Chapter 4

Exploring Gender Aspects of Self-Reported Bullying and Sexual Discrimination

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Abstract

Purpose: Previous research identified a measurement gap in the individual assessment of social misconduct in the workplace related to gender. This gap implies that women respond to comparable self-reported acts of bullying or sexual discrimination slightly more often than men with the self-labeling as "bullied" or "sexually discriminated and/or harassed." This study tests this hypothesis for women and men in the scientific workplace and explores patterns of gender-related differences in self-reporting behavior.

Basic design: The hypotheses on the connection between gender and the threshold for self-labeling as having been bullied or sexually discriminated against were tested based on a sample from a large German research organization. The sample includes 5,831 responses on bullying and 6,987 on sexual discrimination (coverage of 24.5 resp. 29.4 percentage of all employees). Due to a large number of cases and the associated high statistical power, this sample for the first time allows a detailed analysis of the "gender-related measurement gap." The research questions formulated in this study were addressed using two hierarchical regression models to predict the mean values of persons who self-labeled as having been bullied or sexually discriminated against. The status of the respondents as scientific or non-scientific employees was included as a control variable.

Results: According to a self-labeling approach, women reported both bullying and sexual discrimination more frequently. This difference between women and men disappeared for sexual discrimination when, in addition to the gender of a person, self-reported behavioral items were considered

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in the prediction of self-labeling. For bullying, the difference between the two genders remained even in this extended prediction. No statistically significant relationship was found between the frequency of self-reported items and the effect size of their interaction with gender for either bullying or sexual discrimination. When comparing bullying and sexual discrimination, it should be emphasized that, on average, women report experiencing a larger number of different behavioral items than men.

Interpretation and relevance: The results of the study support the current state of research. However, they also show how volatile the measurement instruments for bullying and sexual discrimination are. For example, the gender-related measurement gap is considerably influenced by single items in the Negative Acts Questionnaire and Sexual Experience Questionnaire. The results suggest that women are generally more likely than men to report having experienced bullying and sexual discrimination. While an unexplained "gender gap" in the understanding of bullying was found for bullying, this was not the case for sexual discrimination.

Keywords: Negative Acts Questionnaire (NAQ); Sexual Experiences Questionnaire (SEQ); measurement bias; validity; gaslighting; victim blaming; academia

According to the Current State of Research, …

… the measurement of the prevalence of bullying and sexual discrimination among women and men is considerably influenced by the specific measurement instruments. Comparisons of self-labeling and behavioral inventory measures widely used in surveys indicate that men have a slightly higher tolerance for workplace misconduct and apply a stricter definition when assessing whether they would consider themselves to have been bullied or sexually discriminated against. This measurement gap and its implications lie at the focus of this study.

Current research leaves open the question of whether the measurement gap is in fact merely the result of the different nature of various socio-psychological measurement instruments or whether it is founded on manifest differences between men and women. This question is relevant because in everyday work in organizations, an organizational myth of women as "sensitive souls" is perpetuated. According to this myth based on stereotypes, women are constructed as sensitive individuals who react inappropriately strongly to even mild experiences of workplace misconduct (Hinze, 2004). This organizational myth probably influences the willingness of women affected by workplace misconduct to report it, and also how the management in an organization responds to cases of conflict among employees, that is, whether known cases of bullying or sexual discrimination are dealt with promptly and effectively. In this context, conscious or unconscious victim blaming is a strategy to deny one's own responsibility in a conflict situation or, from the management's perspective, to justify non-intervention (Konovsky and Jaster, 1989).

Furthermore, in academia, from whence the sample examined here derives, there is a widespread tendency to refer to an affected person's supposed weaknesses and thus to individualize what may be a structural problem (Burkinshaw and White, 2017; Kelan, 2020). Symptoms include the slogan prominent in the academic gender equality community, "Fix the system, not the women" (World Economic Forum, 2020; Morrissey and Schmidt, 2008; Clayton, 2011). The slogan expresses the sentiment that the low level of representation of women in scientific leadership positions, and especially in STEM fields, cannot be solved by measures aimed at changing the behavior of female scientists, but only by measures that improve the integrative capacity of research organizations with respect to female professionals. In identity studies, "victim blaming" is especially encountered in a context where members of a majority group defend themselves against claims or accusations made by members of a marginalized group by attempting to devalue the credibility of this group. Another example is the increase in the number of scholarly publications on "academic gaslighting." The term gaslighting refers to the manipulation of a person B by one or more person(s) A, whereby A portrays B's beliefs, opinions, or assessments regarding perceived social misconduct as exaggerated, false, or completely baseless, which results in B not being able to actively defend him- or herself against the misconduct (Rodrigues et al., 2021; Abramson, 2014; Christensen and Evans-Murray, 2014; Grant, 2021).

This study examines the current state of research on women and men's threshold to understanding themselves as having been bullied or sexually discriminated against in the research workplace. For this purpose, the largest survey sample on bullying and sexual discrimination in a single research organization in the world to date was used. The sample, which originates from the Max Planck Society in Germany, enables a detailed analysis of gender bias in measuring instruments for bullying and sexual discrimination widely used in psychology and occupational science due to its high number of cases and the associated high statistical power. Hierarchical linear regressions were used to predict the mean values of persons who self-labeled as having been bullied or sexually discriminated against and thus answer whether:

- there are differences between women and men in self-labeling as having been bullied or having experienced sexual discrimination and/or harassment;
- a gender gap in self-labeling persists even when men and women report the same behavioral items[1];
- women and men respond differently to the specific behavioral items regarding self-labeling; and
- the gender-specific interaction effects of the behavioral items are related to the frequency and severity of the items.

