Investigating the illusion of an equal world: The moderating roles of system justification beliefs and gender identification in the Queen Bee phenomenon

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Abstract

The study at hand sought to replicate the study of Derks et al. (2011b) and expand the literature on the queen bee (QB) phenomenon by examining the possible moderating role of system justification beliefs (SJB). As women continue to reach positions of power increasingly, the barriers put in place are becoming more evident. One barrier is related to the perception of gender bias and discrimination. Women who recognise gender bias and discrimination within their organisations could disengage themselves from other women to advance further (Derks et al., 2011a). This is also known as queen bee behaviour, and it can lead to women defending the status quo, enforcing gender stereotypes, and decreasing advancement opportunities for other women. In line with this, we hypothesized that the relationship between gender bias and QB behaviours would be stronger when women identified lowly with their gender, and when they have high SJB. The current study examined 96 female managers across different companies and nationalities through an online experiment where they were either reminded of the existence of gender bias or not. The findings were mixed for both hypotheses, where only the denial of discrimination was in line with expectations for the first hypothesis. Additionally, only ingroup distancing had a marginally significant interaction, but the main effects were insignificant, thus the second hypothesis was not supported. Recommendations for future research and practical implications are discussed.

Keywords: queen bee phenomenon, self-group distancing, social identity theory, replication, system justification beliefs,

Investigating the illusion of an equal world: The moderating roles of system justification beliefs and gender identification in the Queen Bee phenomenon

Imagine that you are an expat applying for jobs in the Netherlands and you have a distinct name. You apply for jobs and constantly face the same rejection e-mails from different organisations. A friend of yours, recommends you change your name to a basic one like Maria. When you make this minor change, you get more interviews and eventually get an offer. As you start the job, you realize that you are one of the few women in the organisation let alone the only woman in the team. You hear some of your colleagues joking that they must have hired more women as diversity pieces. After 6 months, your friends and partner can see visible changes in your personality. You act more dominant and aggressive when making a point.

The described scenario might feel quite distant for some, whereas it may feel too close for others. As individuals are going up the organisational ladder, minorities are faced with different challenges fuelled by societal structures compared to majority group members. The given example above is grounded in evidence where the underrepresentation of groups can result in strategies to distance from the minority ingroup and to fit in with the majority (e.g., changing your name on your resume, acting differently to fit in) (Kang et al., 2016; Wilton et al., 2020). This is problematic because behaviours like whitening resumes, acting masculine to fit in are hindering individuals in the long run (Camacho et al., 2020; Ellemers & van Laar, 2010; Veldman et al., 2021). Moreover, organisations can run into problems in both attracting and retaining talent if this is not navigated well. Hence, it is important for both the organisation and the employees to create a safe space.

One-way organisations can stimulate discussions around the struggles of minority members is by having a voice in the boardrooms. Leaders representing minority groups must speak up for the collective good of their own groups, their status, and their standing in the workplace. Even though there has been a significant increase in minority leadership in the past decades (Derks et al., 2011a), the numbers are still quite low. This is because most minorities encounter challenges similar to ones discussed above which can hinder their chances to reach executive levels.

One of the minority groups that have received a lot of research attention is women because they make up a big part of the present workforce in Europe (EU) (67.7%) (European Commission, 2022). Statistics demonstrate the number of women managing directors and CEOs increased from 15% to 26% in 2 years (Catalyst, 2022). As noted previously, the number of women in boardrooms is increasing steadily, but it is especially low when it comes

to masculine fields (Derks et al., 2011a). Other than the societal structures, an emerging phenomenon could explain why a lot more women do not make it to the top. Also known as queen-bee behaviour (QB), some women can dissociate themselves from other women within the organisation which could play a part in confirming gender stereotypes. As a result, this could influence the chances of other women advancing and reinforce gender discrimination within the organisation (Derks et al., 2011a). The study by Kunze and Miller (2017) has portrayed that when these women are blocked from advancing, this could cause problems within the work environment (e.g., hostile environment) and decrease opportunities for teamwork ultimately influencing the performance of these women. Therefore, the present study will especially focus on women and the challenges they face as they rise in the organisation.

The queen bee phenomenon has received attention in the last few years (Derks et al., 2015; Faniko et al., 2021; van Veelen et al., 2020). In the past decade, research has revealed several factors that are shown to influence this phenomenon (Derks et al., 2016). For example, a study of Derks et al. (2011b) revealed that, how much policewomen with management positions identify with their gender can determine how they react to gender bias – showing that it strengthens QB responses for low but not high identifiers. The first goal of the study is to replicate the findings of Derks et al. (2011b) by researching it in a broader sample of women in management positions across organisations. Additionally, there are not many studies that have investigated individual differences that could influence how women respond to gender bias. One factor that could fill in this gap is system justification beliefs (SJB). It is a phenomenon where minorities act against their own group's interest and support the status quo even when it does not benefit them. The present study will extend these results by examining the role of an individual factor, namely system justification beliefs.

Theoretical Framework

Not like the rest: Self-group distancing

From the moment people start shaping their identities, they start identifying with different groups all around them. Social identity theory (SIT) assumes that some group-based attributes are on the surface (e.g., ethnicity) and others are not easily noticeable (e.g., music groups you like) (Tajfel & Turner, 1979). These groups are an important part of how people see themselves and directly related to their self-esteem, so people want their group to have a positive image. However, tables are turned when the status of the group is taken into consideration because not every group will be seen in a positive way (Scheepers & Ellemers, 2019). For instance, due to gender discrimination women in male-dominated environments

may be seen as a low status group compared to men. In this case, women will try to improve their positioning by adapting different strategies.

The status of the groups are determined by different societal systems in place. It is important to highlight that women do not behave this way due to competition or because of their personality (Faniko et al., 2021). This occurs due to contextual triggers such as lack of role models, emphasis on masculine leadership and culture (Derks et al., 2016; Scheepers & Ellemers, 2019). Previous work has demonstrated that women are more likely to show QB behaviours when they are in a masculine organisation compared to when they are in feminine organisations (Derks et al., 2016). In addition, studies show that when women are faced with situations where their identity or stereotypes related to their identity are seen as a hindrance, they are likely to cope by improving their status either through collective or individual strategies (Derks et al., 2016).

To illustrate, when a woman is not considered for a promotion due to her gender; she can either take a collective approach or choose an individual approach by acting inconsistently to stereotypical expectations. On one side, the individual mobility response is known as a form of self-group distancing where individuals dissociate with the disadvantaged group to maintain high levels of self-esteem by acting like the advantaged majority (Ellemers & van Laar, 2010; van Veelen et al., 2020). When this is applied to women specifically, the phenomenon is known as queen-bee behaviour (Faniko et al., 2021). Derks and colleagues (2016) have discussed three main motivations behind this: (1) to conform to the higher-status group, (2) to avoid discriminatory experiences or (3) to gain advantages of acting like a higher-status member. Taking an individual mobility approach can hinder the interests of the group members while improving the position of the individual at a cost (Derks et al., 2016; Veldman et al., 2021).

In relation to this, the alternative side is linked to collective action which is characterised by acting in line with group interests to challenge injustices and improve group status (Derks et al., 2011a). Derks et al. (2016) suggest that the group's status can be elevated by reframing group characteristics in a positive light (social creativity) or trying to advocate for a transition (social change). To illustrate, following social change women can protest against unfair decisions at the workplace or can show qualities like empathy as a reason for them to advance (Derks et al., 2016). All the mentioned coping strategies come with advantages and disadvantages depending on the standpoint you take (van Veelen et al., 2020).

Whether the individual chooses the former or latter is highly determined by the extent of identification with their gender group (Van veelen et al., 2020). In line with this, the study

by Derks et al. (2011b) demonstrated that women who have low identification (vs. high identification) exhibit a greater tendency towards QB behaviours. This has been investigated and demonstrated in other studies where different minority groups showed similar responses depending on their level of identification with the group (da Rocha Grangeiro et al., 2022; Derks et al., 2015; Shinnar, 2008). All things considered, the present study will investigate the findings of Derks et al. (2011b) further by replicating them on female managers in different industries and workplaces.

