #13, #24, #25 and #27 were excluded because their cross-loading was larger than 0.30

Three items loaded on the third factor capturing *domestic imbalance* ($M=5.77$; $SD=1.02$; *eigenvalue* 1.13; $\alpha=0.77$), accounting for 7.07% of the total variance. This factor captured the more time-consuming duties that women typically take care of within their households, such as cleaning the house, doing laundry and, more generally, doing the organizing, the planning, and the actual tasks to maintain a household.

Four items loaded on the fourth factor capturing *harassment towards women* ($M=5.93$; $SD=0.81$; *eigenvalue* 0.96; $\alpha=0.74$), accounting for 5.99% of the total variance. The items loading on this factor refer to the different shades of harassment that are typically directed at women, from verbal comments on their appearance or sexually explicit comments to workplace sexual harassment and to the higher risk for women to go out at night by themselves.

As anticipated, all four factors correlated with each other: All bivariate correlations between these factors were moderately strong and positive, ranging between $r=.48$ to 0.60 . Overall, our findings from the exploratory factor analyses revealed a 16-item scale with four correlated subscales that assess the social treatment and experiences of women, namely social expectations, workplace inequality, domestic imbalance, and harassment towards women. The subsequent studies aim to further examine and confirm the structure and validity of the Social Treatment and Experiences of Women Scale (STEW).

Study 2

In Study 2 we aimed to replicate the structure of the STEW in a different sample, namely that of women-identified university students. Consistent findings across distinct and independent samples would support the four-factor solution as both robust (Onwuegbuzie, 2000; see also Sudkämper et al., 2020) and externally valid, as suggested by Winer's (1999) guidelines. Furthermore, we aimed to test the reliability of the instrument by calculation of Cronbach's alpha.

Method

Participants and Procedure

In total, we recruited 671 participants who were enrolled in some form of tertiary education at the first author's institution. Data was collected between April 2021 and August 2021. We excluded two people who did not give their informed consent, 106 people who failed to fill in the STEW measure, and one person who identified as a man. Additionally, we added three attention checks stating, "If you are paying attention, please select strongly disagree" and we excluded participants who failed who failed more than one attention check ($n=12$). Thus, the final sample was made up of 550 participants ($M_{age} = 22.94$, $SD=4.34$, age ranged from 18 to 57). Among them, four people (0.73%) identified as non-binary but were retained in the final sample since they reported to

Table 2 Factor loadings of the items for the STEW (Study 1)

Item	Mean	SD	Factor			
			1	2	3	4
1. A woman who is too outgoing is often labelled as somewhat of a bimbo.	4.67	1.62	0.73			
5. A woman who dresses in trackies and hoodie is considered by others to be neglecting herself.	4.72	1.54	0.62			
2. A woman who initiates sexual activities is seen as being sexually promiscuous.	5.04	1.51	0.62			
4. Women without children are seen as being worse people, than men without children.	4.78	1.70	0.60			
6. After having a child, a woman is expected to stay home and take care of the child until they are old enough to care for themselves.	4.32	1.72	0.58			
14. All other things being equal, women encounter more difficulties in establishing a career than men do.	5.98	1.03		0.75		
16. When seeking employment, women are less likely to be hired than a man who has the same credentials.	5.50	1.27		0.71		
15. In times of crisis, women are more likely to lose their jobs than men.	5.77	1.24		0.70		
17. After having a child, women experience greater negative outcomes at work than men do.	5.92	1.10		0.55		
18. Typically, it is women who clean the house.	5.56	1.34			0.87	
19. Typically, it is women who are responsible for washing and ironing clothes for others in the house.	5.83	1.20			0.81	
20. Often, the "mental burden" of running a home and caring for a family is the responsibility of women.	5.91	1.12			0.36	
21. Compared to a man, a woman is more likely to receive sexual advances at a job interview or in the workplace.	5.58	1.19				0.71
22. A woman's clothing choice is commented on more often than a man's clothing choice.	6.09	1.03				0.64
23. Compared to men, women are more often subjected to unwelcome sexual jokes.	5.76	1.19				0.57
26. At night, it is more dangerous for a woman to walk alone than for a man to walk alone.	6.31	0.90				0.39

Note. Factor 1 = Social Expectations; Factor 2 = Workplace Inequalities; Factor 3 = Domestic Imbalance; 4 = Harassment Towards Women

be socialized as women. Although the study was initially targeted towards women, we chose to include these participants to honor their decision to engage with the research and because their experiences, shaped by their socialization as women, provide valuable perspectives on gender inequalities. This inclusion is consistent with the study's broader commitment to capturing diverse experiences in an overall quite diverse sample: although most participants are Italian, they make up only 70% of the sample, and while most identify as heterosexual, they represent just 58%.

In terms of university major, the sample was fairly diversified: the larger groups were humanities students ($n=72$, 13.09%), psychology students ($n=72$, 13.09%), engineering students ($n=70$, 12.73%) and medicine students ($n=53$, 9.64%), but there also were students of other disciplines, from pharmacy ($n=24$, 4.36%) and sciences ($n=23$, 4.18%) to sociology ($n=39$, 7.09%), interpreters and translators ($n=12$, 2.18%), economics ($n=11$, 2.00%), political sciences ($n=10$, 1.82%), educational sciences ($n=13$, 2.36%), law ($n=2$, 0.36%), and sports science ($n=2$, 0.4%). One-hundred and forty-nine did not answer this question (27.09%). Of these students, 227 (41.27%) were currently enrolled in a bachelor program, 165 (30.00%) in master programs, three (0.55%) were PhD students, six (1.09%) were doing other types of education (specialization, etc.) and 149 (27.09%) did not answer this question.

After giving informed consent, participants were presented with the STEW scale, some other measures that were not used for this study, and then some demographic questions, such as age, nationality, and sexual orientation. Overall, the survey took approximately 20 minutes to complete. With respect to the variables utilized in this study, there was no missing data.

Results

We validated the factor structure of the STEW by means of confirmatory factor analysis (CFA), using Mplus 8.3 (Muthén & Muthén, 2019). We loaded the 16 items onto the four factors in line with the structure that emerged from the EFA in Study 1. We evaluated the model fit by assessing multiple indices. In particular, to determine a good fit, the model chi-square should be non-significant (however, it is not a good fit indicator with samples this large, as it is quite sensitive to sample size), the Comparative Fit Index (CFI) needs to be larger than 0.90, the Root Mean Square Error of Approximation (RMSEA) needs to be lower than 0.08 – and the upper bound of its confidence interval smaller or equal to 0.10, and the Standardized Root Mean Square Residual (SRMR) needs to be smaller than 0.08 (Byrne, 2011). Additionally, we consulted the Akaike Information Criteria (AIC) for comparing

models, indicating that the model with the lower AIC value fits the data better (Byrne, 2011). The specified model fit showed an acceptable fit to the data, $\chi^2(98)=348.51$, $p<.001$, CFI=0.917, RMSEA=0.07 (CI: 0.06, 0.08), SRMR=0.08, and the Akaike Information Criteria for comparing models AIC=25931.97. However, the significant chi-square value may reflect the sensitivity to large sample sizes rather than poor fit, while the SRMR being at the threshold of 0.08 suggests a fit that is adequate but could potentially be improved. Therefore, as the four factors were theoretically related and statistically found to correlate in Study 1, we specified a second model where the latent factors would correlate. We also consulted the modification indices and noticed an equivalent grammatical structure in two items (“Typically, it is women who clean the house” and “Typically, women are responsible for washing and ironing clothes for others in the house”), and therefore we also specified a correlation between these two items. The revised model demonstrates an improved fit with good indices, $\chi^2(97)=230.65$, $p<.001$, CFI=0.956, RMSEA=0.05 (CI: 0.04, 0.06), SRMR=0.04, and a smaller value for the comparative fit index, AIC=25816.11, all indicating an excellent model fit despite the significant chi-square likely due to sample size (Byrne, 2011). The Cronbach's alphas for the four factors were acceptable: *domestic imbalance* ($M=5.68$; $SD=1.09$; $\alpha=0.75$), *workplace inequalities* ($M=5.82$; $SD=0.97$; $\alpha=0.82$), *harassment towards women* ($M=6.40$; $SD=0.69$; $\alpha=0.80$) and *social expectations* ($M=5.29$; $SD=1.08$; $\alpha=0.75$). All bivariate correlations between these factors were moderately strong and positive, ranging between $r=.30$ to 0.60.

Discussion

The results of the confirmatory factor analysis carried out in Study 2 confirmed the 16-item four-factor structure of the STEW, as identified in the previous study, in an independent sample of women-identified university students. Furthermore, the scale showed good evidence of its reliability, as indicated by Cronbach's alphas. Like in the previous study, the four factors were positively correlated with each other, indicating that perceiving that women are being treated differently in one domain is associated with similar perceptions in the other three domains.

Study 3a

Study 3a aimed to provide further evidence of the robustness of the STEW scale by replicating the factor structure in another sample and by establishing its convergent, predictive, and discriminant validity.

Convergent Validity

To test for convergent validity, the measure under consideration should show a strong relationship with another measure that assesses a closely related or similar construct (Hogan, 2019). Since we were unaware of any existing measure that captures the perceived treatment of women across multiple domains, and given the intercorrelation of the four STEW subscales, we tested convergent validity using Tougas and Veilleux's (1988) measure of perceived workplace gender inequality. Just as perceiving differential treatment of women in one domain correlates with perceptions of differential treatment in other domains, shown with the STEW in Study 1, we expected positive correlations between the STEW subscales and Tougas and Veilleux's (1988) perceived workplace gender inequality measure. Furthermore, as both Tougas and Veilleux's (1988) measure and the STEW workplace inequality subscale specifically address gender inequality in the workplace, we anticipated this to be the strongest correlation.

Predictive Validity

Predictive validity is commonly defined as the degree to which scores on a measure predict scores on another criterion-related measure (Hogan, 2019). To test for predictive validity, we analyzed whether the STEW scale was related to two group-based emotions (anger and indignation) and participants' reported experiences of sexism. First, perceptions of group-based inequalities have been positively linked to group-based emotions, such as anger and resentment (Smith et al., 2012). Relative deprivation theory suggests that recognizing differential treatment between groups fuels emotional reactions, with experimental evidence showing that women experience more anger when primed with information about pervasive inequality compared to when told it is rare or nonexistent (Schmitt et al., 2003). Thus, we expected the STEW to be positively associated with the emotions under consideration, namely anger and indignation.