The results show whether and how the perception threshold for social misconduct varies according to the male or female gender of scientific and non-scientific

[1]For example, withholding information, being insulted, being shouted at; as measured by the Negative Acts Questionnaire-revised and the Sexual Experience Questionnaire-DoD.

employees. Thus, the article undertakes an empirically-based assessment of the different conceptions of workplace misconduct between men and women.

Literature Review

In the following, the state of research on gender differences in workplace bullying and sexual discrimination is presented. It is shown that the respective method of measurement has a considerable influence on whether and to what extent gender differences can be determined. The hypotheses of the study are presented and the extent to which the study contributes to a deeper understanding of the measurement gap is outlined. Finally, the contextual conditions of the survey sample used here from a large German research organization, the Max Planck Society, are discussed.

Gender and the Measurement Gap in Surveys on Bullying and Sexual Discrimination

The current state of the research is first explained here with regard to sexual discrimination and then concerning bullying. Previous studies on gender differences in self-reported experiences of sexual discrimination in the workplace paint a clear picture. According to these studies, women are affected by sexual discrimination to a significantly greater extent than men (e.g., Steinþórsdóttir et al., 2018; Vargas et al., 2020; Bondestam and Lundqvist, 2020; Australian Human Rights Commission, 2017). One example is an analysis based on the European Working Conditions Survey. The study included data from more than 60,000 employees from 33 countries and took into account several control variables such as occupational position, workplace gender ratio, or migration background. Sexual harassment was reported by 0.4% of men and 1.3% of women while unwanted sexual attention was reported by 0.8% of men and 2.6% of women (Reuter et al., 2020).

Bondestam and Lundqvist (2020) conducted a meta-study on sexual discrimination in higher education. After comparing the most-cited research papers, they estimated the level of exposure to sexual harassment in higher education for women at between 11% and 73% (median 49%) and for men at between 3% and 26% (median 15%).[2] The European Working Conditions Survey and Bondestam and Lundqvist's meta-study both concluded that – among others – precariously employed individuals are more likely to experience sexual harassment.

In a study conducted on a representative sample of over 2,300 Norwegian employees, Nielsen et al. (2010a) pointed out that the way the measurement and data analyses are conducted can considerably influence the identification of gender differences. This measurement gap is the subject of this paper.

Fundamentally, sexual discrimination and workplace bullying can be measured from the inside perspective on the part of those affected (e.g., using surveys,

[2]The figures are not comparable with the results of the study by Reuter et al. (2020).

diary-keeping, interviews, or focus groups) or from an outside perspective (e.g., using observational methods, officially reported incidents or peer nominations) (Cowie et al., 2002). Measurement by surveys usually involves a one-item self-labeling approach (e.g., "Have you been subjected to bullying at your current workplace?") or a whole battery of possibly experienced behaviors (Nielsen et al., 2010b).

In their studies, Nielsen et al. (2010a, 2010b) demonstrated that the measurement approach applied in a survey significantly influences both general prevalence rates and gender effects. Regarding sexual discrimination, they were able to show that after evaluation of one-item-self-labeling and cluster analysis using data from the query of a behavioral item battery, women are statistically significantly more likely to self-report negative experiences at work than men. However, no statistically significant gender difference was found for the indicator of whether at least one of the behaviors from the item battery was experienced within the six months prior to the interview. Similar results were also obtained by Kriegh (2019) who, in a master's thesis using a sample of 295 undergraduate students, was able to show that female students attribute a higher severity to almost all types of sexual discrimination and harassment than male students. This finding also implies that women tend to self-assess more strongly as having been sexually discriminated against when the overall item score is the same as for men. The gender effect of this measurement gap is even more striking and better researched for bullying.

In general, the results of studies investigating the influence of gender on self-reported experiences of workplace bullying differ somewhat more. Salin and Hoel (2013, p. 236) provided an overview of large-scale nationwide studies that found no or statistically insignificant differences between the sexes (e.g., in the UK, Belgium, Sweden, and Norway) and studies that did (e.g., Ireland, Finland, Spain). In a representative study for Germany, Meschkutat et al. (2005) found that women report experiencing workplace bullying more often than men.

Zapf et al. (2020, p. 112 f.) showed that although the proportion of women among those reporting experiences of bullying at work clearly dominates in numerous studies, this can often be attributed to an overrepresentation of women in the underlying sample. They concluded that there appears to be little evidence that women are more likely to experience bullying because of specific female socialization. Instead, contextual factors appear to play a considerable role and bullying experiences seem to be linked to minority status in the sense of social identity theory. Typical here would be that Steinþórsdóttir and Pétursdóttir (2018) determined that women in the Icelandic police are more likely than men to self-report acts of bullying. Using the opposite logic, Eriksen and Einarsen (2004) were able to show a higher bullying prevalence of male assistant nurses. Striebing's findings (in this collection) on bullying experiences among the more than 20,000 scientific and non-scientific employees of the Max Planck Society also point to the validity of social identity theory and the relevance of minority status.[3]

[3]In his study, however, Striebing found that minority status seems to only be associated with a higher prevalence of bullying among women. This effect was not found for men.