Hypothesis 1: Gender bias leads to increased QB behaviour among women with low levels of gender identification (GI). Women with high levels of gender identification respond to gender bias with increased collective action.

The power of the status quo: System justification beliefs

Alongside the replication, the current study aims to extend the literature by examining another factor that could play a role in the relationship between gender bias and QB responses. One of the highlighted factors contributing to self-group distancing is system justification beliefs, which to our knowledge hasn't been examined in relation to QB behaviours (Derks et al., 2015). There are variations in what extent people believe in the status quo, where individual differences play an important role; some people perceive the system as fair whereas others see it as unfair. SJB can offer an explanation as to why people defend the status quo even when these systems work against them and create inequalities (Jost & Kay, 2010).

In general, people are highly driven to believe that the systems are made to benefit us when reality often does not reflect this belief (Jost & Kay, 2010). In turn, when people subscribe to the idea of equality and rationalize it, this makes it easier to let go of negative feelings tied to unfairness in the world which increases well-being in the short term (Russo & Musso, 2018). In relation to the present study, the variations within SJB could have an impact on how people react to reminders of gender bias. For example, when faced with illegitimate situations such as gender bias, women may choose to ignore it by believing that the system is fair for them which could decrease negative feelings linked to the situation. Derks et al. (2011b) have illustrated that women who have experienced discrimination and observed gender bias within the organisation showed more QB behaviour. Accordingly, women who believe the system is fair may withdraw themselves from other women as an individual mobility strategy to advance further within the organisation by embracing masculine traits to

fit in with the majority. On the flip side, women who believe the system is unfair might be more likely to choose collective action when faced with gender bias and try to improve the positioning of other women to advance within the organisation.

Based on present evidence, the current study proposes the relation between gender bias and QB behaviour to be moderated by system fairness. This means that women who score highly on SJB are more likely to respond to gender bias with QB behaviour.

Hypothesis 2: Gender bias increases QB behaviour more among women who think that the system is fair compared to women who believe the system is unfair.

Present research

All in all, the main question addressed in the present study is: To what extent is gender bias related to QB behaviour among women leaders and is this relation moderated by gender identification and system fairness? This question is crucial to investigate because underlying mechanisms and possible individual factors that influence QB behaviours are not widely researched in the literature (Derks et al., 2016). Correspondingly, the current study aims to contribute to the literature by testing one of the individual barriers regarding women's beliefs in system legitimacy. The first hypothesis aims to replicate the study by Derks et al. (2011b) where women with low levels of identification are more likely to show queen bee behaviour compared to women who have high levels of identification (see Figure 1). Furthermore, the second hypothesis examines the possible moderating role of SJB; women that believe in the legitimacy of the system are more likely to demonstrate queen bee behaviour when faced with gender bias (see Figure 2). The following hypotheses were investigated through an online experimental study among female managers from different organisations who were either induced to recall gender bias or not.
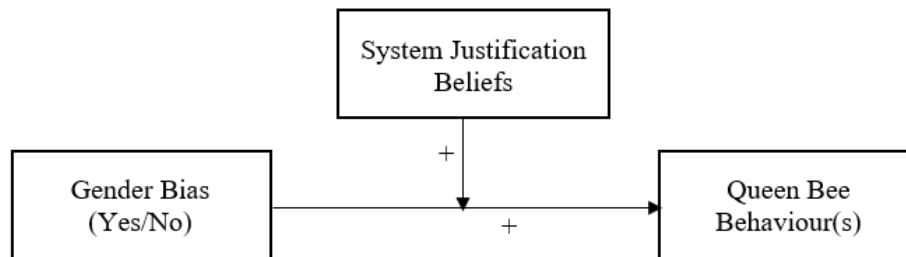
Figure 1

The research model of Derks et al. (2011b)'s study in hypothesis one. (*Women in the gender bias conditions are more likely to show QB behaviour when they have a low GI*)
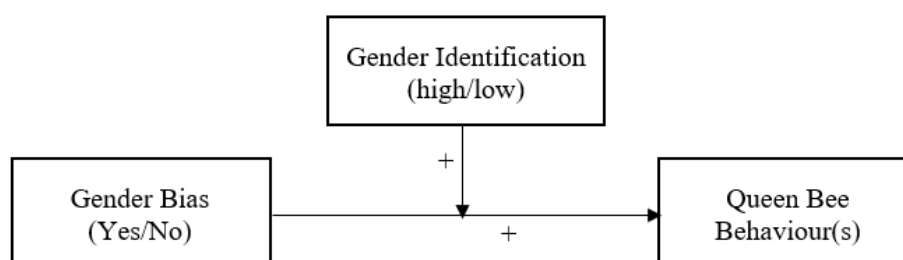
Figure 2

The research model of hypothesis two (*women in the gender bias condition are more likely to demonstrate QB behaviour when they believe that the system is equal*).

Methods

Participants

To determine the possible effect size of the current study for 80% power, a sensitivity analysis was conducted in G Power 3.1 which demonstrated that the current research can only find medium to big effect sizes ($p < 0.05$, $d = 0.29$) (Faul et al., 2009). The sample of the study were 109 female managers working in different industries around the world, but mainly Netherlands (Mage $= 44.84$, $SD = 11.69$). We only decided to include participants who answered yes to the question whether they have a management position and who completed more than 90% of the survey. After the exclusion criteria were applied, there were 96 participants left for the analysis (47 in the control condition, 49 in the experimental condition).

Details about the sample can be found in Table 1. The sample included differences in hierarchical levels, mostly made up of managers (42.7%), and head of department (e.g., director, VP, chief officer) (49%). Most people in the sample had at least one child ($M = 1.36$, $SD = 1.07$, $n = 90$). Moreover, most female leaders have been in their current organisation around a long time ($M = 7.40$, $SD = 6.45$, $n = 67$).

Procedure and Design

Participants were recruited for an online survey (in Qualtrics) through social networks and social media websites (e.g., LinkedIn). The subjects had to give their informed consent to participate in the study and they were randomly assigned to one of the two conditions (between-subjects: gender bias condition or control condition). There were no rewards offered to the subjects participating in the study.

Participants were instructed to conduct the study in a silent room without distractions. The study starts with a welcome screen giving an introduction to the aim by stating that we

were interested in learning about women's development opportunities within organisations and how long the survey will take (see Appendix A). Then, the participants start the study by answering questions regarding gender identification and proceed to the manipulation by randomly being assigned to either experimental or control condition. After the manipulation, the rest of the measures were assessed, and the study ended with questions regarding demographic variables. Each variable was introduced with a small paragraph about what the section was covering. At the end of the survey, participants answered questions about demographics (e.g., gender, working hours).

Manipulation

Gender bias was primed by asking participants about how women are treated at their workplace regarding their gender (as in Derks et al., 2011b). The participants in the gender bias condition had to write about an experience where they were treated by gender stereotypes instead of their personal qualifications. Contrastingly, in the control condition, participants were asked to write about an experience where their personal qualifications were recognised. While introducing the two conditions, a paragraph was written to explain and give an example about a moment in their career where being a woman played a role or where being a woman did not play a role. For instance, being promoted for your achievements (control) versus being overlooked for a project despite your qualities (experiment). Additionally, participants in both conditions were asked about how the specified experience made them feel and how it impacted their careers. An example question is: "Could you briefly describe below what effect this experience has had on you and your further career?"