Second, being aware of the existence of group-based discrimination is usually related to individuals' higher ability to recognize when they experience discrimination (e.g., Ruggiero & Taylor, 1995; Stroebe et al., 2010). For instance, Becker and Swim (2011) found that when women were prompted to focus on sexism by documenting instances of sexist incidents in daily diaries, they more readily recognized and rejected everyday sexism. Similarly, we expected that as women become increasingly aware of differential treatment across various domains, they would more accurately recognize and report their own experiences

of sexism. Additionally, we examined whether the various dimensions of STEW worked as distinct predictors for the three variables under consideration, namely, emotions and experiences of sexism.

Discriminant Validity

To test for discriminant validity and ensure that a test does not measure what it is not intended to measure, the measure under validation should show no or weak relation to a psychological construct that it should not be related to (Hogan, 2019). Because at the time of data collection (autumn 2021) the spread of the coronavirus was still a pressing social issue in Italy (Bocci, 2021), we looked at the association between the STEW and the perceived coronavirus threat to test if the awareness of differential treatment of women was different from the emotional reaction to another pressing social issue. Thus, we expected very weak or non-significant correlations between the four STEW factors and the perceived coronavirus threat.

Method

Participants and Procedure

We recruited 149 female participants from employees of a large organization. Data was collected between September - December 2021. From this sample, we excluded two participants who preferred not to declare their gender and 15 participants who failed more than one of three attention checks, saying "If you are paying attention, please select strongly disagree." The final sample was comprised of 132 participants ($M_{age} = 50.27$, $SD = 7.98$, age ranged from 29 to 62), who identified as women. A sensitivity analysis was conducted with G*Power (Faul et al., 2007) and indicated that the final sample was sufficient to detect small to medium effects of $f^2 = 0.06$, assuming an $\alpha = 0.05$, and power of 0.80 for multiple linear regressions with four predictors (Cohen, 2013). There were no missing data.

Except for six participants who did not answer this question (4.55%), they all reported Italian as their nationality ($n = 127$; 95.45%). Most participants were straight ($n = 119$; 90.15%). After giving their informed consent, participants were presented with the STEW and the measures of emotions, experiences of sexism, perceived coronavirus threat, and lastly, some demographic information, in this order. Blocks of questions were not randomized, but items within each block were. The questionnaire took approximately 20 minutes to complete.

Measures

Social Treatment and Experiences of Women

Social treatment and experiences of women were measured with the 16-item STEW scale. All the subscales exhibited acceptable reliability levels (*social expectations*, with $\alpha=0.73$, *workplace inequalities*, with $\alpha=0.81$, *domestic imbalance*, with $\alpha=0.82$, and *harassment towards women*, with $\alpha=0.74$).

Perceived Workplace Gender Inequality

We assessed perceived workplace gender inequality with Tougas and Veilleux's (1988) 3-item measure ("I think that women and men have different chances of being promoted at work;" "I think that women and men have different chances of being promoted;" and "I think that women and men earn different salaries;" $\alpha=0.82$ in this study). Participants rated each item on a 7-point Likert-type scale from 1 (*strongly disagree*) to 7 (*strongly agree*). We used mean scores, whereby higher scores signified higher perceptions of workplace gender inequality.

Group-Based Emotions

Group-based emotions were measured by asking participants "When thinking about inequalities between men and women, how much do you feel the following emotions?" for anger and indignation (1 = *not at all*; 7 = *very much*). We used anger as it is the most widely investigated emotion in response to perceived inequality and relative deprivation (Agostini & van Zomeren, 2021; Smith et al., 2012), and indignation as it has been shown to be a relevant measure to investigate in the context of Italian women's reaction to the perceived treatment of women (Ciaffoni et al., 2024). Higher scores indicated stronger emotional reactions to gender inequalities.

Experiences of Sexism

To measure participants' reported experiences of sexism, we included the Schedule of Sexist Events Modified (SSE-LM; Bowleg et al., 2008). This measure comprises 13 items about women's lifetime experiences of sexism in a variety of domains, from the work environment to the family context. Sample items are "As a woman, how often have you been treated unfairly by your co-workers or fellow students?" and "As a woman, how often have people made inappropriate or unwanted sexual advances at you?" ($\alpha=0.89$ in this study). Participants had to indicate how frequently each instance of sexism had occurred in their life, from 1 (*never*) to 7 (*all the*

time). We used mean scores, whereby higher scores indicated a higher reported frequency of experiences of sexism.

Perceived Coronavirus Threat

Finally, we assessed the perceived coronavirus threat with the Perceived Coronavirus Threat Questionnaire (Conway et al., 2020) included six items (e.g., "I am afraid of the coronavirus" and "I am worried that I or people I love will get sick from the coronavirus;" $\alpha=0.83$ in this study). Participants indicated their responses on a 7-point Likert scale from 1 (*not at all*) to 7 (*very much*). We used mean scores, and higher scores indicated stronger feelings of threat towards the coronavirus.

Results

Descriptive Statistics and Confirmatory Factor Analysis

All descriptive statistics and correlations among measures are presented in Table 3. First, as in Study 2, we conducted a CFA allowing correlations among the latent factors and the two similarly worded items. The results provided further evidence for the four-factor model identified in the two previous studies, with very good fit indices, $\chi^2(97)=159.34$, $p<.001$, CFI=0.925, RMSEA=0.07 (CI: 0.05, 0.09), SRMR=0.06.

Convergent Validity

As hypothesized, correlations between Tougas and Veilleux's (1988) measure of perception of workplace inequality and each STEW subscale were significant and positive, ranging between $r=.41$ to 0.76. The perceived workplace gender inequality had the strongest correlation with the STEW subscale of workplace inequality and the weakest one with the STEW subscale of social expectations. These results provide evidence for good convergent validity (Hogan, 2019).

Predictive Validity

To test for predictive validity, we first analyzed all bivariate correlations between the STEW subscales, the group-based emotions, and the experiences of sexism. Supporting our hypotheses, all STEW dimensions were significantly and positively associated with higher anger, indignation, and reported experiences of sexism. We then computed a series of multiple linear regression models with anger, indignation, and experience with sexism regressed on the four subscales (see Table 4).

Table 3 Descriptive statistics and correlations between variables (Study 3a)

Variable	Mean	SD	1	2	3	4	5	6	7	8
1. Social Expectations	4.53	1.11								
2. Workplace Inequalities	5.76	0.95	0.54***							
3. Domestic Imbalance	5.72	1.02	0.53***	0.56***						
4. Harassment Towards Women	5.78	0.82	0.59***	0.70***	0.58***					
5. Perceived Workplace Inequality	5.70	0.96	0.41***	0.76***	0.47***	0.64***				
6. Anger	5.01	1.50	0.29**	0.43***	0.25**	0.40***	0.37***			
7. Indignation	5.24	1.49	0.27**	0.49***	0.23**	0.44***	0.44***	0.55***		
8. Experiences of Sexism	2.22	0.88	.45***	0.42***	0.20*	0.43***	0.44***	0.27**	0.21*	
9. Perceived Coronavirus Threat	4.44	1.05	0.22*	0.03	0.03	0.15	-0.02	0.04	0.06	0.19*

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

Table 4 Unstandardized regression coefficients, F tests and R^2 of the linear regressions (Study 3a)

Predictor	Anger	Indignation	Experiences of sexism
Social expectations	0.06	-0.03	0.25**
Workplace inequalities	0.47*	0.62**	0.21*
Domestic Imbalance	-0.08	-0.18	-0.18*
Harassment towards women	0.36	0.45*	0.22
R^2_{adj}	0.18	0.25	0.26
F ($df=5, 195$)	8.13**	11.72**	12.29**

Note. ** $p < .01$, * $p < .05$

For anger, the regression model was significant, showing that, collectively, the four subscales accounted for 18% of the variance of anger. Looking at the unique contribution of each factor, results show that workplace inequalities positively predicted anger ($sr=0.20$). When analyzing the same model for indignation, we obtained a significant model in which the four subscales accounted for 25% of the variance. Workplace inequalities ($sr=0.27$) and harassment ($sr=0.16$) both had a unique and positive contribution to indignation. For experiences of sexism, the multiple regression model was significant and accounted for 26% of the total variance. In terms of unique contributions, social expectations ($sr=0.24$) and workplace inequalities ($sr=0.15$) positively predicted experience with sexism, while domestic imbalance ($sr=-0.16$) was a negative predictor. Yet, it should be noted that the bivariate correlation between domestic imbalance and experience with sexism was positive, implying that the negative relationship observed in the regression analysis is due to the partialling out of the other dimensions. Taken together, these findings demonstrate predictive validity for the STEW.

Discriminant Validity

Supporting discriminant validity, the STEW subscales of domestic imbalance, workplace inequalities, and harassment towards women were not related to the perceived coronavirus threat. Unexpectedly, the correlation between the subscale of

social expectations and perceived coronavirus threat was significant, but not large ($r=.22, p=.010$). Following Sudkämper et al. (2020), we looked further into the correlations of each item composing this factor. Two items had no significant correlations, two items in the.10s and one in the.20s. Hence, the overall correlation between social expectations and perceived coronavirus threat can be explained by an aggregation of several weak relationships, which do not harm the discriminant validity of the STEW scale.

Discussion

In addition to providing further support for the factor structure of the STEW, the findings of Study 3a provided preliminary evidence for the convergent, predictive, and discriminant validity of the newly developed instrument. However, it should also be noted that the STEW subscale of workplace inequality played a major role in the associations not only with perceived workplace inequality, but also with anger, indignation and reported experiences of sexism. In contrast, the STEW subscale of social expectations explained unique variance only when predicting reported experiences of sexism. This pattern may depend on the outcomes investigated. Workplace inequality represents a more structural dimension of gender inequality and therefore may evoke stronger emotional responses, such as anger and indignation. In contrast, differential treatment in social expectations may be perceived as a personal hassle, possibly eliciting a less intense emotional reaction. Thus, in the next study, we examined the STEW subscales of workplace inequality and social expectations as differential predictors of attitudes related to their specific domains.

Study 3b

Study 3a provided preliminary evidence of the validity of the STEW, yet more evidence supporting the utility of all subscales was warranted. The subscale of workplace inequality

explained unique variance in feelings of anger and indignation related to gender inequalities and reported experiences of sexism. We wanted to test if perceiving differential treatment of women in the workplace could be associated with support of policies that more specifically aim to tackle such discrepancies, namely affirmative action policies. Differently, the subscale of social expectations only explained unique variance in predicting reported experiences of sexism, among the outcomes already investigated in the previous study. We wanted to empirically test our idea that this was the case because of the outcomes considered so far and broaden our investigation to include specific attitudes in the domain of women's sexuality that may be conceptually closer to social expectations.