In general, the gender effect in bullying, if it is detectable, is smaller than in sexual discrimination. The smaller effect size could presumably be a factor in why the gender effect is not detectable in studies of bullying with smaller samples (e.g., Zabrodska and Květon, 2013; Dick and Rayner, 2012). Perhaps because of the smaller effect size of gender on bullying, the measurement gap between the one-item-self-labeling approach and behavioral item batteries appears to warrant even more scholarly attention. Several studies have demonstrated that women are more likely to label self-reported negative experiences at work as bullying (Rosander et al., 2020; Salin and Hoel, 2013, p. 237; Salin, 2003; Jóhannsdóttir and Ólafsson, 2004). Using a convenience sample of about 250 employees from Spain and Costa Rica, Escartín et al. (2011) also highlighted different conceptions of bullying between men and women. While women emphasized emotional abuse and professional discredit more strongly in their understanding of workplace bullying, men emphasized abusive working conditions.

In their detailed study on the relationship of measuring bullying through behavioral items versus self-labeling, Rosander et al. (2020) concluded that the measurement gap in relation to gender effects may be a potential explanation for the inconclusive and mixed results of previous research on bullying prevalence by gender.

Previous research also examined the relationship between different approaches to measuring workplace misconduct, health, and work-related outcomes for respondents, differentiated according to gender. Rosander et al. (2020) determined that exposure to negative acts is equally associated with mental health impairment in both genders, whereas self-labeling as having been bullied is only associated with mental health impairment in men. Niedhammer et al. (2006) examined the association between workplace bullying and depressive symptoms in a sample of over 7,500 employees in France. Exposure to bullying was measured by an indicator that combined self-report and behavioral items. Accordingly, men who reported having experienced bullying had significantly higher odds of depressive symptoms than women. For women, the odds of having depressive symptoms were slightly higher than for men if the person was exposed to and observed bullying in the workplace.

In the case of sexual discrimination, it was shown that men react more strongly to the specific items, especially in the case of strong forms such as sexual coercion. For example, a study on experiences of sexual harassment in the U.S. Army showed that self-reported experiences of sexual coercion had an impact on the turnover intention of male soldiers only (Rosen and Martin, 1998). Nielsen et al. (2010a) showed that exposure to sexual harassment had a stronger negative influence on job satisfaction and mental health problems in men than in women, using a cluster analysis based on the behavioral items for the analysis.

In summary, in general, the "threshold" seems to be higher for men than for women as to when an individual considers themselves bullied or sexually discriminated against, and severe acts of sexual discrimination appear to have stronger mental health and workplace integration consequences for men. Thus, previous research suggests that a gender-related measurement gap exists between the single-item approach and the behavioral item approach.

Hypothesizing

This study aimed to take a deeper look at the gender-related measurement gap in bullying and sexual discrimination. It was investigated which specific items men and women tend to react to more often with a self-labeling as having been bullied or sexually discriminated in comparison to each other and whether a pattern is hidden behind these effects. For this purpose, a sample of a large German research organization with several national and international institutes and facilities and around 24,000 employees was used.

To be able to examine the measurement gap in more detail, it was necessary to check whether it could also be identified in the data set used here. The first question was whether the surveyed women self-identified as having experienced bullying or sexual discrimination and/or harassment in the twelve months prior to the survey more frequently than the men. As described above, due to mixed research results it cannot be assumed in general that women self-label more often than men, at least for bullying. However, under the context conditions of the research workplace, a corresponding prediction can plausibly be derived based on social identity theory and social role theory. The theoretical explanations are elaborated in more detail in the other contributions of Striebing in this collection. In summary: women comprise the minority among the scientific employees in the research organization studied and thus represent an out-group in the sense of social identity theory (Tajfel and Turner, 2004). Although women make up the majority among the non-scientific employees, due to the nature of the research system and the governance of the research organization studied here, the non-scientific employees are regularly in a relationship of subordination to the predominantly male and scientific institute management and in a service relationship with the other scientific employees (Keashly, 2019). Furthermore, in the sense of social role theory, the career and working conditions of the research system also structurally sanction single parents and mothers in partnerships with a conventional social role distribution. An evident expression of this is the "leaky pipeline" concept (Zacharia et al., 2020).

> *H1*. More women than men self-label as having experienced workplace bullying and sexual discrimination.

In the next step, the question arises whether the predicted gender effect is still present when controlling for the specific behavioral items. This means the behavioral items measured for this study are included as control variables in the linear regression equation for the relationship between gender and self-labeling. This allows one to test whether women report self-labeling more often than men, even when the values of the behavioral items are held constant. As already outlined, previous research supports the assumption of a gender-related measurement gap.

Rosander et al. (2020) undertook a theoretical classification of the measurement gap. (1) Within the framework of social role theory, it would be plausible that men would be more reluctant to self-label as having been bullied or sexually discriminated against since they consider such social vulnerability to be

incompatible with their image of masculinity (vice versa, a greater level of openness could be attributed to women).[4] (2) Another explanation is derived from social power theory. According to this, women are more frequently in a relationship of subordination than men, which is linked to stronger feelings of vulnerability and stress when experiencing negative acts (Anderson and Berdahl, 2002; Rosander et al., 2020). This assumption could also be applied to the research organization studied here, as will be shown below. (3) Furthermore, it seems conceivable that men and women are not "more sensitive" or "more tolerant" of negative experiences at work, but simply have different conceptions of bullying or sexual discrimination and tend to include different types of acts under this (Escartín et al., 2011). Rosander et al. see this explanatory approach as consistent with their findings. (4) A final explanation for a measurement gap – especially regarding bullying – is that women, when they self-label themselves as having been bullied, often implicitly include experiences of sexual discrimination, which, however, are not queried in the behavioral item batteries.