Table 1

Descriptive statistics of sample characteristics

Variables		n	Percentage of whole
Country of birth	Netherlands	39	40.6
	Germany	8	8.3
	Turkey	6	6.2
Highest level of education	PhD	7	7.2
	Master's degree	48	50.0
	Bachelor's degree	32	33.3
Industry of work	Science & technology	16	16.8
	Architecture & engineering	2	2.1
	Healthcare & medicine	4	4.2
	Business management & administration	48	50.5
	Communications	6	6.3
	Community & social services	4	4.2
	Education	3	3.2
	Installation, repair, & maintenance	2	2.1
	Government	5	5.3
	Arts, culture, & entertainment	5	5.3
	Missing	1	1.0

Measures

Unless something else was specified, all the measures were assessed with a 7-point scale (1 = strongly disagree, 7 = strongly agree). The order of the statements within each scale were randomised (see Appendix B).

Gender Identification (GI)

Before one of the two conditions were shown, the participants answered four items related to GI ($\alpha = .80$). It aimed to measure how much the person identifies with their gender in the workplace. An example item was: "At work, I feel part of the group of women.". These items were the same as in Derks et al. (2011b)'s study.

Masculine and Feminine self-descriptions

To measure masculine (MSD) and feminine self-descriptions (FSD), participants were asked to indicate to what extent a list of 8 characteristics was descriptive of them in the workplace. These items were taken from Bem's Sex Role Inventory (Bem, 1974) and identical to Derks et la. (2011b). There were four feminine and four masculine descriptions. Four items measured feminine self-descriptions: caring, compassionate, understanding, and sensitive ($\alpha = .71$). The remaining four items measured masculine self-descriptions: charismatic, dedicated, determined, intelligent ($\alpha = .31$). To investigate the low reliability level, we looked at the reliability of the scale when an item was deleted. There were no significant changes found in the reliability. Therefore, a factor analysis with oblique rotation was conducted to examine the low reliability between items. The results demonstrated that determined and dedicated loaded onto one factor together, whereas intelligent and charismatic loaded onto different factors. In the end, no alterations were made to make sure the present replication was as close as possible to Derks et al. (2011b).

Experienced gender discrimination (EGD)

Participants were asked to rate their agreement or disagreement with six items about experienced gender discrimination (EGD) and their perceptions towards gender discrimination as an issue. This was included as a covariate to control for differences in perceptions of gender discrimination; as high identifiers are more likely to perceive gender discrimination compared to low identifiers (Derks et al., 2011b). An example item is: "I sometimes felt excluded by the male employees in the organisation." ($\alpha = .87$).

Collective Action attitudes (CAA)

Collective action attitudes (CAA) were measured with four items asking participants to rate the level of agreement or disagreement towards equal-opportunity programs in the

organisation. An example item is: "The current programmes for women within organizations do more harm than good to the position of women." (α = .66).

In-group distancing (IGD)

To assess the degree of distancing (IGD) from other women in the management, participants were asked to indicate to what extent they agreed or disagreed with the following statement: "I am different from many other women.".

Denial of discrimination (DOD)

Participants were asked to state their level of agreement or disagreement with two items about their personal beliefs on discrimination to measure what extent they perceived it as discrimination. A sample item is as follows: "Women are sometimes passed over for promotion because of gender discrimination in the organisation." (R) ($r = .66$, $p < .001$).

Willingness to work for the advancement of female subordinates (FADV)

To evaluate a person's desire to help other females in the workplace to rise to higher positions (FADV), participants were required to indicate whether they agreed or disagreed with five items. The following item serves as an example: "I find it important to get involved in the improvement of women's position." (α = .93).

System Justification Beliefs (SJB)

Lastly, the degree of believing in the status quo and system (SJB) was measured with the System Justification Scale (Jost & Kay, 2005). Participants were asked to rate level of agreement or disagreement about beliefs on how equal the current system is for men and women. Only four items were used to keep the general questionnaire short. One example item is: "Society is set up so that men and women usually get what they deserve." (α = .70).

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Results

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Preliminary Analyses

The statistical analyses were done through IBM SPSS Statistics v.28. Both hypotheses were tested by utilizing PROCESS macro by Hayes (2017). In model 1, gender bias was used as the IV, queen bee indicators as DV, experienced gender discrimination as the covariate, and gender identification as the moderator. For model 2, only the moderator was changed to system justification beliefs. Before the analyses were conducted, the correlations between independent variables, dependent variables, and demographic variables were evaluated (see Table 1). Contrary to the original study, experienced gender discrimination was not significantly related to GI. To stay true to the replication study we decided to control for experienced gender discrimination regardless of the insignificant relationship.

Assumptions Check

Before testing the hypotheses, the assumptions were checked by performing an analysis of variances (ANOVA) with each QB indicator as dependent variables and experimental condition variable as the independent variable. There are four main assumptions of ANOVA: normality, homoscedasticity, continuous dependent variable, and independence of variables (Emerson, 2022). Firstly, all the dependent measures were continuous because each participant could have scored any of the given values. Secondly, the independence assumption was satisfied because each participant was randomly placed in a group. Thirdly, the assumption of homoscedasticity was tested through Levene's test and only two of the variables were found to violate the assumption: IGD and CAA (see Appendix C). To account for this, a heteroscedasticity consistent standard error (HC4) was utilized. Additionally, linearity of the variables was tested through Q-Q plots. All variables except FADV was found to be linear. Finally, the normality assumption was only violated for FADV in a positively skewed way (1.36). Please note that no extra measurements were taken to satisfy the normality assumption for FADV.

Hypothesis Testing

A series of tests were run with PROCESS macro in SPSS to investigate both hypotheses (Hayes, 2017). To test Hypothesis 1, the experimental condition (0 = control condition, 1 = experimental condition) was entered as an independent variable, each of the six QB behaviour(s) as the dependent variable, GI as moderator, and experienced gender discrimination as a covariate. Continuous variables were mean-centred, bootstrapping was applied (5000), and the conditioning values of -1SD and +1SD around the mean were chosen. Furthermore, to test Hypothesis 2, the first procedure was followed again, only by changing the moderator variable to SJB. If an interaction was significant, the simple slopes were assessed by looking at the differences between low (-1SD) and high (+1SD) conditions for GI and SJB (Derks et al., 2011b).

Table 2

Correlations between the independent variables, dependent variables, and demographic variables

Variables	Mean	Correlations															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Gender Identification	2.95 (1.12)	1															
2. Experimental Condition	0.51 (0.50)	.15	1														
3. Willingness to work for advancement of other women	2.20 (1.16)	.56**	.07	1													
4. Collective Action Attitudes	5.01 (1.00)	-.40**	-.08	-.59**	1												
5. Experienced discrimination	4.01 (1.56)	-.11	.08	-.31**	.14	1											
6. In-group distancing	4.54 (1.47)	.16	.02	.25*	-.21*	-.02	1										
7. Masculine Self-descriptions	5.99 (0.49)	-.15	.08	-.02	-.07	-.03	.06	1									
8. Feminine Self-descriptions	5.78 (0.78)	-.53**	-.09	-.49**	.27**	.05	-.32**	.17	1								
9. Denial of discrimination	4.45 (1.59)	-.07	.07	-.39**	.23*	.67**	-.16	-.15	.16	1							
10. Number of Children	1.36 (1.07)	-.13	-.10	-.02	.04	-.12	-.05	-.22*	-.08	-.12	1						
11. Number of work hours per week	39.45 (14.51)	.03	-.11	-.02	.08	.002	.11	.016	-.17	.07	.07	1					
12. Age	44.84 (11.69)	-.04	-.23*	-.07	.01	-.06	-.06	-.010	-.14	.10	.47**	.21	1				
13. Education	4.53 (0.94)	.20	.02	.08	-.08	-.03	-.04	-.10	-.23*	-.05	.19	.05	.12	1			
14. Years in current organisation	7.40 (6.53)	-.24	-.11	-.01	.01	-.20	-.17	-.12	-.07	-.16	.22	-.05	.50**	.09	1		
15. Self-rated organisational level	3.82 (1.56)	-.12	-.13	-.02	.03	-.11	.18	.05	.12	-.12	.21	.02	.20	.09	.09	1	
16. System Justification Beliefs	3.67 (1.17)	.04	.11	.16	-.26*	-.50**	.06	.16	-.14	-.54**	.20	-.02	.094	.02	.17	.132	1

Note. The sample size for number of children, number of work hours per week, age, and self-rated organizational level is not 96 due to response rates. The standard deviation is written in the parentheses.