Hence, Study 3b analyzed the relationships between perceiving inequalities, support for affirmative action policies, and attitudes towards women's sexual lives. This selection of outcomes aligns with the conceptual distinctions between different dimensions of gender inequality. On the one hand, within the domain of economic inequality, affirmative action for gender includes policies and programs that aim to promote equal opportunities for women by providing preferential treatment to address past discrimination and increase representation (Krings et al., 2007). Workplace inequality focuses on structural inequalities in professional settings, which conceptually links it to support for structural solutions, like affirmative action. In fact, research found that individuals who perceive gender inequalities in the workplace tend to support policies promoting gender equality more (e.g., Crosby et al., 2003; Lips, 2003). Hence, we hypothesized that the perception of differential treatment of women in the workplace would be the main predictor of support for affirmative action policies, compared to the other STEW dimensions (Hypothesis 1).

On the other hand, in a completely different life domain, that is that of sexuality, women are often targets of negative attitudes (e.g., Conley & Klein, 2022). Studies on sexual double standards pointed out that traditional beliefs maintain greater approval of sexual freedom for men than for women (Endendijk et al., 2020). Notably, holding such traditional views ultimately reinforces norms that constrain women's behaviors (e.g., Conley et al., 2013). Social expectations, specifically those included in the STEW subscale (which focus on gender roles that are expected of women in several areas of life, not just how to act sexually but also how to dress and behave, for instance), capture cultural aspects of inequality, which might conceptually link to (but are distinct from) the endorsement of certain ideologies that can promote a cultural change, including the liberation of women's sexuality.

In other words, the key difference between the STEW subscale of social expectations and attitudes towards women's

sexual freedom is that the former assesses participants' perceptions around social expectations for women (what social expectations for women look like in their social environment), the second encapsulate beliefs about personal attitudes about women's sexuality (how they think women's sexuality should be). Because, in general terms, research established that perceiving a differential treatment is a fundamental antecedent of support for social change (Agostini & van Zomeren, 2021), it seems plausible to expect that perceiving some social expectations on women but not on men may be associated with the endorsement of more egalitarian beliefs about some of these specific domains, including endorsing beliefs in favor of women's sexual freedom. Therefore, we expect that perceiving that there are different social expectations for women should be the strongest predictor of more favorable attitudes towards women's sexual freedom, compared to the other dimensions of gender inequalities (Hypothesis 2).

Method

Participants and Procedure

The initial sample was made up of 104 women working in a public organization in Italy, who were invited to take part in an online survey. Data was collected between May – July 2022. Non-heterosexual participants ($n=8$) were excluded to ensure alignment with the focus of the employed measure of attitudes towards women's sexuality (the Sexual Freedom for Women subscale from the Sexual Double Standards Scale; Sierra et al., 2018), which specifically addresses opinions on women's sexuality in heterosexual contexts) and to maintain methodological consistency with the original study. Thus, the final sample included 96 women ($M_{age} = 50.40$, $SD_{age} = 8.23$). We performed a sensitivity analysis on G*Power (Faul et al., 2007), which showed that our sample was sufficient to reveal small to medium effects of $f^2=0.08$, assuming an $\alpha=0.05$, and power of 0.80 for a multiple linear regression with four predictors (Cohen, 2013). All participants reported their nationality as Italian. The survey took approximately 8 minutes to complete. There were no missing data.

Measures

For all measures, participants were required to rate their level of agreement on a 7-point Likert scale (1 = *strongly disagree*; 7 = *strongly agree*).

Social Treatment and Experiences of Women

Social treatment and experiences of women were measured with the 16-item STEW scale. All subscales had acceptable

reliability indices: *social expectations* ($\alpha=0.75$), *workplace inequalities* ($\alpha=0.80$), *domestic imbalance* ($\alpha=0.81$), and *harassment towards women* ($\alpha=0.69$).

Support for Affirmative Action Policies

Support for affirmative action policies was measured by asking participants to indicate how favorable they were of four policies, namely “reserving quotas for women in organizations,” “providing company incentives for the hiring of a woman (e.g., in the form of a bonus),” “preferential selection of women with the same qualifications as men in public organizations,” and “reserving quotas for women in political elections” (taken from Krings et al., 2007; $\alpha=0.85$ in this study). We used mean scores, and higher scores indicated stronger support for affirmative action policies.

Attitudes Towards Women’s Sexual Freedom

To assess participants’ attitudes towards women’s sexual freedom, we used the 4-item *sexual freedom for women* subscale from the abridged version of the Sexual Double Standards Scale (SDSS; Sierra et al., 2018). Sample items include “It’s okay for a woman to have more than one sexual relationship at the same time” and “It’s okay for a woman to have sex with a man she is not in love with” ($\alpha=0.67$). We used mean scores, and higher scores indicated more favorable attitudes towards women’s sexual freedom.

Results

Table 5 shows bivariate correlations between all variables. All STEW subscales were positively correlated with support for affirmative action policies, workplace inequalities being the strongest, but only those of harassment and social expectations were significantly positively associated with attitudes towards women’s sexual freedom, with social expectations showing the strongest correlation coefficient.

To explain which component of perceptions of gender inequalities drive these effects, we computed two separate stepwise multiple linear regression models for support for affirmative action policies and attitudes towards women’s

sexual freedom. Stepwise regression identifies which factors uniquely predict the outcome by retaining only those that add significant explanatory power to the model (Field, 2024). The model on support for affirmative action policies was significant and accounted for 13% of the total variance, with $R^2=0.13$, $F(1, 94)=14.87$, $p=.001$. In terms of unique contributions, workplace inequalities ($b=0.56$, $p<.001$, with $sr=0.45$) were significant, thus supporting Hypothesis 1. The regression model on attitudes towards women’s sexual freedom was also significant, accounting for 10% of the total variance, $R^2=0.10$, $F(1, 94)=11.25$, $p=.001$, with only social expectations being significantly associated with the outcome ($b=0.34$, $p=.001$, with $sr=0.24$), thus supporting Hypothesis 2.

Discussion

Study 3b provided preliminary evidence that different dimensions of the STEW can differently predict women’s attitudes towards certain issues. In particular, we found that perceiving a differential treatment of women in the workplace uniquely predicted support for affirmative action, whereas perceiving different social expectations for women predicted attitudes towards women’s sexual freedom. Notably, harassment and domestic imbalance did not predict attitudes towards women’s sexual freedom, indicating that not all dimensions of gender inequality affect perceptions in the same way.

Study 4

While Studies 1 to 3b provided preliminary evidence for the convergent, predictive, and discriminant validity of the STEW in Italian samples, Study 4 aimed to evaluate its suitability in a distinct cultural setting and an English-speaking context, namely the UK, and its incremental validity. Examining the differentiation between a measure of perceived treatment of women and a measure of personal experiences of sexism, Study 4 aimed to empirically disentangle these two constructs. Here, we tested the incremental validity of the STEW beyond a personal sexism experience measure

Table 5 Descriptive statistics and correlations between variables (Study 3b)

Variable	Mean	SD	1	2	3	4	5
1. Social expectations	4.47	1.16					
2. Workplace inequalities	5.75	0.89	0.36***				
3. Domestic imbalance	5.72	1.04	0.45***	0.40***			
4. Harassment towards women	5.88	0.78	0.60***	0.45***	0.62***		
5. Support for affirmative actions	4.84	1.34	0.25*	0.37***	0.27**	0.27**	
6. Attitudes towards women’s sexual freedom	3.74	1.19	0.33**	0.17	0.20	0.28**	0.01

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

(Bowleg et al., 2008) for predicting the group-based emotions of anger, disdain and resignation in response to gender inequality, as well as negative attitudes towards men.

We reasoned that a woman's personal experiences of sexism can strongly predict wellbeing outcomes (see online supplement for a test of this contention), whereas her group-based emotions about the inequality and attitudes towards the advantaged group are likely influenced more by her perception of how she perceives her gender group to be treated in society (Smith et al., 2012; Wright & Tropp, 2002). Specifically, we examined participants' emotions when considering gender inequalities, given these emotions have been associated with distinct responses to group conditions. Unlike in Study 3a, where we assessed only emotions that are linked to action (anger and indignation), Study 4 included also an emotion linked to passive acceptance. In fact, when group disadvantage evokes anger and disdain, people may engage in actions to improve their group's situation (e.g., Agostini & van Zomeren, 2021), whereas resignation has been linked to avoidance and withdrawal (Osborne et al., 2012; Smith & Pettigrew, 2014). Thus, we hypothesized that perceiving differential treatments for women across domains would predict more anger and disdain regarding gender inequality above personal experiences of sexism. Yet, we made no specific prediction concerning resignation.

Furthermore, in line with relative deprivation theory, which proposes that perceiving the ingroup's disadvantage is associated with more negative attitudes towards the advantaged group (Smith et al., 2012), we considered negative attitudes towards men. Given that men are the socially and economically advantaged group in virtually all societies, few instruments exist to measure negative attitudes towards men. Therefore, we decided to measure them as captured by the hostility component of the Ambivalence towards Men Inventory (AMI; Glick & Fiske, 1999) – which specifically expresses women's resentment towards men's domination within intimate relationships. Accordingly, we expected that perceptions of differential treatment across domains would be associated with more negative attitudes towards men, beyond what personal experiences of sexism might predict. No specific predictions were made regarding which STEW subscales would explain these associations.

Method

Participants and Procedure

We recruited 201 women participants from the UK through Prolific. Participants were compensated for their participation at a rate of 9£/hour. Data was collected in November 2023. They all identified as women, and nobody failed

more than one attention check out of three, so we kept all participants in the final sample. The final sample was thus made up of 201 participants ($M_{age} = 41.24$, $SD = 13.16$, age ranged from 18 to 76). A sensitivity analysis conducted on G*Power (Faul et al., 2007) indicated the adequacy of the final sample to detect small effects of $f^2 = 0.04$, given an $\alpha = 0.05$, and power of 0.80 for multiple linear regressions with five predictors (Cohen, 2013). Most participants reported their nationality as English ($n = 162$; 80.60%), their sexual orientation as straight ($n = 176$; 87.56%) and most were employed ($n = 138$; 68.66%).

After the informed consent, the questionnaire included the STEW and measures of group-based emotions, experiences of sexism, well-being, negative attitudes towards men, and a few sociodemographic questions, in this order. Blocks of questions were not randomized, though items within each block were. The questionnaire took approximately 10 minutes to complete. There were no missing data.