> *H2*. Even when controlling for the specific self-reported behaviors, women are still more likely to self-label as having experienced bullying and sexual discrimination at work.

As the third step, the view was followed that different conceptualizations of bullying and sexual discrimination are decisive for the measurement gap between men and women. For this purpose, the state of research on sexual discrimination was also applied to bullying. Following Rosen and Martin (2009) and Nielsen et al. (2010a), it was assumed that men react more often than women with self-labeling to less frequent but more severe acts of bullying and sexual discrimination. Here, the frequency of the examined behaviors is used as an indicator for their "extra-ordinaryness" and severity.

> *H3*. Women are more likely to respond with self-labeling to those behaviors of workplace bullying and sexual discrimination that are more prevalent.

The theoretical explanation for this can be derived from social role theory and is based on different typical gender roles internalized by men and women. On average, men are socialized to be more competitive than women (Andersen et al., 2013; Saccardo et al., 2018), which presumably results in a higher tolerance for workplace aggression.

Furthermore, social power theory was also considered. It is conceivable that one and the same item, such as "Being ordered to do work below your level of competence" is framed differently for the average woman in the sample than for

[4]It should be noted that this image of masculinity can have just the opposite effect and lead to men being more likely to describe themselves as having been bullied or sexually discriminated against because of a sexist or homophobic attitude. Thus, men could conceivably be quicker than women to perceive bullying behavior from a woman or sexual comments from a woman or another man as inappropriate and a form of misbehavior.

the men and is, therefore, more frequently assessed as bullying or sexual discrimination. The reason for this, according to social power theory, is that women are on average more often in a position of subordination to men in the scientific workplace (e.g., non-scientific staff that provide services for scientific staff, or a female PhD with a male supervisor).

Context: The Case of the Max Planck Society

The data set used here was derived from an organization-wide online survey among all scientific and non-scientific employees of the Max Planck Society (MPG). The survey was conducted from February 13 to March 13, 2019. Due to the high number of cases (more than 9,000), the data set has high statistical power as even with only small effects, the probability of a false negative error is low. In addition, the respondents belong to a homogeneous context compared to previous studies: the workplace in top-level research. As a result, the presented results show a high degree of context specificity while making the gender effect easily comparable, which means that the influences of different gendered industries, fields of activity, and other control variables are minimized.

With more than 23,600 employees, the MPG is one of the largest non-university research organizations in Germany (Max-Planck-Gesellschaft [Max Planck Society], 2020). It is organized in a decentralized manner and comprises 86 national and international research institutes and facilities from different disciplines, which are linked by a common umbrella organization (Max-Planck-Gesellschaft [Max Planck Society], 2020).

The contextual conditions of the MPG are explained in detail in Striebing's contribution on work climate (in this collection) and are only briefly listed here insofar as they are considered relevant to the present study:

- The MPG is a pure research organization and there is no teaching obligation for its scientific employees. The significantly lower level of contact with students in the MPG presumably influences the nature of bullying and sexual discrimination. For example, those surveyed here are less likely to experience "contra power harassment" (student incivility, bullying, and sexual attention aimed at faculty) than scientists at universities (Lampman et al., 2009).
- The governance of the MPG has been characterized by the so-called Harnack principle since the German imperial era (until the early twentieth century) (Max-Planck-Gesellschaft [Max Planck Society], 2010). Among other things, this leads to a pronounced hierarchical gradient. Institute directors are given a high degree of financial planning security and freedom to shape the content of their work. However, they also bear a great degree of responsibility for the development and success of their institute. In some cases, the departure of an institute director has led to a reorganization of the entire institute's staff (Leendertz, 2020).

Today, the proportion of men in the non-scientific area is 45% and in the scientific area 68% (Max-Planck-Gesellschaft [Max Planck Society], 2020, p. 33).

In the scientific area, the proportion of men increases with each hierarchical level from 61% for doctoral candidates to 84% for W3 researchers (which is the highest academic rank in the German research system). In the non-scientific field, no data are available on the distribution of gender across hierarchical levels (e.g., in many organizations, the secretariat or "anteroom" still shows a strong gender imbalance). However, a functional differentiation is recognizable. In the area of "Technology" (often IT service), the proportion of men is 60% and in "Administration" it is 32%.[5]

Since there are more men than women in the higher hierarchical research positions and more women than men in the lower hierarchical positions, women would be affected more frequently than men in the case of misconduct by superiors toward subordinates. Service relationships, on the other hand, seem to be gendered differently today (not only) in the MPG, as a male-dominated technology sector has emerged alongside a female-dominated administrative sector.

Research Approach

The following section describes the data set used to investigate the hypotheses formulated and the variables used. The analytical procedure is subsequently explained.

Data

In the full survey on the work climate at the MPG, in addition to team climate, an assessment of the superior, the work-life balance, the commitment to one's own research institute, and – in particular – experiences of bullying and sexual discrimination at the workplace were queried. Both bullying and sexual discrimination were surveyed by a list of behavioral items and a general question for self-labeling. The item lists were prefixed to the general assessment of whether a person would describe themselves as having been bullied or sexually discriminated against.