**. Correlation is significant at the 0.01 level (2-tailed).

Hypothesis 1: Did GI moderate the relationship between gender bias and QB behaviour(s)?

The first hypothesis predicted that the participants in the experimental condition would demonstrate more QB behaviour when they identify less with being a woman compared to the control condition. This was tested for 6 different QB behaviour indicators as listed below. Table 3 shows the full overview of the main effects and interactions.

Feminine and masculine self-descriptions. The findings of the moderation analysis exhibited a significant interaction for FSD but were not significant for MSD (see Table 3). Figure 3 illustrates the simple main effects. The analysis revealed that for women with high GI (+1 SD) there was no link between the experimental conditions and feminine-self descriptions ($b = -0.34$, $SE = .22$, $p = .115$). Similarly, for women with low GI (-1 SD) the results indicated that there was no link between the experimental condition and feminine-self descriptions ($b = 0.29$, $SE = .19$, $p = .137$). Reversing the variables demonstrated that the link between FSD and gender identification was found to be negatively significant for both the experimental condition ($b = -0.48$, $SE = .90$, $p < .001$) and the control condition ($b = -0.20$, $SE = .99$, $p = .043$). Lastly, the main effect of gender identification was found to be negatively significant, but for the experimental condition the results were insignificant (see Table 3). Overall, these findings were not in line with expectations.

Figure 3

*The interaction effect between conditions and gender identification for FSD illustrated.*
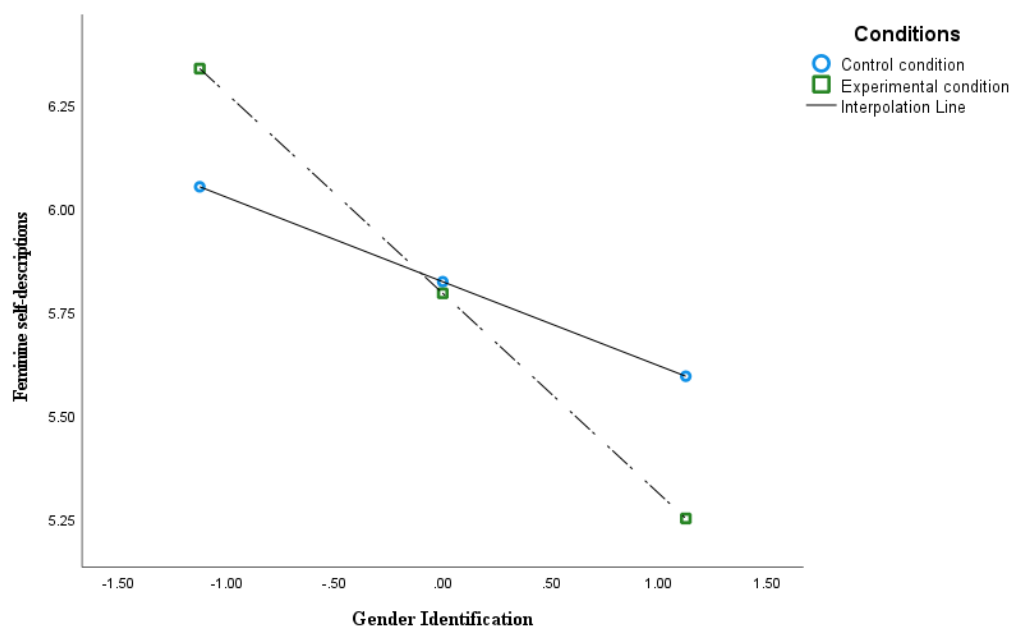
Denial of discrimination. The interaction between GI and experimental conditions for DOD was found to be marginally significant (see Table 3). The model was visualized by using simple slopes in Figure 4. From one perspective, this demonstrated that women with high levels of GI (+1 SD) did not show significant differences within the two conditions ($b =$ -0.49, $SE = .45$, $p = .288$). From another view, women with low levels of GI (-1 SD) were marginally significantly more likely to deny discrimination in the experimental condition compared to the control condition ($b = 0.56$, $SE = .31$, $p = .076$).

Reversing the variables showed that the relationship between denial of discrimination and GI was found to be insignificant for the experimental condition ($b = -0.13$, $SE = .19$, $p = .48$) and marginally significant for the experimental condition ($b = 0.31$, $SE = .18$, $p = .08$). In summary, the interaction was found to be significant in an expected manner.

Figure 4

The interaction effect between gender identification and conditions for DOD illustrated
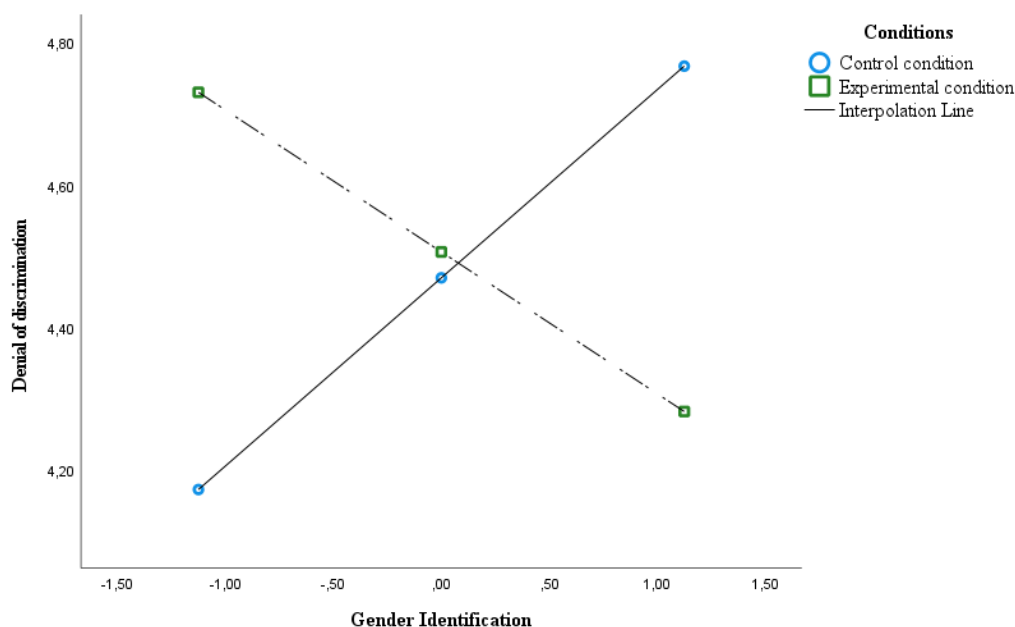
Willingness to work for advancement of other women. The results obtained from the moderation analysis indicated an insignificant result (see Table 3).

Collective action attitudes. The data from the moderation analysis showcased the interaction was insignificant (see Table 3).

In-group distancing. Finally, the moderation analysis revealed a significant interaction of IGD (see Table 3). Contrastingly, Figure 3 illustrates that women with high GI (+1 SD) in the experimental condition see themselves as more distant from other women

compared to the control condition ($b = 0.77$, $SE = .39$, $p = .052$). Women with low GI (-1 SD) were linked to marginally significant lower ingroup distancing in the experimental condition compared to the control condition ($b = -0.73$, $SE = .41$, $p = .079$). Turning around the variables, we saw that the relationship between gender identification and in-group distancing was found to be significant within the experimental condition ($b = 0.49$, $SE = .19$, $p = .011$) but not within the control condition ($b = -0.18$, $SE = .14$, $p = .226$). Lastly, the main effects of gender identification as well as the experimental condition were found to be insignificant (see Table 3). Therefore, the interaction was found to be significant but inconsistent with what we hypothesized.