Measures

Unless specified, all answers were provided on a 7-point Likert scale from “strongly disagree” to “strongly agree.” For all composite measures, we used mean scores.

Social Treatment and Experiences of Women

Social treatment and experiences of women were measured with the STEW. All subscales showed satisfactory reliability indices: *social expectations*, with $\alpha = 0.78$, *workplace inequalities*, with $\alpha = 0.75$, *domestic imbalance*, with $\alpha = 0.80$ and *harassment towards women*, with $\alpha = 0.72$. To assess whether social expectations items were perceived as gender-specific, we conducted an additional analysis described in the online supplement.

Group-Based Emotions

The group-based emotions of anger, disdain, and resignation were measured by asking participants “When thinking about inequalities between men and women, how much do you feel the following emotions?” and having each of the three emotions listed below (1 = *not at all*; 7 = *very much*). Higher scores indicated stronger emotional reactions to gender inequalities.

Experiences of Sexism

Experiences of sexism was measured as in Study 3a (SSE-LM; Bowleg et al., 2008; $\alpha = 0.92$ in this study). Higher scores indicated a higher reported frequency of experiences of sexism.

Depression

Depression was measured through the 7-item Depression subscale of the Depression Anxiety and Stress Scale (DASS-21; Lovibond & Lovibond, 1995; $\alpha=0.94$ in this study) using a response scale ranging from 1 (*Does not apply to me at all*) to 4 (*Applies to me very much or most of the time*). Sample items include “I feel I am not worth much as a person” and “I feel that life is meaningless.” Higher scores indicate higher levels of depression.

Negative Affect

Negative affect was measured through three items of the corresponding subscale of the Affect Valuation Index (Tsai et al., 2006; $\alpha=0.93$ in this study), namely “I feel sad,” “I feel lonely,” and “I feel unhappy.” We used mean scores, and higher scores indicated more negative affect.

Negative Attitudes Towards Men

Negative attitudes towards men were measured by including the Hostile Sexism subscale of the Ambivalent Sexism Towards Men Inventory (Rollero et al., 2014), composed of three items (“Men will always fight for greater control in society,” “When in positions of power, men sexually harass women,” and “Men act like babies when they are sick;” $\alpha=0.66$). We used mean scores, and higher scores indicated more negative attitudes towards men.

Results

Descriptive Statistics and Confirmatory Factor Analysis

Means, standard deviations, and correlations among measures are shown in Table 6. First, as in the previous studies, we conducted a CFA allowing correlations among the latent factors and the two similarly worded items on the statistical program Mplus 8.3 (Muthén & Muthén, 2019). The results of the model exhibited excellent fit indices, $\chi^2(97)=127.676$, $p=.0201$, CFI=0.971, CFI=0.964 RMSEA=0.04 (CI: 0.02, 0.06), SRMR=0.05, supporting the robustness of the four-factor solution, even in a different social and cultural context.

Incremental Validity

To clarify the distinct predictive power of the STEW compared to a measure of personal experiences of sexism, we conducted a set of hierarchical regression analyses. We

entered the sexism experience measure in Model 1, adding the four STEW subscales in Model 2. This approach allowed us to examine whether the STEW subscales explained additional variance in predicting the group-based emotions of anger, disdain and resignation, and negative attitudes towards men, as we hypothesized.

For each outcome, Model 1 was significant, with experiences of sexism acting as a significant predictor (see Table 7). Supporting our hypothesis, Model 2, featuring the measure of experiences of sexism and all the STEW subscales, exhibited a significant improvement in predictive power and uncovered more nuanced associations. Both experiences of sexism ($sr=0.23$) and workplace inequality ($sr=0.18$) significantly predicted more anger. Similarly, both experiences of sexism ($sr=0.18$) and workplace inequality ($sr=0.18$) predicted more disdain. Resignation was no longer predicted by experiences of sexism ($sr=0.11$), while it was significantly predicted by higher perceptions of domestic imbalance ($sr=0.16$). As for negative attitudes towards men, experiences of sexism was no longer a significant predictor in Model 2 ($sr=0.03$), while higher perceptions of workplace inequality ($sr=0.17$) and domestic imbalance ($sr=0.18$) did predict increased hostility towards men.

Discussion

The results of Study 4 confirmed the factor structure of the STEW in a different cultural context, specifically the UK, providing some evidence of the adaptability of the STEW to English-speaking participants. Additionally, the findings provided further evidence of its reliability, as indicated by satisfactory Cronbach’s alphas. Furthermore, findings support the distinctiveness of the STEW from experiences of sexism, as shown by its incremental validity in predicting the group-based emotions of anger, disdain and resignation, as well as more negative attitudes towards men.

Study 5

This study aimed to clarify the conceptual scope of the STEW in multiple ways. First, addressing a potential limitation in the scale – specifically, that some items did not explicitly refer to men as a comparative gender group (e.g., “A woman who initiates sexual activities is seen as being sexually promiscuous”) – we modified the items to make such comparisons explicit. Second, we sought to further test the validity of the STEW. In particular, we aimed to provide evidence for the usefulness of a measure tapping individuals’ perceptions of gender inequality as distinct from other available instruments measuring gender equitable attitudes.

Table 6 Descriptive statistics and correlations between variables (study 4)

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Social Expectations	4.68	1.15										
2. Workplace Inequalities	5.26	0.97	0.58***									
3. Domestic Imbalance	5.75	1.05	0.45***	0.58***								
4. Harassment Towards Women	6.05	0.78	0.55***	0.57***	0.43***							
5. Anger	4.40	1.84	0.39***	0.45***	0.24**	0.41***						
6. Disdain	4.07	1.75	0.40***	0.43***	0.20**	0.40***	0.76***					
7. Resignation	3.50	1.72	0.33***	0.30***	0.32***	0.22**	0.42***	0.42***				
8. Negative Attitudes Towards Men	5.00	1.03	0.35***	0.45***	0.42***	0.32***	0.27***	0.25***	0.26***			
9. Experiences of Sexism	2.93	1.09	0.58***	0.46***	0.26***	0.49***	0.47***	0.44***	0.29***	0.27***		
10. Depression	1.78	0.73	0.23**	0.15*	0.14	0.21**	0.21**	0.20**	0.27***	0.23**	0.33***	
11. Negative Affect	3.10	1.72	0.25***	0.17*	0.18*	0.18*	0.22**	0.21**	0.31***	0.28***	0.32***	0.82***

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

Table 7 Standardized regression coefficients, F -Tests and R^2 of the hierarchical regressions (Study 4)

Predictor	Anger	Disdain	Resignation	Negative attitudes towards men
Model 1				
Experience of Sexism	0.47**	0.44**	0.29**	0.27**
R^2_{adj}	0.22	0.19	0.08	0.07
$F (df=1, 199)$	56.20**	47.48**	17.59**	15.18**
Model 2				
Experience of Sexism	0.29**	0.23**	0.15	0.04
Social Expectations	0.02	0.09	0.15	0.07
Workplace Inequalities	0.26**	0.26**	0.07	0.25**
Domestic Imbalance	-0.06	-0.11	0.20*	0.23**
Harassment Towards Women	0.13	0.14	-0.06	0.02
R^2_{adj}	0.28	0.26	0.14	0.23
ΔR^2	0.08	0.09	0.08	0.18
$F (df=5, 195)$	16.59**	15.37**	7.36**	13.08**
$\Delta F (df=4, 195)$	5.43**	6.12**	4.50**	11.74**

Note. ** $p < .01$, * $p < .05$

Additionally, we aimed to empirically differentiate between perceiving differences in treatment between women and men (social treatment and experiences of women) and labeling such differences as injustice (legitimacy perceptions), analyzing the association between the STEW and legitimacy perceptions. Although they are often measured together, such as in assessments of perceived injustice within the collective action research tradition (Agostini & van Zomeren, 2021), we argue that both should be considered when studying people’s reactions to inequality. For example, one may believe that inequality between men and women is wrong without recognizing any differences between the two groups, which may result in a lack of reaction to inequality. Thus, while understanding attitudes about gender equity is important, it is equally vital to assess the extent to which individuals perceive differential treatment.

To test convergent validity, we measured a series of gender equitable attitudes, which aimed to reflect the “beliefs people hold about whether access to and the distribution of social, political, and economic resources is fair and equitable across gender groups” (Hoxmeier et al., 2024, p. 232). Specifically, we included measures of gender ideology (equal sharing of family/work responsibilities; Kaufman & Taniguchi, 2006), egalitarian gender role beliefs (appropriate societal roles for men and women; Kerr & Holden, 1996), gender equity attitudes (endorsement of egalitarian roles in public spheres; Dotti Sani & Quaranta, 2017), and tolerance of sexual harassment (beliefs about acceptable behavior in gendered interactions; Russell & Trigg, 2004). We expected

the STEW to be positively correlated with gender ideology (Hypothesis 1a), gender roles beliefs (Hypothesis 1b) and gender equity attitudes (Hypothesis 1c) and negatively correlated with tolerance of sexual harassment (Hypothesis 1d).

For incremental validity, we hypothesized that the STEW would be significantly and positively associated with collective action intentions and feminist identification even after controlling for the gender equitable attitudes of gender ideology, gender roles beliefs, gender equity attitudes, and legitimacy perceptions (Hypothesis 2). Our measures of collective action intentions included support for traditional collective action for gender equality, such as voting, protesting or signing petitions, and small acts, namely more private daily actions that people can perform to support gender equality, such as confronting someone who makes a sexist statement or educating oneself about gender issues (Miron et al., 2022). Additionally, we also measured intentions to engage in collective action for specific gender issues, such as collective action for workplace equality, against harassment towards women, for domestic equality and against gender stereotypes.

Trying to advance more specific predictions about the role of each subscale, we expected that workplace inequality would predict collective action for workplace equality beyond the other components (Hypothesis 2a), harassment towards women would predict collective action against harassment (Hypothesis 2b), domestic imbalance would predict collective action for domestic equality (Hypothesis 2c), and social expectations would predict collective action against gender stereotypes beyond the other predictors (Hypothesis 2d). We advanced no specific hypothesis about which subscale could predict the two other measures of collective action intentions – i.e., traditional collective action and small acts. Nevertheless, based on previous evidence on the positive association between perceived workplace inequality and collective action in the Italian context (e.g., Mazzuca et al., 2022), one might reasonably expect perceptions of workplace inequality to play a role in predicting collective action intentions. Finally, as contemporary feminism considers inequality through a multifaceted and intersectional lens (Morgenroth et al., 2024), we expected that more than one, but not necessarily all, subscales of perceived gender inequality would be positively associated with feminist identification.