The questionnaire for the online survey, which was largely based on previous English-language studies, was translated into German by a professional translation agency, and both language versions were subjected to a pretest and evaluated by a task force[6] set up by the MPG to check whether they were formulated coherently and sensibly for all MPG employees. Subsequently, the

[5]The breakdown of work units in the annual report differs from the breakdown in the survey. In the survey, a distinction was made between "Technology and IT," "Other Services" and "Administration." Among the 3,113 relevant cases in the survey, the proportions of men are markedly different from those in the annual report (Tech & IT: 81%, Other services: 25%, Admin: 22%).

[6]This task force consisted of directors of the Max Planck Institutes as well as central officers and employee representatives.

German and English questionnaires were proofread by the translation agency already involved.

More than half of the MPG employees participated in the online survey. After data cleaning, evaluable questionnaires were available from 38% of the employees ($n = 9{,}078$). The data set is described in more detail in Striebing's contribution on work climate (in this collection). For the analyses carried out here on bullying, sufficient data were available in 5,831 cases and for sexual discrimination in 6,987 cases. This results in coverage of 24.5 resp. 29.4% of all employees.

Variables

The study investigated gender-related differences in self-reporting of bullying and sexual discrimination. Table 17 shows the descriptive statistics of the two samples, differentiated by the respective dependent variables.

The first dependent variable is the respondents' self-assessment concerning whether they have experienced workplace bullying in the 12 months prior to the survey ($M_{\text{bullied}} = 0.083$, SD = 0.276). For this binary variable, all those persons were defined as "bullied" who indicated in the self-ascription to have been subjected to bullying at least occasionally (or monthly, weekly, daily) in the sense of

Table 17. Descriptive Statistics of Dependent, Independent, and Control Variables in the Two Regression Models.

Variable Name	Category	Bullying		Sexual Discrimination	
		N	Margin %	*N*	Margin %
Outcome					
Self-ascription to occasional or more frequent … (yes/no)	No	5,345	91.7	6,732	96.4
	Yes	486	8.3	255	3.6
Predictors					
Gender	Female	3,134	53.7	3,635	52.0
	Male	2,697	46.3	3,352	48.0
Form of employment	Non-scientific staff	2,492	42.7	3,187	45.6
	Scientific staff	3,339	57.3	3,800	54.4
Valid		5,831	64.2	6,987	77.0
Missing		3,247	35.8	2,091	23.0
Total		9,078	100	9,078	100

the definition below (no = 0, yes = 1). The original item wording was modeled after Nielsen et al. (2010b, p. 958) and reads as follows:

> **"Bullying" here denotes repeated and persistent negative behavior directed toward one or several individuals, which creates a hostile work environment. The targeted individuals have difficulty defending themselves; in other words, bullying is not a conflict between parties of equal strength.**
> Have you been subjected to bullying at your current workplace at the Max Planck Society during the last 12 months? (Never – Occasionally – Monthly – Weekly – Daily)

The second dependent variable is the respondents' self-assessment on whether they had experienced sexual discrimination by colleagues or supervisors at work in the year prior to the survey ($M_{\text{discriminated}} = 0.037$, SD = 0.188). For this variable, all those persons were coded as "sexually discriminated [against]" who indicated having experienced sexual discrimination and/or harassment at least occasionally (or monthly, weekly, daily) (no = 0, yes = 1). No distinction was made between discrimination and harassment in the item wording.[7]

[7]In retrospect, the author does not consider it optimal that a formulation was used for the self-labeling item that does not differentiate between sexual discrimination and sexual harassment. Both are legally and sociologically different concepts, albeit with considerable overlaps. In the process of formulating the questionnaire, the problem was seen that respondents might apply a too narrow understanding of the term when asked about experiences of sexual harassment, because sexual harassment is a criminal offence in the sense of the German Criminal Code. Such a narrow understanding, it was feared, would not be compatible with the broader understanding of the term as measured in the SEQ-DoD. To suggest to the respondents that the item is also intended to capture broader experiences of sexism, the questioning of sexual harassment and discrimination was combined into one item.

In the terminology of survey methodology, this created a "double barreled question," which ultimately no longer allows a clear distinction as to whether respondents have had experiences of sexual discrimination or sexual harassment or both. More effective alternatives would have been to formulate two single-item measures with accompanying definitions to measure sexual discrimination and harassment separately, or just ask for experiences of sexual harassment alongside a definition, or, as Carr et al. (2000) did, to query both constructs via a very compact index.

Nevertheless, the single-item-measures used here are compatible with the SEQ-DoD. Especially within the SEQ-DoD subconstruct "sexist hostility," the item battery has intersections with the concepts of sexism and sexual discrimination.

In fact, in the self-labeling as having experienced sexual discrimination and/or harassment measured here, on the one hand, a narrow understanding of the term seems to have prevailed. An indicator for this is the low prevalence of self-labeling of 3.7% in the sample (Appendix 2). In comparison, the more discrimination-related item "…. treated you differently because of your gender?" of the SEQ-DoD has a significantly higher prevalence of 18.9% in the sample. At the same time, self-labeling seems to be

Please select the appropriate answer.
While working at the Max Planck Society, have you at any point during the last 12 months experienced any behavior that you would call "sexual harassment and/or discrimination"? (Never – Occasionally – Monthly – Weekly – Daily)

A substantial difference between the concepts of bullying and sexual discrimination conveyed by the item wording is that in the case of sexual discrimination, respondents were explicitly asked to also count one-time experiences ("[…] have you experienced […] any behavior […]") whereas, in the case of bullying, the restriction was that only "repeated and persistent" experiences are to be taken into account. Such differentiation is anchored in both social science and (German) legal conceptual understandings.