Figure 5

The interaction effect between the conditions and gender identification for IGD illustrated
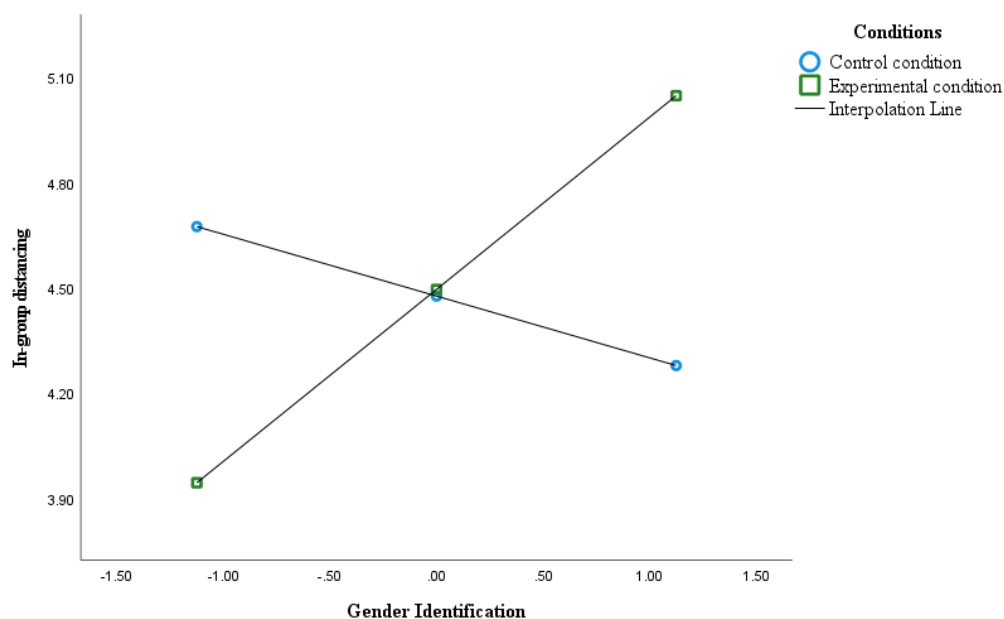
All in all, three of the variables were found to have a (marginally) significant interaction effect. However, only one of the analyses supported what we expected. Thus, hypothesis 1 is not confirmed.

Table 3

Results of the PROCESS moderation analysis conducted for each dependent variable in

Hypothesis 1

Variable Name	Interaction/Main effect	b	SE	p
FSD	Interaction	-0.28	.13	.04*
	Gender Identification	-0.20	.10	.04*
	Experimental condition	-0.02	.14	.84
MSD	Interaction	0.16	.11	.13
	Gender Identification	-0.17	.07	.02*
	Experimental condition	.115	.10	.25
DOD	Interaction	-0.46	.27	.089*
	Gender Identification	0.26	.19	.18
	Experimental condition	0.04	.24	.88
FADV	Interaction	0.22	.26	.41
	Gender Identification	0.43	.16	.008*
	Experimental condition	0.04	.20	.85
CAA	Interaction	-0.18	.23	.45
	Gender Identification	-0.24	.14	.09*
	Experimental condition	-0.06	.20	.77
IGD	Interaction	0.67	.23	.005*
	Gender Identification	-0.18	.14	.23
	Experimental condition	0.02	.30	.95

Note. Significant interactions have been marked with *. MSD = Masculine self-descriptions,

FSD = Feminine self-descriptions, DOD = Denial of discrimination, FADV = Willingness to

work for advancement of other women, CAA = Collective action attitudes, IGD = ingroup

distancing.

Hypothesis 2: Did SJB moderate the association between gender bias and QB behaviour(s)?

Regarding the second hypothesis, it was concerned with the moderation of SJB in the link between gender bias and QB behaviour. Like the first analysis, all 6 QB behaviours were tested below. Table 4 shows the full overview of the main effects and interactions.

Feminine and masculine self-descriptions. the moderation analyses of MSD and FSD were found to be insignificant (see Table 4).

In-group distancing. The moderation analysis exhibited a marginally significant interaction for IGD, however, none of the main effects were found to be significant (see Table 4). Reversing the variables, the conditional effects for conditions and SJB were found to be insignificant, where both the experimental ($p = .125$) and control condition ($p = .495$)

did not show any differences. Therefore, the interaction was found to be significant, and the results did not support the initial expectations of the hypothesis.

Denial of discrimination. The moderation was found to be insignificant, which was unexpected (see Table 4).

Willingness to work for advancement of other women. The results of the moderation analysis suggested that there was no interaction found (see Table 4). Contrastingly, this is not in line with what we expected to find.

Collective action attitudes. The evidence from the moderation analysis showcased that CAA was not significant (see Table 4). Moreover, these findings contradicted our hypothesis.

In conclusion, ingroup distancing demonstrated a marginally significant interaction but the main effects were insignificant, thus it was not in line with what we expected. The rest of the variables were inconsistent with the hypothesis. As a result, hypothesis 2 is not supported.

Table 4

Results of the PROCESS moderation analysis conducted for each dependent variable in

Hypothesis 2

Variable Name	Interaction/Main effect	b	SE	p
MSD	Interaction	-0.02	.09	.79
	System Justification Beliefs	0.08	.04	.058*
	Experimental condition	0.06	.10	.60
FSD	Interaction	-0.09	.14	.54
	System Justification Beliefs	-0.06	.10	.53
	Experimental condition	-0.11	.15	.47
DOD	Interaction	-0.16	.18	.38
	System Justification Beliefs	-0.32	.16	.051*
	Experimental condition	0.19	.24	.42
FADV	Interaction	0.18	.19	.33
	System Justification Beliefs	-0.08	.11	.46
	Experimental condition	0.22	.21	.30
CAA	Interaction	-0.09	.18	.61
	System Justification Beliefs	-0.17	.11	.14
	Experimental condition	-0.10	.20	.61
IGD	Interaction	0.52	.29	.074*
	System Justification Beliefs	-0.13	.18	.50
	Experimental condition	0.02	.32	.95

Note. Significant interactions have been marked with *. MSD = Masculine self-descriptions,

FSD = Feminine self-descriptions, DOD = Denial of discrimination, FADV = Willingness to

work for advancement of other women, CAA = Collective action attitudes, IGD = ingroup

distancing.

Discussion

With this study, we wanted to examine the link between gender bias and QB indicators as well as to see the effect of SJB among female managers. The goal of the present study was to replicate Derks et al. (2011b)'s study on a wider population (i.e., women managers working in organisations) with a larger sample size and extend the literature by investigating the possible influence of SJB. From a societal point of view, it is crucial to understand how we can improve the position of underrepresented minorities in organisations. This was done through an online experiment where some women were reminded of gender bias (experimental), whereas the rest were asked about a positive experience (i.e., achievement in the workplace) regardless of their gender (control).

Results of Hypothesis 1

The first hypothesis was concerned with replication. We assumed that the link between gender bias and QB behaviours would be moderated by how much women identify with their gender. Overall, findings were mixed. First, consistent with prior research and hypothesis 1 (Derks et al., 2011b; Derks et al., 2015; Faniko et al., 2017), low-identifying women were more likely to deny discrimination in the experimental condition compared to the control condition. Contrary to expectations, the interaction effect of ingroup distancing showed that women who highly identified (vs. low identifiers) with their gender were more likely to distance themselves from other women. In the study by Derks et al. (2011b), low identifiers were more likely to distance themselves from other women compared to high identifiers. The expected moderation was found to be insignificant for masculine self-descriptions, whereas feminine self-descriptions were found to have significant moderation. This was unexpected because the study of Derks et al. (2011b) found differences for masculine self-descriptions but not for feminine self-descriptions. Figure 3 indicated that women with low gender identification were more likely to identify with feminine traits in the experimental condition (vs. control). Finally, the moderation analyses were found to be insignificant for willingness to work for advancement of other women and collective action attitudes. Therefore, hypothesis 1 is not supported, only denial of discrimination was found to be in line with expectations.