With respect to discriminant validity, we tested whether the STEW differentiated from assessments of inequality towards another social group and awareness of another timely issue, namely climate change. Hence, we expected no or very weak correlations between the STEW scores and awareness of inequality towards homeless people (Hypothesis 3a) and awareness around climate change (Hypothesis 3b).

Method

Participants and Procedure

We implemented the questionnaire on Qualtrics and advertised the study through a snowball sampling technique using social media platforms (Facebook, Instagram, X) and the personal contacts of the research team. Data were collected in Italy between June and September 2024. The initial sample comprised 296 Italian-speaking participants. We excluded two participants who did not give their consent to participate, 52 participants who left the questionnaire right after having expressed their consent or did not complete the relevant measures, three participants who identified as men and six participants who failed more than one attention check out of three, stating “*If you are paying attention, please select strongly disagree.*” The final sample included 233 participants ($M_{age} = 32.96$, $SD = 12.37$, age ranged from 18 to 73). Most of them were women ($n = 228$; 97.90%) and five were non-binary people socialized as women (2.10%), mostly Italian ($n = 227$; 97.80%) and straight ($n = 194$; 83.26%). A sensitivity analysis was conducted with G*Power (Faul et al., 2007) and indicated that the final sample was sufficient to detect small to medium effects of $f^2 = 0.06$, assuming an $\alpha = 0.05$, and power of 0.80 for multiple linear regressions with seven predictors (Cohen, 2013). There was no missing data.

Upon giving their informed consent, participants were presented with the STEW, gender equitable attitudes and the measure of perceived legitimacy of gender inequalities, collective action intentions, feminist identification, awareness of inequality towards homeless people, and climate change awareness, in this order. The order of the items within each of these blocks was randomized. The questionnaire was completed in about 20 minutes.

Measures

Unless differently specified, participants indicated their level of agreement with the following statements on a Likert-type scale, from 1 = *strongly disagree* to 7 = *strongly agree*. For all composite measures, we used mean scores.

Social Treatment and Experiences of Women

Social treatment and experiences of women with the STEW. For this study, we modified the wording of some of the items to make explicit the comparison with men where it was not already (for instance, the item “A woman who is too outgoing is often labelled as somewhat of a bimbo” was reworded as “Unlike an outgoing man, a woman who is too outgoing is often labelled as somewhat of a bimbo”). All subscales

showed acceptable levels of internal consistency (*social expectations*, with $\alpha=0.80$, *workplace inequalities*, with $\alpha=0.77$, *domestic imbalance*, with $\alpha=0.72$, and *harassment towards women*, with $\alpha=0.64$).

Perceived Legitimacy of Gender Inequalities

Perceived legitimacy of gender inequalities (adapted from Dare & Jetten, 2022) was measured with four items (“To what extent do you think that gender inequalities are fair/justifiable/understandable/legitimate?”; 1=*not at all*, 7=*very much*; $\alpha=0.72$). Higher scores indicated higher perceptions of legitimacy around gender inequalities.

Gender Equitable Attitudes

To assess gender equitable attitudes, we measured gender ideology (Kaufman & Taniguchi, 2006), gender roles beliefs (Kerr & Holden, 1996), gender equity attitudes (Dotti Sani & Quaranta, 2017), and tolerance of sexual harassment (Russell & Trigg, 2004). Except for the tolerance of sexual harassment, higher scores indicated more gender equitable attitudes.

Gender Ideology. We used the 6-item gender ideology scale (Kaufman & Taniguchi, 2006). Sample items are “Women should be concerned with their duties of child-rearing and house tending, rather than with their careers” and “Except in special cases, the wife should do the cooking and house cleaning, and the husband should provide the family with money” ($\alpha=0.40$). As Cronbach’s alpha was not acceptable, we removed two items from the gender ideology scale to use a sufficiently reliable measure ($\alpha=0.62$). Although a Cronbach’s alpha of 0.62 is generally considered low, it can be deemed acceptable for a four-item measure (Taber, 2018).

Gender Roles Beliefs. We used the 10-item gender roles beliefs scale (Kerr & Holden, 1996). Sample items are “Women should have as much sexual freedom as men” and “It is ridiculous for a woman to run a train and for a man to sew clothes” (reversed); $\alpha=0.72$).

Gender Equity Attitudes. We used the gender equity attitudes scale (Dotti Sani & Quaranta, 2017), including five items, such as “Men and women should have equal opportunities to take part in government” or “When there are not many jobs available, men should have more right to a job than women;” $\alpha=0.36$). Since no item removal made the gender equity attitudes scale acceptable, we decided to not include this measure in further analyses.

Tolerance of Sexual Harassment. We adapted the tolerance of sexual harassment scale (Russell & Trigg, 2004; 14 items, e.g., “It’s only natural for a man to make sexual advances to a woman he finds attractive” or “An attractive

woman has to expect sexual advances and should learn how to handle them;” $\alpha=0.67$ in this study). We removed one item to improve the scale reliability ($\alpha=0.70$). Higher scores indicated more tolerance of sexual harassment.

Collective Action Intentions

Collective action intentions were measured by assessing collective action for domestic equality, workplace equality, against harassment towards women, and gender stereotypes, as well as traditional collective action and small acts. For the former, we adapted a well-established measure of collective action to each STEW domain (van Zomeren et al., 2004). Higher scores indicated stronger intentions to support collective action.

Collective Action for Domestic Equality. Collective action for domestic equality was measured with three items, such as “I would participate in some form of collective action to protest against the traditional gender division of domestic roles” and “I would participate in a demonstration against the excessive domestic burden of women compared to men” ($\alpha=0.90$).

Collective Action for Workplace Equality. Collective action for workplace equality was measured with three items, such as “I would participate in some form of collective action to protest against workplace gender inequality” and “I would participate in a demonstration against the gender pay gap” ($\alpha=0.87$).

Collective Action Against Harassment Towards Women. Collective action against harassment towards women was measured with three items, such as “I would participate in some form of collective action to protest against sexual harassment of women” and “I would participate in a demonstration against inappropriate sexually denoted teases and behaviors that women experience in multiple contexts” ($\alpha=0.87$).

Collective Action Against Gender Stereotypes. Collective action against gender stereotypes was measured with three items, such as “I would participate in some form of collective action to create awareness of how gender stereotypes affect women’s lives” and “I would participate in a demonstration to promote women’s sexual freedom” ($\alpha=0.86$).

Traditional Collective Action and Small Acts. Collective action for gender equality intentions was assessed with the collective action on behalf of women’s scale (Miron et al., 2022), which includes the two subscales of traditional collective action (five items; e.g., “sign a petition supporting a women’s issue” and “attend demonstrations, protests or rallies about women’s issues;” $\alpha=0.72$) and small acts (five items; e.g., “challenge a sexist remark that is said to

a woman” or “actively seek out knowledge about women’s issues;” $\alpha=0.77$).

Feminist Identification

Feminist identification was measured with the Self-Identification as a Feminist Scale (Szymanski, 2004), including four items, such as “I consider myself a feminist” and “I identify myself as a feminist to other people” ($\alpha=0.72$). Higher scores indicated stronger feminist identification.

Social Treatment of Homeless People

Social treatment of homeless people was assessed with a single item created ad hoc, namely “Homeless people have very few protections from welfare policies.” Higher scores indicated higher recognition of the disparity faced by homeless people.

Climate Change Awareness

Climate change awareness was measured with a single item from Knight (2016), asking “How much do you know about global warming or climate change?” Higher scores indicated higher climate change awareness.

Results

Descriptive Statistics and Preliminary Analysis

All descriptive statistics and correlations among measures are presented in Table 8.

We conducted a CFA on the STEW measure like in the previous studies. The results confirmed the four-factor model identified, yielding acceptable fit indices, $\chi^2(97)=205.64$, $p<.001$, CFI=0.911, RMSEA=0.07 (CI: 0.06, 0.08), SRMR=0.05. Table 9 presents the means, standard deviations, and standardized factor loadings of the items in their final wording. The results revealed that the means of items in which an explicit comparison with men was introduced (e.g., items from the social expectations and domestic imbalance subscales) were slightly higher compared to the original wording, potentially suggesting that making the comparison salient may have influenced participants’ responses (See Table 10).

As for the perceived legitimacy of inequality, it was significantly negatively correlated with workplace inequalities ($r=-.14$, $p=.033$), social expectations ($r=-.13$, $p=.047$) and harassment towards women ($r=-.28$, $p<.001$) and not correlated with domestic imbalance ($r=-.05$, $p=.478$).

Convergent Validity

As hypothesized, correlations between each STEW subscale and the considered measures of gender equitable attitudes were mostly significant and in the expected direction. In particular, correlations of the STEW subscales with the gender ideology scale were between 0.19 and 0.32 (in support of Hypothesis 1a), those with the gender roles beliefs scale between 0.29 and 0.41 (however, the correlation with domestic imbalance was not significant; thus, partially supporting Hypothesis 1b) and those with tolerance of sexual harassment were between -0.22 and -0.44 (in support of Hypothesis 1d).

Incremental Validity

To test the incremental validity of the scale, and hence show that the new measure explains unique variance beyond other related measures, we conducted a series of hierarchical regression analyses, where the measures of perceived legitimacy of gender inequalities, gender ideology, and gender roles beliefs were entered in Model 1, and the four STEW subscales were added in Model 2. As outcomes, we considered collective action for specific goals (i.e., workplace equality, reducing harassment against women, promoting an equal distribution of household chores, and fighting against gender stereotypes), traditional collective action and small acts for gender equality, and feminist identification (see Table 9).

In support of Hypothesis 2, adding the STEW dimensions as predictors significantly improved the linear regression model, and at least two STEW subscales explained unique variance beyond other predictors for each outcome. In particular, collective action for domestic equality was uniquely predicted by workplace inequality ($sr=0.19$) and social expectations ($sr=0.20$); collective action for workplace equality was uniquely predicted by workplace inequality ($sr=0.22$) and social expectations ($sr=0.12$); collective action against harassment was uniquely predicted by workplace inequality ($sr=0.15$), social expectations ($sr=0.16$) and legitimacy perceptions ($sr=-0.13$); collective action against gender stereotypes was uniquely predicted by workplace inequality ($sr=0.13$), social expectations ($sr=0.17$) and gender ideology ($sr=-0.13$); traditional collective action was uniquely predicted by workplace inequality ($sr=0.21$) and social expectations ($sr=0.18$); small acts were uniquely predicted by workplace inequality ($sr=0.13$), social expectations ($sr=0.12$), harassment towards women ($sr=0.12$), and legitimacy perceptions ($sr=-0.14$); last, feminist identification was uniquely associated with harassment towards women ($sr=0.16$), social expectations ($sr=0.15$) and gender roles beliefs ($sr=0.16$).