The independent variables of the equation for estimating the self-labeling as having been bullied are the gender of the respondents, whether they are non-scientific or scientific employees, and a total of 22 behavioral items from the Negative Acts Questionnaire revised (NAQ-rev). The items from the NAQ-rev were taken from Einarsen et al. (2009) and adapted based on pretesting and the feedback from the MPG task force (Table 18). All independent variables were binary coded. In the case of gender (male = 0, female = 1), the questionnaire did not explicitly ask for a third gender.[8] The main reason for this was due to data protection considerations. As a result of the small number of non-binary cases anticipated, it would have been very easy to identify individuals within the MPG in combination with other variables such as their section or hierarchical level.[9]

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characterized by experiences of discrimination as well as harassment. The regression parameters of model 2 in Appendix 4 indicate that the item "… put you down or was/were condescending to you because of your gender?" and the items more related to sexual harassment "… made unwanted attempts to stroke, fondle, or kiss you?" and "… implied that you would be promoted faster or given better treatment or be otherwise rewarded if you engage in sexual behavior?" correlate most strongly with positive self-labeling.

As a result, the mixing of sexual discrimination in the questionnaire design at that time is a limitation of this study but does not categorically imply its invalidity compared to other studies that asked about sexual harassment via a single item without mixing it with sexual discrimination.

[8]Specifically, the response option "No answer/Other gender" was offered.

[9]The research team and task force were thus faced with the consideration of surveying a third gender and, in return, dispensing with a whole series of other sociodemographic data deemed essential, or querying gender in a binary manner and mixing an alternative gender with the category "Not specified." The decision in favor of the second option, which was made after lengthy consideration, allowed people who feel they belong to a different gender to have a response option while still preserving data protection. The author is aware that this is a pragmatic solution, but not an ideal one.

Table 18. Introduction of the Question and Queried Items on the Frequency of Self-reported Experiences With Workplace Bullying.

These statements describe your interactions with your coworkers (including superiors). Please rate whether and how often you have experienced one or more of the following at your current workplace during the last 12 months.

Work-related Items	Person-related Items	Physically Intimidating Items
1. Someone withholding information, which affects your performance	8. Others spreading gossip or rumors about you	20. Being shouted at or being the target of spontaneous anger
2. Being ordered to do work below your level of competence	9. Having key areas of responsibility removed or replaced with more trivial or unpleasant tasks	21. Intimidating behavior such as finger-pointing, invasion of personal space, shoving, or having your way blocked
3. Having your opinions ignored	10. Being humiliated or ridiculed in connection with your work	22. Threats of violence or physical abuse, or actual abuse
4. Being given an unmanageable workload	11. Being ignored or excluded	
5. Being given tasks with unreasonable deadlines	12. Having insulting or offensive remarks made about your person, your views, or your private life	
6. Excessive monitoring of your work	13. Having unjustified allegations made against you	
7. Pressure not to claim something to which you are rightfully entitled (e.g., sick leave, parental leave, holiday)	14. Being the target of practical jokes by people with whom you don't get along	
	15. Hints or signals from others that you should quit your job	
	16. Being the subject of excessive teasing and sarcasm	
	17. Unjustified persistent criticism of your errors or mistakes	
	18. Unfair repeated reminders of your errors or mistakes	
	19. Being ignored or facing a hostile reaction when you approach a coworker or group of coworkers	

Scaling: Never, Occasionally, Monthly, Weekly, Daily.

For the control variable "Scientific or non-scientific staff," non-scientific employees were coded 0, and scientific employees were coded 1. The variable was taken into account because the gender ratios vary substantially between the scientific and non-scientific fields. The items of the NAQ-rev were coded 0 if a person indicated that they had "never" experienced the specific behavior in the 12 months prior to the survey. The items were each coded 1 if a person reported experiencing them occasionally, monthly, weekly, or daily in the past year. The Cronbach's alpha of the 22 binary NAQ-rev items is 0.889 (n = 6,676).[10]

Based on the binary variables listed, the binary variables for the interaction of gender and the bullying items, which are the focus of this study, were developed. A value of 0 for the interaction variable "Female*[Someone withholding information, which affects your performance]" thus represents either a male who reported to have never, occassionally, or more often experienced this bullying item or a female who reported to have not experienced this item. A value of 1 represents a female who confirmed having experienced the item in question at least occasionally. In addition, to control for the scientific or non-scientific work focus of an employee, the regression model also includes the interaction of the variable "Scientific or non-scientific staff" with the bullying items coded in the same form.

The equation used to estimate the average proportion of people who classify themselves as having been sexually discriminated against or harassed includes the same independent variables. However, 15 items were used here that were taken from the short version of the Sexual Experience Questionnaire-DoD (SEQ-DoD short) according to Stark et al. (2002) (Table 19). The Cronbach's alpha of the binary SEQ-DoD items is 0.751 (n = 8,018).

The descriptive statistics of the variables in the equation estimating the average self-labeling as having been bullied are provided in Appendix 1, and those for sexual discrimination are in Appendix 2. For an overview of the descriptive distribution of the analyzed behavioral and self-labeling items by gender and status as scientific or non-scientific, see Schraudner et al. (2019).

To check the robustness of the results, further regression models were run to see whether the significance values and confidence intervals of the interaction of gender with the bullying items changed. The tests performed are summarized in the Robustness section in Appendix 5.