There could be a few ways to explain the unexpected findings in our study compared to Derks et al. (2011b). This could be due to differences between our sample in contrast to the original study. Evidence from most studies demonstrated that QB behaviour occurs in male-dominated industries (Derks et al. 2016). In fact, the study by Derks et al. (2011b) was conducted with policewomen, a highly male-dominated industry. One reason for this could be

that when women experience gender discrimination and negative stereotyping in the workplace, it may trigger a QB response (Derks et al., 2016). Another reason can be linked to feeling forced to conform to masculine culture and leadership (Derks et al., 2011a). In our case, we had women from different types of organisations. For example, many women from the study indicated that they are working in the business administration industry, some of these could be male dominated whereas others may not be. Thus, they might come from organisations where feminine leadership is appreciated or they experience less gender discrimination.

Another reason could be related to the sample size. Our previous analyses indicated that we should have at least 108 participants to capture the desired effect. However, the present study only had 96 participants which could have prevented us from detecting significant effects.

At the same time, another perspective can explain the results related to why higher identifying women were more likely to distance themselves. The classifications for gender identification may have been too narrow. From a theoretical point of view, the different statuses of members within an organisation could explain this. When stigmatised groups are in a salient position, they may think that their identity can be a hindrance (Derks et al., 2016). Research has illustrated this; senior women can distance themselves from junior women because they do not live up to the standards of being successful like them (Faniko et al., 2017; Derks et al., 2016). Additionally, the study by Scheifele et al. (2020) demonstrated how women with high gender identification were equally likely to use all strategies (both individual and collective). Alternatively, they explained that some women may adopt a social competition mechanism. These women are openly hostile towards other women but highly identify with their gender. The authors suggest that high gender identification women may adopt a politicized gender identity such as being feminist and this could promote social competition among women (Scheifele et al., 2020). Thus, women in organisations may distance themselves from junior women but not senior women which we did not account for in this study.

Moreover, the unforeseen outcomes of the present study generates more questions about what triggers women in management positions with high identification levels to feel more distant towards other women. This can extend the research on the classification of gender identification and help to understand why women distance themselves towards junior but not senior women. For example, this can be tested by administering the current study on junior and senior women within a masculine organisation. It could be anticipated that senior women will only distance themselves from junior women only in masculine organisations. Further

exploration could focus on the differences between feminist women and non-feminist women. As the study by Scheifele et al. (2020) has shown, it would be interesting to investigate if women who highly identify with their gender adapt a politicized identity and how this is linked to what strategy they adapt. It could be expected that specific types of women like feminists can be seen as a threat to other ingroup members, thus non-feminist women should distance themselves from feminist women but not non-feminist women.

Results of Hypothesis 2

The second hypothesis was related to the additional variable of SJB. It predicted that the association between experimental conditions and GI would be moderated by SJB. Although most variables displayed insignificant associations, ingroup distancing was found to be marginally significant but the main effects were insignificant. Overall, the results were not in line with our expectations. In line with SIT, these women can choose individual mobility to identify with the high-status outgroup while distancing themselves from the low status ingroup. Believing in SJB makes it easier to negatively stereotype their own group and have fewer negative feelings about inequality. Thus, we expected that these women would be less likely to try to make changes in the system when they were confronted with illegitimate situations like gender bias. This is illustrated in previous findings of different studies where people with high SJB were more likely to defend the system (Day & Fiske, 2017). In their study, perceptions of social mobility influenced to what extent people chose to legitimize the system.

Aligned with the first hypothesis, the insignificant moderation results can be explained by methodological concerns. The sample size was smaller than expected which may have affected the results of the study by not having enough power to find the significant effects. Moreover, our sample focused on women in different industries instead of male-dominated industries due to lack of access. The system justifying beliefs may be found in male-dominated organisations more compared to other organisations. In such environments, men might hold a higher status and they might be motivated to maintain existing system justifying beliefs. As women adopt a more masculine identity to conform to the higher status group, they might believe in the system more to fit in with masculine norms and be accepted as a member of the group (Jost & Kay, 2005). Depending on how the men in the workplace may enforce their beliefs (e.g., subtle sexism, gendered stereotypes), women might rationalize the sexism/gender discrimination they experience by downplaying it and using system justification to decrease

their distress. These two elements may explain why we did not find significant moderation effects.

In short, more research is needed to understand the link between self-distancing phenomenon and SJB to recognise individual differences. Understanding when women are more likely to respond individually rather than collectively can shape how organisations and individuals react against it. Moreover, examining this can potentially form the basis of interventions for women to cope with the challenges of going up the corporate ladder and thriving in their work performance. One pitfall of our study was that it did not focus on women in male-dominated fields. Subsequent studies can test the effect of SJB and coping strategies in a male-dominated field. Potentially, this could be compared to a sample in gender-balanced organisation. It would be expected that women with high SJB will be more likely to adapt individual strategies compared to collective strategies.

Finally, there is a possibility that the measure we used was not able to capture individuals' beliefs about system justification. First of all, we did not use the full version of the questionnaire which could have affected the results by not assessing the beliefs in depth. For instance, the two items related to sexism and family views were not used (see Appendix B). Secondly, perceived gender discrimination is quite difficult to measure due to its subjective nature. How one perceives discrimination can depend on several factors ranging from personal experiences to societal context. Nowadays, subtle comments regarding one's gender are more likely, and it is harder to account for those in research (Carroll, 2020). Basically, something that is interpreted as discrimination for one, might not be the case for other people. Further examination of this could use the full questionnaire for system justification beliefs and use a wider questionnaire for experienced gender discrimination to capture more information as those two were correlated (e.g., Everyday Discrimination Scale).

Strengths and Limitations of the study

As stated earlier, the power analysis showed that we should have at least 120 people to have small to medium size effects. The sample size was smaller than what we aimed for. On one hand, it builds upon the Derks et al. (2011b) study by working with a bigger sample size, more nationalities, industries, and ages. On the other hand, there were many factors that we did not account for and could have influenced the results like cultural differences in organisations, stereotypical roles of women in societies etc. Therefore, the broad sample can be interpreted as a strength and limitation at the same time.

The study aimed to remind participants of the existence of gender bias. There were a small number of people in the manipulation condition who answered: "I did not experience

this." However, we did not have a manipulation check to explore how effective the manipulation was. One can argue that they are reminded of the existence of gender bias even if they did not have a personal example. On the contrary, we do not know how strongly the reminder worked. Researchers should be cautious with how and where they put the manipulation checks (Hoewe, 2017). This should be implemented in future research by using a rating scale to test participants' perceived gender discrimination experiences after the manipulation. This should be more related to their personal lives since the manipulation and the control variable experienced gender discrimination were concerned with their work lives. For this reason, adding a manipulation check could have strengthened the results only when it is done accordingly.

Practical Implications

The present study supported some of the hypotheses while contrasting with others. Thus, direct conclusions cannot be drawn, and caution should be taken. Due to the mixed findings, focusing on the importance of further research and how this knowledge can elevate future implications for organisations are crucial. Firstly, the literature should focus more on the role of gender identity within different groups such as junior and senior women. This can provide insights into how organisations can facilitate positive intergroup relations within women to increase opportunities in the organisation.

Secondly, understanding the possible influence of SJB can serve as a starting point for organisations to better set the scene for minority leaders to rise in the organisation. This knowledge can be used to create policies grounded in fairness and inclusiveness. Additionally, it can be utilized to form the basis of bias training within organisations.