Table 8 Descriptive statistics and correlations between variables (Study 5)

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Social Expectations	5.53	1.03																
2. Workplace Inequality	5.93	0.86	0.52***															
3. Domestic Imbalance	6.16	0.80	0.43***	0.38***														
4. Harassment Towards Women	6.42	0.59	0.56***	0.58***	0.41***													
5. Legitimacy of Gender Inequalities	1.50	0.77	-0.13*	-0.14*	-0.05	-0.28***												
6. Gender Ideology	6.90	0.31	0.19**	0.20*	0.19**	0.32***	-0.14*											
7. Gender Roles Beliefs	6.27	0.60	0.37***	0.29***	0.09	0.41***	-0.30***	0.44***										
8. Tolerance of Sexual Harassment	1.64	0.55	-0.40***	-0.37***	-0.22*	-0.44***	0.25***	-0.45***	-0.60***									
9. Traditional Collective Action	5.32	0.93	0.45***	0.45***	0.22**	0.39***	-0.18**	0.21**	0.26***	-0.33***								
10. Small Acts	6.28	0.73	0.44***	0.44***	0.29***	0.49***	-0.28***	0.29***	0.37***	-0.49***	0.68***							
11. Collective Action for Workplace Equality	6.21	1.04	0.40***	0.46***	0.21**	0.42***	-0.18**	0.24***	0.29***	-0.31***	0.68***	0.58***						
12. Collective Action Against Harassment	6.20	1.10	0.40***	0.40***	0.20**	0.39***	-0.25***	0.24***	0.32***	-0.38***	0.67***	0.62***	0.84***					
13. Collective Action for Domestic Equality	5.84	1.26	0.45***	0.44***	0.27***	0.39***	-0.16*	0.23***	0.28***	-0.31***	0.66***	0.57***	0.77***	0.80***				
14. Collective Action Against Gender Stereotypes	6.04	1.13	0.46***	0.43***	0.25***	0.46***	-0.24***	0.32***	0.38***	-0.38***	0.70***	0.65***	0.87***	0.88***	0.85***			
15. Feminist Identification	5.58	1.34	0.45***	0.38***	0.22**	0.49***	-0.24***	0.25***	0.43***	-0.49***	0.51***	0.66***	0.44***	0.47***	0.50***	0.53***		
16. Social Treatment of Homeless People	5.79	1.25	0.27***	0.24***	0.10	0.24***	-0.24***	0.12	0.33***	-0.28***	0.29***	0.29***	0.26***	0.24***	0.22**	0.25***	0.22**	
17. Climate Change Awareness	4.41	1.15	0.20**	0.26***	0.09	0.15*	-0.06	0.19*	0.25***	-0.22**	0.24***	0.32***	0.26***	0.22**	0.20**	0.23**	0.29***	0.17*

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

Table 9 Unstandardized regression coefficients, *F* tests and *R*² of the hierarchical regressions (Study 5)

Predictor	Collective Action for Domestic Equality	Collective Action for Workplace Equality	Collective Action against Harassment	Collective Action against Gender Stereotypes	Traditional Collective Action	Small Acts	Feminist Identification
Model 1							
Legitimacy of Gender Inequalities	-0.13	-0.14	-0.23*	-0.20*	-0.14	-0.18**	-0.21
Gender Ideology	0.52	0.45	0.43	0.70**	0.34	0.37*	0.34
Gender Roles Beliefs	0.42**	0.35**	0.40**	0.49***	0.27*	0.30**	0.80***
<i>R</i> ² _{adj}	0.86	0.10	0.13	0.18	0.08	0.18	0.19
<i>F</i> (<i>df</i> =3, 229)	8.25**	9.42***	12.39***	17.97***	7.37***	17.63***	19.14***
Model 2							
Legitimacy of Gender Inequalities	-0.09	-0.09	-0.20*	-0.14	-0.10	-0.14*	-0.13
Gender Ideology	0.36	0.30	0.32	0.54*	0.23	0.23	0.13
Gender Roles Beliefs	0.10	0.08	0.15	0.20	0.01	0.12	0.46**
Social Expectations	0.32**	0.16*	0.22**	0.24**	0.22**	0.11*	0.26**
Workplace Inequalities	0.36**	0.35***	0.25**	0.22*	0.29***	0.15*	0.12
Domestic Imbalance	0.05	-0.04	-0.03	0.01	-0.03	0.05	-0.02
Harassment towards Women	0.05	0.20	0.13	0.24	0.09	0.21*	0.51**
<i>R</i> ² _{adj}	0.26	0.26	0.24	0.32	0.25	0.33	0.32
ΔR^2	0.19	0.17	0.13	0.15	0.19	0.16	0.14
<i>F</i> (<i>df</i> =7, 225)	12.73***	12.69***	11.60***	16.69***	12.30***	17.31***	16.39***
ΔF (<i>df</i> =4, 225)	14.62***	13.59***	9.61***	12.93***	14.68***	14.06***	11.66***

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

Table 10 Factor loadings of the items for the STEW (Study 5)

Item	Mean	SD	Factor			
			1	2	3	4
1. Unlike an outgoing man, a woman who is too outgoing is often labelled as somewhat of a bimbo.	5.44	1.36	0.66			
5. Unlike a man, a woman who dresses in trackies and hoodie is considered by others to be neglecting herself.	5.05	1.50	0.53			
2. Unlike a man, a woman who initiates sexual activities is seen as being sexually promiscuous.	5.70	1.27	0.67			
4. Women without children are seen as being worse people, than men without children.	5.72	1.39	0.72			
6. After having a child, a woman is expected to stay home and take care of the child until they are old enough to care for themselves, unlike a man.	5.73	1.43	0.74			
14. All other things being equal, women encounter more difficulties in establishing a career than men do.	6.12	0.96		0.72		
16. When seeking employment, women are less likely to be hired than a man who has the same credentials.	5.67	1.23		0.83		
15. In times of crisis, women are more likely to lose their jobs than men.	5.64	1.24		0.64		
17. After having a child, women experience greater negative outcomes at work than men do.	6.30	0.98		0.56		
18. Typically, it is more women than men who clean the house.	6.05	0.99			0.63	
19. Typically, it is more women than men who are responsible for washing and ironing clothes for others in the house.	6.15	0.98			0.57	
20. Often, the “mental burden” of running a home and caring for a family falls more on women than men.	6.27	1.03			0.64	
21. Compared to a man, a woman is more likely to receive sexual advances at a job interview or in the workplace.	6.03	0.96				0.64
22. A woman’s clothing choice is commented on more often than a man’s clothing choice.	6.45	0.93				0.48
23. Compared to men, women are more often subjected to unwelcome sexual jokes.	6.56	0.72				0.69
26. At night, it is more dangerous for a woman to walk alone than for a man to walk alone.	6.64	0.76				0.49

Note. Factor 1=Social Expectations; Factor 2=Workplace Inequalities; Factor 3=Domestic Imbalance; 4=Harassment Towards Women. The wording of these items reflects their final wording as used in Study 5. The factor loadings refer to standardized estimates

Discriminant Validity

Except for the domestic imbalance subscale, the other three subscales showed weak correlations with awareness of discrimination towards homeless people ($0.24 < r < .27$). While these correlations indicate some overlap, they are weak enough not to undermine the scale's discriminant validity, thereby supporting Hypothesis 2a (Akoglu, 2018; see also Sudkämper et al., 2020). We hypothesized that this could be a third-variable issue, with more leftist participants generally being more aware of inequalities affecting both women and homeless people. Partial correlations controlling for political orientation supported this contention: awareness of discrimination towards homeless people was more weakly correlated with perceived workplace gender inequalities ($r = .15, p = .027$), with social expectations ($r = .16, p = .014$), and harassment towards women ($r = .17, p = .009$), while still not significantly related to domestic imbalance ($r = .05, p = .433$).

Similarly, for climate change awareness, the correlations with the STEW subscales are rather weak or non-significant (one had no significant correlation, two in the .10s, and one in the .20s), supporting Hypothesis 2b. Once again, it may be the case that more left-wing people are more likely to be aware of climate change, which is often central to leftist political agendas. Controlling for political orientation resulted in even weaker correlations between climate change awareness and perceived workplace gender inequalities ($r = .19, p = .004$), and no correlation with domestic imbalance ($r = .05, p = .429$), social expectations ($r = .11, p = .093$), and harassment towards women ($r = .08, p = .255$).

Discussion

First, the current study replicated the STEW four-factor structure in a new sample, after refining the wording of the items that did not already make an explicit comparison to men, namely the items of the domestic imbalance subscale and some of the social expectations subscale. Interestingly, the means of such items seem slightly higher than in previous studies. While this suggests that the revised wording may have heightened respondents' perception of gender inequalities in these domains, we cannot conclude with certainty that the wording alone drove this increase, as differences in the sample may have also contributed. Second, it provided evidence of convergent validity by showing that the subscales were associated with higher endorsement of gender equitable attitudes – in particular, gender ideology (Kaufman & Taniguchi, 2006) and gender roles beliefs (Kerr & Holden, 1996) and lower tolerance of sexual harassment. Though most correlations were significant,

their moderate or weak strength suggests that the awareness of differential treatment and the judgment that it's unfair are distinct psychological processes that may not always align. Further support for this point stems from the weak correlations between the STEW subscale and the perceived legitimacy of gender inequality. Taken together, these findings suggest that while women did perceive gender differences in social treatment, their views on whether these differences were unjust or legitimate varied, and, in the case of domestic imbalance, the perceived difference was unrelated to perceived illegitimacy.

Furthermore, we tested the incremental predictive power of the STEW scale in addition to the perceived legitimacy of gender inequality and two gender equitable attitudes (gender ideology and gender roles beliefs) in predicting behavioral intentions to engage in different types of collective action. Adding the STEW scale consistently increased the predictive power of the model, and, in general, the STEW subscales were stronger predictors than perceived illegitimacy and gender equitable attitudes. While we anticipated that each subscale would differentially predict specific types of collective action (e.g., awareness of harassment predicting the intention to engage in actions against harassment), our findings indicated that, regardless of the type of collective action, perceived workplace gender inequalities and social expectations were the only significant predictors explaining unique variance compared to all other factors.