[10]Different approaches can be found in research on the question of which response values should mark the cut-off in order to assess a person as being bullied and/or sexually discriminated against based on their self-assessment. The different cut-offs (e.g., Leymann criterion, Mikkelsen/Einarsen criterion) and calculation techniques (additive or by latent class analysis) and their implications for the resulting prevalence rates based on the sample used here are described in detail in Schraudner et al. (2019, p. 60, 71 f). It is noteworthy that different calculation techniques leading to comparably high prevalence rates show only a partial overlap in the relevant cases.

Table 19. Introduction of the Question and Queried Items on the Frequency of Self-reported Experiences With Sexual Discrimination.

These statements describe types of unwanted behavior of a sexualized nature. In the past 12 months, have you found yourself in situations involving your coworkers (including superiors) at the Max Planck Society where one or more of these individuals…

Sexist Hostility	**Sexual Hostility**	**Unwanted Sexual Attention**	**Sexual Coercion**
1. … treated you differently because of your gender?	5. … repeatedly told sexual stories or jokes that were offensive to you?	9. … made unwanted attempts to establish a romantic or sexual relationship with you?	13. … made you feel threatened with some sort of retaliation for not being sexually cooperative?
2. … displayed, used, or distributed sexist or sexually suggestive materials?	6. … made unwelcome attempts to draw you into a discussion on sexual matters?	10. … continued to ask you out on dates (drinks, dinner, etc.), even though you said "No"?	14. … treated you badly for refusing to have sex?
3. … made personally offensive sexist remarks?	7. … made offensive remarks about your appearance, body, or sexual activities?	11. … touched you in a way that made you feel uncomfortable?	15. … implied that you would be promoted faster or given better treatment or be otherwise rewarded if you engage in sexual behavior?
4. … put you down or was/were condescending to you because of your gender?	8. … made gestures or used body language of a sexual nature which embarrassed or offended you?	12. … made unwanted attempts to stroke, fondle, or kiss you?	

Scaling: Never, Occasionally, Monthly, Weekly, Daily.

Methods

To test the study hypotheses, two hierarchical regression models were constructed, with each estimating the mean values of MPG employees who self-labeled as having been bullied or sexually discriminated against.

All variables included in the regression models were transformed into binary variables. The main reason for this was to achieve better interpretability of the regression parameters.[11] Moreover, with respect to the ordinal baseline variables of the bullying and sexual discrimination items, there was not always a consistent linear relationship to the respective dependent variables.

Since the two dependent variables are binary, a binary logistic regression would be logical as this has the highest estimation accuracy for binary dependent variables. However, since the focus of this study was on the regression parameters of the tested models and in particular on the interactions of the bullying and sexual discrimination items with the gender of the respondents, linear regression equations were set up. As a result, a lower estimation precision was accepted while providing greater sensitivity in identifying interaction effects and more interpretable interaction effects (Best and Wolf, 2010). Unlike binary logistic regression, the parameters of the interactions in the linear model can also be used as a measure of effect size. By using linear regressions, the values of the interaction effect patterns shown in Figs. 6 and 8 can be meaningfully interpreted. At the same time, however, the implications of logistic models for the hypotheses tested were considered in the robustness tests for this study (Annex 5).

The two hierarchical regression models tested have a four-stage structure, which is explained here based on the bullying overall model:

$$\text{Model 1: } Y_{\text{Bullying}} = \beta_0 + \beta_{\text{Female}} + \beta_{\text{Scientist}} + e$$

In the first model, the average proportion of MPG employees who describe themselves as having been bullied is estimated depending on gender and scientific or non-scientific activity. Based on its regression parameters, the model allows the evaluation of *H1*, namely that women generally report having experienced bullying at work more often than men.

$$\text{Model 2: } Y_{\text{Bullying}} = \beta_0 + \beta_{\text{Female}} + \beta_{\text{Scientist}} + \beta_{\text{NAQ-item 1}} + \ldots + \beta_{\text{NAQ-item 22}} + e$$

In the second model, the binary items of the adjusted NAQ-rev and the SEQ-DoD are also included in the equation. The regression parameters of the second

[11] A typical interpretation using ordinal variable scaling would be: With each additional level on the Likert scale on which item xy is based, the average proportion of people who describe themselves as bullied increases by 4 percentage points. A typical interpretation with binary variable scaling is: the self-reported experience of item xy leads to an average increase of 12 percentage points in the proportion of respondents who describe themselves as bullied.

model enable the evaluation of *H2* according to which women, on average, still label themselves as having been bullied or sexually discriminated against more often than men, even when considering the specific behaviors, they report experiencing.

$$\text{Model 3: } Y_{\text{Bullying}} = \beta_0 + \beta_{\text{Female}} + \beta_{\text{Scientist}} + \beta_{\text{NAQ-item 1}} + \ldots + \beta_{\text{NAQ-item 1*Female}} + \ldots + \beta_{\text{NAQ-item 22*Female}} + e$$

The third model also includes the interaction variables of the behavioral items with the gender of the respondents. The model thus enables the identification of items that, depending on the gender of the respondent, contribute to varying degrees to the respondents self-labeling themselves as having been bullied or sexually discriminated against.

$$\text{Model 4: } Y_{\text{Bullying}} = \beta_0 + \beta_{\text{Female}} + \beta_{\text{Scientist}} + \beta_{\text{NAQ-item 1}} + \ldots + \beta_{\text{NAQ-item 1*Female}} + \ldots + \beta_{\text{NAQ-item 1*Scientist}} + \beta_{\text{NAQ-item 22*Scientist}} + e$$

In model 4, to control the gender interaction, the interaction variables between scientific or non-scientific employment and the behavioral items were also included. The regression parameters of model 4 were used to analyze the size of the interaction effects between gender and the individual NAQ items.