Conclusion

As society is changing, the role models we see around us in the world are transitioning too. Nevertheless, without fundamental societal changes, it won't translate into the progress we want to see. The objective of the present research was to replicate the findings of Derks et al. (2011b) and attempt to extend the literature by examining the possible moderating role of SJB. We showed that the QB phenomenon is quite complex; while some findings were in line with Derks et al. (2011b), other results were inconsistent with our expectations. Some women were indeed more distant when they had low identification with the group in the experimental condition (vs. control). Yet, women with high identification were also likely to distance themselves from other women. This can be alternatively explained by different classifications of gender identification, or methodological differences of the study (e.g., not focused on male dominated industries, too broad sample). Future

research should focus on examining the QB effect on masculine organisations and women in different levels. Additionally, SJB should be researched further to understand how individual differences influence how women respond to gender bias.

References

Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology, 42*(2), 155–162. https://doi.org/10.1037/h0036215

Camacho, G., Reinka, M. A., & Quinn, D. M. (2020). Disclosure and concealment of stigmatized identities. *Current Opinion in Psychology*, *31*, 28-32. https://doi.org/10.1016/j.copsyc.2019.07.031

Carroll, W. E. (2020). Perceptions of subtle sexism in the higher education workplace. Proceedings of the 2020 AERA Annual Meeting. https://doi.org/10.3102/1588067

Catalyst. (2022). Women in management. Retrieved from https://www.catalyst.org/research/women-in-management/

da Rocha Grangeiro, R., Bastos Gomes Neto, M., & Esnard, C. (2022). Women in leadership positions in universities: Are they really queen bees? *Management Research Review*. http://dx.doi.org/10.1108/MRR-03-2021-0239

Day, M. V., & Fiske, S. T. (2017). Movin' on up? How perceptions of social mobility affect our willingness to defend the system. *Social Psychological and Personality Science*, *8*(3), 267–274. https://doi.org/10.1177/1948550616678454

Derks, B., Ellemers, N., Van Laar, C., & De Groot, K. (2011a). Do sexist organizational cultures create the Queen Bee? *British Journal of Social Psychology, 50*(3), 519-535. https://doi.org/10.1348/014466610X525280

Derks, B., Van Laar, C., Ellemers, N., & De Groot, K. (2011b). Gender-bias primes elicit queen-bee responses among senior policewomen. *Psychological Science*, *22*(10), 1243-1249. https://doi.org/10.1177/0956797611417258

Derks, B., Van Laar, C., Ellemers, N., & Raghoe, G. (2015). Extending the queen bee effect: How Hindustani workers cope with disadvantage by distancing the self from the group. *Journal of Social Issues*, *71*(3), 476-496. https://doi.org/10.1111/josi.12124

Derks, B., Van Laar, C., & Ellemers, N. (2016). The queen bee phenomenon: Why women leaders distance themselves from junior women. *The Leadership Quarterly*, *27*(3), 456-469. https://doi-org.proxy.library.uu.nl/10.1016/j.leaqua.2015.12.007

Ellemers, N., & Van Laar, C. (2010). Individual mobility: The opportunities and challenges members of devalued groups encounter when trying to avoid group-based discrimination. In J.F. Dovidio, M. Hewstone, P. Glick, & V. Esses (Eds.). *Handbook of prejudice, stereotyping, and discrimination* (pp. 561-576). London: Sage.

Emerson, R. W. (2022). ANOVA Assumptions. *Journal of Visual Impairment & Blindness, 116*(4), 585–586. https://doi-org.proxy.library.uu.nl/10.1177/0145482X221124187

European Commission. (2022). Women's situation in the labour market. Retrieved from https://commission.europa.eu/strategy-and-policy/policies/justice-and-fundamental-rights/gender-equality/women-labour-market-work-life-balance/womens-situation-labour-market_en

Faniko, K., Ellemers, N., & Derks, B. (2021). The queen bee phenomenon in academia 15 years after: Does it still exist, and if so, why?. *British Journal of Social Psychology*, *60*(2), 383-399. https://doi-org.proxy.library.uu.nl/10.1111/bjso.12408

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

Hayes, A.F. (2017) *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*. Guilford Press, New York.

Hoewe, J. (2017). Manipulation check. The international encyclopedia of communication research methods, 1-5. https://doi-org\10.1002/9781118901731.iecrm0135

Jost, J. T., & Kay, A. C. (2005). Exposure to benevolent sexism and complementary gender stereotypes: Consequences for specific and diffuse forms of system justification. *Journal of Personality and Social Psychology*, *88*(3), 498-509. https://doi.org/10.1037/0022-3514.88.3.498

Jost, J. T., & Kay, A. C. (2010). Social justice: History, theory, and research. In S. T. Fiske, D. T. Gilbert, & G. Lindzey (Eds.), *Handbook of Social Psychology* (pp. 1122-1165). Wiley. https://psycnet-apa-org.proxy.library.uu.nl/doi/10.1002/9780470561119.socpsy002030

Kang, S. K., DeCelles, K. A., Tilcsik, A., & Jun, S. (2016). Whitened résumés: Race and self-presentation in the labor market. *Administrative Science Quarterly*, *61*(3), 469-502. https://doi.org/10.1177/0001839216639577

Kunze, A., Miller, R. A., Miller. (2017). Women helping women? Evidence from private sector data on workplace hierarchies. *The Review of Economics and Statistics*; *99* (5): 769–775. https://doi.org/10.1162/REST_a_00668

Russo, S., Mosso, C.O. Infrahumanization and socio-structural variables: The role of legitimacy, ingroup identification, and System Justification Beliefs. *Soc Just Res 32,* 55–71 (2019). https://doi-org.proxy.library.uu.nl/10.1007/s11211-018-0321-x

Scheepers, D., Ellemers, N. (2019). Social Identity Theory. In Sassenberg, K., Vliek, M.L.W. (Eds.) *Social Psychology in Action*. Springer, Cham. https://doi-org.proxy.library.uu.nl/10.1007/978-3-030-13788-5_9

Scheifele, C., Ehrke, F., Viladot, M. A., Van Laar, C., & Steffens, M. C. (2021). Testing the basic socio-structural assumptions of social identity theory in the gender context: Evidence from correlational studies on women's leadership. *European Journal of Social Psychology*, *51*(7), 1038-1060. https://doi-org.proxy.library.uu.nl/10.1002/ejsp.2678

Shinnar, R. S. (2008). Coping with negative social identity: The case of Mexican immigrants. *The Journal of Social Psychology*, *148*(5), 553-576. http://dx.doi.org/10.3200/SOCP.148.5.553-576

Sterk, N., Meeussen, L., & Van Laar, C. (2018). Perpetuating inequality: Junior women do not see queen bee behavior as negative but are nonetheless negatively affected by it. *Frontiers in psychology*, 9, 1690. https://doi.org/10.3389/fpsyg.2018.01690

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33–47). Monterey, CA: Brooks/Cole.

van Veelen, R., Veldman, J., Van Laar, C., & Derks, B. (2020). Distancing from a stigmatized social identity: State of the art and future research agenda on self-group distancing. *European Journal of Social Psychology*, *50*(6), 1089-1107. https://doi.org/10.1002/ejsp.2714

Veldman, J., Van Laar, C., Meeussen, L., & Lo Bue, S. (2021). Daily coping with social identity threat in outgroup-dominated contexts: Self-group distancing among female soldiers. *Personality and Social Psychology Bulletin, 47*(1), 118-130. https://doi.org/10.1177/0146167220921054

Wilton, L. S., Bell, A. N., Vahradyan, M., & Kaiser, C. R. (2020). Show don't tell: Diversity dishonesty harms racial/ethnic minorities at work. *Personality and Social Psychology Bulletin*, *46*(8), 1171-1185. https://doi.org/10.1177/0146167219897149

Appendix A: Information letter of the study

Dear Participant,

Firstly, we would like to thank you for participating in this research!