In hindsight, the lack of significant associations between perceived harassment and collective action against harassment, and between domestic imbalance and action against domestic imbalance, can be explained. Regarding harassment, even individuals with sexist beliefs can acknowledge the issue but propose alternative solutions, such as men's protection (e.g., Moya et al., 2007), which may explain why merely perceiving that women are more harassed does not necessarily lead to greater collective action. As for domestic imbalance, findings from the fifth study of this research linked it to resignation, an emotion tied to acceptance and stillness (Osborne et al., 2012), which contrasts with the drive for collective action, potentially accounting for the absence of significant results.

Similarly, it was workplace inequalities and social expectations that uniquely predicted traditional collective action. Intentions to engage in small acts were instead predicted by workplace inequality, harassment towards women and social expectations, but not domestic imbalance. Interestingly, domestic imbalance, being the most private aspect of gender inequality, may be less linked to visible support for equality and more associated with personal household adjustments, rather than actionable gestures benefiting other women. Additionally, since domestic imbalance was not linked to perceived illegitimacy, it may not drive support

for change at all. We also conducted the same analyses on feminist identification and found that adding the STEW scale significantly improved the prediction model. The STEW domains that explained unique variance were harassment towards women and social expectations, supporting our expectation that multiple STEW subscales would be associated with feminist identification. While all subscales demonstrated significant associations with feminist identification at the bivariate level, the reasons for harassment and social expectations accounting for unique variance remain speculative. On the one hand, this might be attributed to our sample, which predominantly consisted of younger individuals who may be less engaged with issues of domestic imbalance. On the other, in recent years, popular feminist movements in Italy (e.g., “Non una di meno”) have mainly addressed the issue of gender violence and women’s domination, and therefore feminist fights for workplace gender equality might have been less salient for our respondents. Whereas these speculations deserve more investigation, taken together, these findings underscore the importance of considering women’s perceptions of their social treatment over and above their attitudes toward gender equality.

General Discussion

The aim of the current research was to develop and validate a new measurement tool, the Social Treatment and Experiences of Women (STEW) scale, that captures perceptions of unequal social treatment and experiences of women. Previous studies in this area have typically taken a general approach by examining a composite evaluation of several gender discrepancies (e.g., Kinias & Kim, 2012) or have focused on a specific aspect, usually workplace inequalities (e.g., Tougas & Veilleux, 1988). However, gender inequalities take up several forms and manifest in diverse domains, ranging from intimate family contexts (e.g., Allen, 2016) to the broader economic landscape (e.g., Ryan & Haslam, 2007), and, although intertwined, can trigger distinct psychological reactions. To address the limitations of prior literature, this research took a comprehensive approach by assessing women’s perceptions of the social treatment and experiences of women, considering multiple aspects simultaneously. Through a qualitative pilot study and six separate quantitative studies in Italy and the UK, we gathered robust evidence supporting a four-factor structure that encompasses perceptions of domestic imbalance, workplace inequalities, harassment towards women, and social expectations. The correlations among the four subscales across all studies suggest that recognizing that women are treated differently than men in a certain domain may make women more likely to see differential treatments based on gender

in other domains as well. At the same time, considering the four factors simultaneously allows a nuanced understanding of how perceiving a differential treatment in a certain domain relates to specific emotional responses and attitudes. For instance, perceptions of workplace inequality uniquely predicted anger (Studies 3a and 4), domestic imbalance uniquely predicted resignation (Study 4), and both workplace inequality and harassment uniquely predicted indignation (Study 3a). Additionally, perceiving gendered social expectations was associated with positive attitudes toward women’s sexual freedom (Study 3b). All in all, these and the other findings from this research highlight the important role that each factor of the STEW has in comprehending women’s reactions to gender inequalities.

Factor Structure and Construct Validity of the STEW Scale

Initially, a pilot study exploring the views of laywomen regarding gender inequalities revealed that such views were congruent with the multidimensional nature of the issue, as previously identified by reviewing the literature. Studies 1 and 2 established the final four-factor structure. Studies 3a and 3b provided the first evidence for its convergent, predictive, and discriminant validity. Whereas Studies 1 to 3b were conducted in Italy, Study 4 replicated the four-factor structure in the UK and demonstrated the incremental validity of the STEW compared to a measure of personal experiences of sexism in predicting group-based emotions and intergroup attitudes. Study 5, conducted in Italy, confirmed the factorial structure of the scale with the final wording of the items and provided more evidence of convergent, incremental and discriminant validity. Furthermore, it supported that perceiving that women are targets of unequal social treatment is related to but distinct from the perceived legitimacy of gender inequalities and gender equitable attitudes.

Specifically, in Study 3a the STEW showed convergent validity by positively correlating with an existing measure of perceived workplace inequality (Tougas & Veilleux, 1988). Supporting predictive validity, these studies also proved that the four STEW dimensions were positively related to group-based emotions and the reported experiences of sexism. As mentioned, when the four dimensions were entered as predictors in the multiple regression models, anger was significantly predicted by workplace inequalities only, whereas indignation was significantly predicted by perceptions of workplace inequalities and harassment. On the one hand, these findings are consistent with previous evidence linking perceiving group-based inequality to group-based emotions such as anger and resentment (e.g., Smith et al., 2012), which are strongly associated with support for collective action (e.g., Agostini & van Zomeren, 2021). On the other,

whereas previous studies focused on the driving effect of perceived workplace gender inequalities (e.g., Boeckmann & Feather, 2007; Sipe et al., 2016), this research, adopting a multidimensional measure of gender inequalities, highlights that the awareness that women are a target of harassment, too, can play a unique role in predicting group-based emotions.

In line with previous research (e.g., Ruggiero & Taylor, 1995; Stroebe et al., 2010), Study 3a found that perceiving group-level gender inequalities was associated with a higher likelihood of reporting personal experiences of sexism. When looking at the predictive validity of all subscales simultaneously, this effect was mostly driven by perceptions of workplace inequalities and social expectations. Study 3b underscored the importance of accounting for different aspects of gender inequalities, by showing how the STEW subscales of workplace inequalities and social expectations, besides their shared variance, acted as unique predictors of, respectively, support for affirmative action and attitudes towards women's sexual freedom in the multiple regression models.

Replication of the STEW Structure and Differentiation From Personal Experiences of Sexism

Study 4 replicated the four-factor structure of the STEW in the UK, showing that even in a context characterized by higher gender equality and higher awareness around gender inequalities (Pew Research Centre, 2019; World Economic Forum, 2021), women's experiences declinate according to the four dimensions individuated in the proposed measure. It's interesting to notice that despite the differences in gender equality rankings between Italy (61st) and the UK (22nd; World Economic Forum, 2021), the STEW means in the samples did not appear to differ. This finding supports the idea that objective inequality is just one of the factors determining people's appraisal of such inequality (Jetten & Peters, 2019) and that responses to the STEW items reflect the intergroup comparison with men rather than with women in other countries or at other times in history.

Moreover, Study 4 provided evidence for the incremental validity of the STEW, improving predictive capacity beyond personal experiences of sexism (Bowleg et al., 2008). For instance, the association between personal experiences of sexism and negative attitudes towards men was fully suppressed when the STEW dimensions were added to the model, as perceptions of workplace inequality and domestic imbalance mainly drove negative attitudes towards men. Notably, the inclusion of the STEW not only improved the ability to predict group-based emotions and attitudes towards the advantaged group but also shed light on the nuances of such relationships. For example, both personal experiences

of sexism and perceptions of workplace inequality – which one may argue to be the more “structural” aspects of gender inequalities necessitating coordinated solutions (e.g., collective actions) – uniquely predicted experiencing more anger and disdain in response to gender inequalities, which represent intense emotional responses to the injustice of one's group situation and powerful drivers of action aimed at changing it (Leach et al., 2015).

In contrast, perceiving domestic imbalance uniquely predicted resignation, an emotion of sad immobility and passive acceptance (e.g., Osborne et al., 2012). This finding highlights the widespread acceptance of unequal gendered distribution of unpaid housework, which has proven particularly resistant over decades (e.g., Jaspers et al., 2022), sustained largely by persistent stereotypes of women as more communal and nurturing – frequently endorsed by women themselves (Hentschel et al., 2019; Kosakowska-Berezecka et al., 2023). Additionally, the association between domestic imbalance and resignation resonates with studies on benevolent sexism (Becker & Wright, 2011), a form of sexism which may lead women to overlook power dynamics and derive security and self-worth from gendered domestic roles (Hammond & Overall, 2017). More generally, these findings underscore the need for comprehensive analyses to understand the diverse emotional responses to different facets of women's social treatment and experiences.

Replication of the STEW Structure and Differentiation of the STEW From Gender Equitable Attitudes

In Study 5, we addressed a potential limitation of the original wording by making explicit comparisons to men for all items, including those in the social expectations and domestic imbalance subscales, where such comparisons were previously implicit. The lack of explicit comparison in earlier studies may have allowed participants to interpret these items without a clear gendered lens, despite evidence from Study 4 indicating that these phenomena were perceived to apply more to women than to men. Replicating the same factor structure with this revised wording in Study 5, we observed slightly higher item means, which may reflect the clearer communication of gender inequalities to respondents. However, we cannot exclude the possibility that these differences in means may also be influenced by sample characteristics outside of our control. Nonetheless, we recommend using the wording from Study 5, as it ensures consistency across items and emphasizes the gendered nature of the differential treatment of women as measured by the STEW.

Additionally, Study 5 provided additional evidence of the scale's convergent, incremental and discriminant validity. Specifically, the findings support the importance of

distinguishing the perception that women are treated differently across the domains captured by the STEW and from gender equitable attitudes and the perceived legitimacy of gender inequalities. Notably, the STEW's unique predictive power regarding intentions to engage in various forms of collective action and feminist identification emphasizes the importance of recognizing unequal treatment (e.g., workplace inequality or social expectations) beyond people's attitudes towards gender equality, such as whether the perceived treatment is viewed as legitimate. This distinction aligns with social identity theory's (Tajfel & Turner, 1979) claim that both recognizing a disadvantaged position and appraising it as unjust are prerequisites for engaging in corrective actions, underscoring the importance of capturing both perceptions of a differential treatment and legitimacy appraisals in inequality research. The findings of Study 5 partially align with this contention, as legitimacy perceptions or gender equitable attitudes only explained unique variance when predicting collective action against harassment and against gender stereotypes, small acts and feminist identification, but did not explain additional variance compared to the STEW when predicting collective action for workplace and domestic equality, and traditional collective action.