You currently hold a management position within your organisation. In general, however, there are fewer women than men in this kind of position. Therefore, we are very interested in your story. What made you currently hold this high position and what were the circumstances in which you achieved this success?

Through this questionnaire, we are trying to identify women's development opportunities within organizations. Based on your experiences and the experiences of other women, we hope to get a better picture of the stimulating and/or hindering factors women may encounter in their careers. In this questionnaire, we will ask about factors within yourself that have been important for the course of your career, such as certain personality traits and your work motivation. In addition, we will ask about factors outside yourself that influenced the course of your career, such as the climate that prevailed towards successful women during your career.

This research is part of the final part of our master's degree in Work and Organizational Psychology at Utrecht University in the Netherlands. Our group consists of six students and the research is done under the supervision of Dr. Jenny Veldman. Participating in this study will be anonymous and is completely voluntary, meaning that you can stop your participation at any given moment. The time to fill out the questionnaire will be approximately 15-20 minutes and the data collected during the study will be treated confidentially. The output cannot be traced back to you. Feel free to ask questions at any point during the research process by emailing one of the researchers at the email addresses below. Lastly, if you would like to be sent the results of this survey, please send an email with your address details to l.chan@students.uu.nl stating 'results survey'.

The following researchers are involved in this study:
- Lara Schönborn, l.j.schonborn@students.uu.nl (Master Thesis student)
- Birsu Obalar b.obalar@students.uu.nl (Master Thesis student)
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- Christy Chan, l.chan@students.uu.nl (Master Thesis student)

- Jeske Bouter, j.p.bouter@uu.nl (Master Thesis student)

- Barbara Burkus, b.burkus@students.uu.nl (Master Thesis student)

- Dr. Jenny Veldman (Principal investigator and Master Thesis supervisor)

Take note:

- **There are no right or wrong answers, we are interested in your opinion.**

- **You don't have to think long when asked a question, it's about your first impression.**

- **You cannot scroll back through the questionnaire to revise your answers.**

We would like to thank you again for participating!

Kind regards,

The list of the researchers

Appendix B: Questions and descriptions used in the study

Gender identification measurement

Welcome!

In this study, you will be asked a few non-identifying questions about your experiences at the place where you currently work as your primary source of employment.

[next page]

For some, showing their full personality and being connected to other colleagues at work is quite a crucial element. For others, it does not play a big role. In this section, we want to measure how much you feel connected to other women at work and to what extent this is important for you (1, completely disagree to 7, completely agree).

1. At work, being a woman is important to me.
2. I currently feel connected to other women at work.
3. At work, I feel part of the group of women.
4. I identify with other women at work.

Introduction to manipulation(s)

On the next page, you will be asked to share an experience at your workplace. After that, you will be asked a few questions about how you feel and behave at your workplace.

Manipulation: Control condition

Can you share a moment in your career when you felt that you were fully held accountable for *your personal qualities and achievements* and that the fact that you are a woman played no role? For example, this could be a time when you were promoted as a result of your achievements or when you were asked to join an important event or project because you were considered the most capable for it. Or that your supervisor, colleagues, or subordinates showed you that they had high expectations of you as a person.

So, we are interested in moments in your career when you felt that others paid attention to *your personal qualities* and *your work performance*.

1. Can you describe a specific work situation below in which you felt that you were judged entirely based on *your personal qualities and talents* and that the fact that you are a woman played no role at all?

2. Can you briefly describe below how you felt in this work situation? What were your emotions at that moment?

3. Can you briefly describe below what effect this experience has had on you and your further career?

Manipulation: Experimental condition

Can you share a moment in your career when you felt that *your womanhood* played a role in how you were evaluated and that *your personal qualities and achievements* were seen less? For example, this could be a time when you were overlooked for promotion or an important network or project despite your qualities. Or maybe you have experienced times when women were spoken about in a negative way in your environment or when there were gender-stereotypical expectations about your qualities or the way you (as a woman) should perform your work?

So, we are interested in moments in your career when you felt that others paid a lot of attention to the fact that you are a woman.

1. Could you describe a specific work situation below in which you felt that you were mainly addressed on your womanhood rather than on your personal qualities and talents?

2. Could you briefly describe below how you felt in this work situation? What were your emotions at that moment?

3. Could you briefly describe below what effect this experience has had on you and your further career?

<div align="center">

Queen bee indicators

</div>

Feminine and Masculine self-descriptions

To what extent do each of the following characteristics describe you as a leader at the moment? Choose a number between 1 (very untrue for me) and 7 (very true for me) that best matches your agreement with the statement below.

Currently as a leader I see myself as...

1. Caring
2. Compassionate
3. Sensitive
4. Understanding

5. Charismatic
6. Dedicated
7. Determined
8. intelligent

Ingroup distancing

Choose a number between 1(strongly disagree) and 7(strongly agree) that best matches your agreement with the statement below.

1. I am different than other women.

Denial of discrimination

Choose a number between 1(strongly disagree) and 7(strongly agree) that best matches your agreement with each of the statements below.

1. "During my career, women and men received equal career support"
2. "Women are sometimes passed for promotion because of gender discrimination in the organization"

Collective Action Attitudes

In the past few years, there has been a discussion within organizations about the position of women. Here and there, there have been several initiatives to improve the position of women in companies and to improve their progression to higher positions in the workforce (think for example of mentoring programs and women's networks). How do you experience this attention for the position of women?

Choose a number between 1(strongly disagree) and 7(strongly agree) to indicate your agreement with each statement below.

1. I find it nice that there is within organizations attention to the improvement of the position of women. *
2. It's good that initiatives are made within organizations to promote the emancipation of women. *
3. The current programs for women within organizations do more harm than good to the position of women. -->RECODED
4. Because of the attention that is given within organizations to women's emancipation, there is often the idea that women get opportunities that they maybe do not deserve --> RECODED

Willingness to work for advancement of other women

Some people feel committed to the improvement of the position of women within organizations, whereas others are less occupied with this. How important is it for you that more women advance to high positions within organizations?

Choose a number between 1(strongly disagree) and 7(strongly agree) to indicate your agreement with each statement below.

1. I find it very important that more women advance to high positions than is currently the case.*

2. I am very interested in the position of women within my organization.*

3. I find it important to get involved in the improvement of women's position.*

4. I find it important to adopt the role of mentor/coach for women in lower positions within the company, to advise and encourage them in their career.

5. I am prepared to function as a mentor for women in lower positions in the company.

Experienced gender discrimination

The following questions are about how successful women were viewed in your work environment during your career. Did you experience gender discrimination during your career? Choose a number between 1(strongly disagree) and 7(strongly agree) to indicate your agreement with each statement below.

1. In my career I have been mocked or discriminated against because I am a woman.

2. I sometimes felt excluded by the male employees in the organisation.

3. At work I sometimes did not feel accepted or taken seriously because I am a woman.

4. I feel that my gender has stood in the way of obtaining important promotions and raises.

5. As a woman executive I have come across negative bias against women.

Additional variable: System Justification Beliefs

Here, you will be asked about your perception of relations between men and women in general. For each of the statements below, please choose a number between 1(strongly agree) and 7 (strongly disagree) that best represents how you feel about this.

4 questions from the System Justice Scale (Jost & Kay, 2005):

1. In general, relations between men and women are fair.

2. Most policies relating to gender and the sexual division of labor serve the greater good.

3. Everyone (male or female) has a fair shot at wealth and happiness.

4. Society is set up so that men and women usually get what they deserve.

Appendix C: Assumption check

Table 5

Test of Homogeneity of variance of all the dependent variables based on the mean

Variables	Levene Statistic	df1	df2	Sig.
Masculine self-description	2,090	1	94	,152
Feminine self-description	,257	1	94	,613
Denial of discrimination	1,779	1	94	,186
Collective action attitudes	5,469	1	94	,021*
Willingness to help the advancement of other women	2,285	1	94	,134
In-group distancing	4,424	1	94	,038*