Furthermore, while all four STEW subscales were hypothesized to predict specific types of collective action, Study 5 showed that perceived workplace inequality and social expectations consistently exhibited the strongest associations with intentions to engage in traditional collective action and small acts. Unexpectedly, the findings revealed a lack of association between perceived harassment and collective action against harassment and between domestic imbalance and action for domestic equality. Overall, such findings are intriguing and possibly hint at the non-uniform pathways through which perceiving a differential treatment in such domains can translate into action. Future research should explore these domain-specific motivations further, as understanding the differential drivers of collective action can have meaningful implications for both theory and practice.

The Overlapping Dimensions of Gender Inequality and Implications for Social Change

All in all, these findings corroborate the importance of adopting a multidimensional conceptualization of gender inequalities. In hindsight, our findings resonate with Pratto and Walker's (2004) framework, which identifies four fundamental sources of gender-based power: force (e.g., harassment and emotional abuse), resource control (institutional biases favoring men), social obligations (unequal caregiving and domestic duties) and consensual ideologies

(norms, gender roles, and stereotypes, which inevitably result in concrete pressures on women). These four sources seem to align with the domains of women's social treatment and experiences emerging from this research, respectively harassment towards women, workplace inequalities, domestic imbalance, and social expectations. Importantly, the crux of Pratto and Walker's (2004) model is the fungibility of these domains, meaning that each domain of gendered power can reinforce others. Consistent with this idea, across all six studies, perceiving a differential treatment of women in one domain was significantly and positively correlated with perceptions of differential treatment in other domains. Beyond that, the STEW could be used to examine these ideas and offer a tool to explore how gendered power operates as an interconnected system, by assessing whether and how perceiving that women are treated differently in one domain (e.g., in the workplace) may relate to or amplify perceptions of differential treatments in other areas (e.g., social expectations or harassment).

Exploring the multifaceted nature of gender inequalities and advocating for a broader range of domains where groups perceive unfair treatment, this research raises questions about the extensive impact of perceiving that women are treated differently. For instance, they may extend beyond commonly studied outcomes, such as intergroup attitudes (e.g., Dambrun et al., 2006; Moscatelli et al., 2014), wellbeing (e.g., Branscombe et al., 1999) or support for social change (e.g., Agostini & van Zomeren, 2021). Future research should expand the outcomes investigated, including behavioral intentions and behaviors (for instance, reactions to an ingroup member being discriminated against).

Furthermore, examining the impact of perceiving structural disadvantage through a social identity lens, it becomes imperative to delve into the intricate relationship between the cognitive awareness of group-based disadvantages and the emergence of a collective identity (Branscombe et al., 1999). Such an association may pave the way for the recognition of group-related inequities across various domains, ultimately forming a collective identity marked by shared grievances among group members and a desire to demand justice (van Stekelenburg & Klandermans, 2013). For instance, in the context of Latino students in the US (Cronin et al., 2012) and Whites and Maori in New Zealand (Barlow et al., 2013), perceptions of group-based discrimination had an indirect positive effect on political engagement on behalf of the disadvantaged through higher ethnic identification. Future research should closely examine how perceptions of inequality, collective identifications, and support for social change interplay in the context of people reacting to the structural disadvantage of gender inequalities.

Limitations and Future Research Directions

These findings should be looked at considering the limitations of this research. Although this research found strong support for the significance of four primary aspects of women's perceptions of gender inequalities across different groups and demographics, most participants were White women. On top of these key dimensions of gender inequalities for women, which may be good descriptors of inequalities at least across most Western countries, each society may also have its unique manifestations of gender inequality. Indeed, some variations of what is shown by, asked from, and expected by people according to their gender are to be expected across different geographical places, times, and cultures (e.g., Costa et al., 2001). For instance, shared expectations about women's dress codes – as captured by the STEW's social expectations dimension – may differ across different cultural contexts, underscoring the need for future research to delve into the complexity of gender inequalities and to account for additional nuances, by taking a culturally sensitive approach.

In light of addressing inequality through a more naturalistic and complex lens, integrating these findings within an intersectional approach is crucial. While some simplification was necessary for this foundational step, a binary approach to social inequality is simply insufficient to fully comprehend the phenomenon, and adopting an intersectional approach will uncover novel aspects arising from multiple social identities (e.g., Mitha et al., 2021; Williams et al., 2020). To advance knowledge in this area, future research should specifically explore the experiences of individuals who embrace multiple stigmatized social identities, such as women belonging to minority groups (e.g., sexual or ethnic minorities).

While this conceptual framework broadens the understanding of gender inequalities affecting women, it is also fundamental to move forward our understanding of how patriarchal systems represent an issue that extends beyond women. For instance, despite men's largely privileged status, social expectations around manhood also come with several health and social detriments (e.g., Bosson et al., 2021; Richardson et al., 2021). Expanding beyond gender binarism, non-binary and transgender individuals confront even more stigmatization and discrimination than cisgender women, detrimental to their career prospects (Davidson, 2016) and mental health (Delozier et al., 2020), while also facing experiences that are largely not in common with those of cisgender women, such as family rejection (Veale et al., 2022) and identity denial (Morgenroth et al., 2023). Future research should take a similar multi-dimensional approach to delve into the experiences of other gender groups.

Furthermore, it should be noted that in all studies, average scores for each STEW subscale were quite high. This finding is likely due to three reasons. First, in this research, we only included women and some non-binary people socialized as women. Coherently with previous research, we would expect cis-gender men to perceive lower levels of gender inequalities (e.g., Davis & Robinson, 1991; García-González et al., 2019). Second, as we discussed earlier, the STEW aimed to assess perceptions of gender inequalities rather than beliefs about their legitimacy. Thus, the fact that our participants perceived inequalities to be high in all domains is different from saying that they appraised them all as unjust. Third, the observed high average scores can be due to the self-selected nature of the sample population. Except for Study 4, all other studies relied on uncompensated participation, potentially biasing the sample towards individuals with some interest in gender issues. Future research should address this limitation.

Finally, while this research points out that perceptions of unequal treatment of women, as captured by the STEW, work distinctly from attitudes towards gender equality in explaining women's reactions to gender inequality, a direct comparison of perceptions of differential treatment and attitudes toward gender inequality was only conducted in Study 5. The findings showed that, with respect to outcomes such as collective action for domestic or workplace equality and traditional collective action, attitudes toward gender equality did not improve the prediction models. This may reflect an imbalance in specificity: while the STEW allows a nuanced analysis of perceived differential treatment, the gender equitable attitudes considered in Study 5 (as well as the measure of perceived legitimacy of gender inequalities) had a more general content and therefore may not align as closely with particular outcomes, suggesting that more outcome-specific measures of gender attitudes should be used in future research.

Practice Implications

This research underscores some practical implications. First, the development and validation of the STEW presents a new tool for other researchers to measure and explore gender inequality across multiple domains. This scale could be especially useful in gender equality research, where researchers may be interested in assessing the extent to which women perceive to be treated differently from men, together with their beliefs about gender equality. We recommend the item set used in Study 5, which includes the revised wording with explicit comparisons to men for all items, as it offers more consistency across the wording of different items and seems to provide a clearer gendered lens. However, researchers may choose to use the unmodified

item set depending on the specific aims of their research, particularly if they are interested in comparing responses prior to the explicit gender comparison adjustment, given the robust structural validity demonstrated across the previous studies.

Second, tracing back to our previous contention concerning the link between the STEW and Pratto and Walker's (2004) model of gender-based power, the scale could be used to empirically test the fungibility of the four domains of perceived differential treatment of women. By administering the scale to a representative sample of people from a certain population in multiple assessments over time, for example, latent transition analyses could be used to assess which classes of people can be identified with respect to the domains where they perceive a differential treatment of women, and whether and how individuals move from one class to another through time. If the fungibility principle holds, we may see that through time, individuals who only perceived differential treatment of women in one domain may start perceiving similar discrepancies in other domains, too. This raises further questions, such as what factors (e.g., contact with feminist movements) facilitate class transition and, among those perceiving differential treatment in just one domain at baseline, which specific domain influences their likelihood of shifting classes. Notably, these findings can directly inform gender equality campaigns, by offering practical insights for designing intervention modules to raise awareness of gender issues across settings such as schools, universities, and industries.

Third, with diversity and inclusion initiatives becoming more and more diffuse (Stewart et al., 2021), this scale could be used to assess baseline levels of awareness regarding multiple domains of gender inequality and re-administered post-intervention to allow evaluation of the intervention's effectiveness in broadening awareness that women face differential treatment across multiple domains. When an intervention addresses multiple aspects of inequality, the STEW can determine its impact on awareness across these domains; when an intervention focuses on a single aspect (e.g., workplace inequality), the STEW can reveal potential spillover effects, whereby increased awareness in one domain promotes broader awareness across others. Furthermore, this multidimensional approach allows to monitor the varied effects of different components of gender inequality (e.g., for instance, by detecting possible unintended consequences with respect to people's perceptions of the differential treatment of women) and can help understand and prevent backlash in interventions for social change. This is a unique feature of the STEW, as, to our knowledge, no other scale measures women's social treatment across multiple domains simultaneously. Third, this line of work emphasized the significance of perceiving differential treatment

across multiple domains beyond personal experiences of sexism or attitudes towards gender equity. By highlighting the correlates of awareness of gender discrepancies, this approach invites further research to explore how such awareness might shape attitudes, motivate action, or influence behavioral outcomes for women, and provide deeper insights for designing effective interventions.

Conclusion

Across six studies in Italy and the UK, we provided evidence of the validity and reliability of a new four-dimensional tool, the Social Treatment and Experiences of Women (STEW), capturing women's perceptions of their differential treatment with respect to workplace inequalities, harassment towards women, social expectations and domestic imbalance. Unlike other instruments, the scale assesses the perceptions that women are treated differently in multiple domains (vs. in one domain only) without simultaneously assessing the perception of the legitimacy of gender inequalities and focuses on the experiences of women as a group rather than on individual experiences. This work showed the usefulness of using this scale when investigating group-based emotions, social identification, intergroup attitudes, and collective action intentions, and empirically distinguished from personal experiences of sexism as well as from gender equitable attitudes. Future research directions and practice implications highlighted how the tool can be used to advance research on predictor and barriers to gender equality.

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Data Availability The data that support the findings of this study are available from the corresponding author upon request.

Declarations

Competing Interests The authors have no relevant financial or non-financial interests to disclose.

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