To assess *H3*, a new data set was built based on the gender-related interaction effects identified in the model. First, the data set includes the variable "bullying interaction effects." The values of this variable correspond to the regression parameters of the 22 interaction effects of gender and the NAQ items from model 4 in Appendix 3 ($M = -0.002$, SD = 0.059, Max. = 0.069, Min. = −0.216, $n = 22$). Secondly, the variable "bullying item frequency" was created. The frequency variable ($M = 0.205$, SD = 0.140, Max. = 0.562, Min. = 0.007, $n = 22$) indicates the relative frequency of a bullying item in the sample according to the descriptive statistics in Appendix 1. Thirdly, to operationalize severity, a variable was created using the regression parameters reported in model 2 for the individual bullying items ($M = 0.045$, SD = 0.050, Max. = 0.154, Min. = −0.016, $n = 22$). These parameters can be considered as indicators for the severity of an item, as they display the average contribution of the respective items to the self-assessment as having been bullied. The three variables, interaction effects ($M = 0.021$, SD = 0.248, Max. = 0.598, Min. = −0.562, $n = 15$), frequency ($M = 0.039$, SD = 0.048, Max = 0.189, Min. = 0.001, $n = 15$), and severity ($M = 0.093$, SD = 0.096, Max. = 0.365, Min. = −0.032, $n = 15$), were also calculated for sexual discrimination.

The newly built interaction variable was used as an outcome in two linear regression models for bullying and sexual discrimination with the predictor "item frequency" to test whether there is a statistically significant relationship between the direction and strength of the gender-related interaction effects and the frequency of a respective item. In addition, Pearson's r was used to check whether the frequency of the items was also related to their "severity."

The data set of scientific and non-scientific employees of the MPG used here is the result of an organization-wide full survey. This means that the evaluation results are valid under the specific contextual conditions of the MPG as a decentrally organized and nationally and internationally active institution oriented toward basic research without teaching operations. Statements about the generalizability of the study results beyond this specific context should therefore not be made on the basis of the data set. Although they were given for all estimated regression parameters, the confidence intervals of the effect sizes and *p*-values are only of secondary interest due to the absolute validity of the results for the MPG and their lack of generalizability.

All analyses were performed using SPSS 26. The syntax of the tests and the SPSS output of the regressions reported here, as well as other robustness tests, can be viewed in the online appendix.[12] The regression tables in the Appendix also include the collinearity statistics used to check the predictors of the regression equations for multicollinearity. The maximum variance influence factor (VIF) of the four bullying equations is 7.289 and thus can be considered non-critical. The maximum VIF of the four sexual discrimination equations is 44.991. Overall, 10 of 97 predictors of the four-stage hierarchical model for sexual discrimination show a critical VIF equal to or greater than 10. The test revealed high correlations (≥0.9) between individual items of the SEQ-DoD and their respective interaction variables. The correlations thus always resulted when there was a particularly pronounced interaction effect of, for example, gender and an item. The increased VIF values can be considered unproblematic precisely because they were found exclusively between interactions and the corresponding independent variables. In such cases, there is no multicollinearity problem in the sense of inflation of the standard errors and the interaction effects can be interpreted without further adjustments (Disatnik and Sivan, 2016).

Results

In the following, the model summaries for bullying and sexual discrimination are explained. The hypothesis tests that were conducted to evaluate *H1–H3* and further evaluations to enrich the interpretation of the hypotheses are also subsequently reported.

Bullying

Table 20 presents the statistics estimating the explanatory power of the four regression models tested. Equation 1, which includes only gender and a scientific or non-scientific type of job, explains only 0.6% (R^2) of the variance in self-labeling as having been bullied at work. The R^2, that is, the explanatory power of the regression equation, increases markedly by 39.5 percentage points with the addition of the NAQ-rev items in model 2. Adding the interaction effect of gender and the NAQ-rev items in model 3 improves the model quality statistically

[12]The online appendix can be accessed at: https://github.com/clemensstriebing/diversity_and_discrimination_in_RPOs.

Table 20. Model Summary Statistics for the Estimation of the Average Proportion of MPG Employees Who Self-label as Having Been Bullied.

Model	*R*	*R* Square	Adjusted *R* Square	SE of the Estimate	Change Statistics				
					R Square Change	*F* Change	df1	df2	Sig. *F* Change
1	0.075	0.006	0.005	0.276	0.006	16.624	2	5,828	0.000
2	0.633	0.401	0.398	0.214	0.395	174.074	22	5,806	0.000
3	0.642	0.413	0.408	0.213	0.012	5.252	22	5,784	0.000
4	0.651	0.424	0.417	0.211	0.011	5.216	22	5,762	0.000

significantly by another 1.2 percentage points.[13] Model 4, which also takes into account the interaction of the variable scientist/non-scientist with the bullying items, again shows a statistically significant 1.1 percentage points higher R^2 while model 4 explains 42.4% of the variance of the dependent variable.

The first question that was addressed was whether the women in the data set self-label as having been bullied more often than men (*H1*). According to model 1, women are on average 3 percentage points more likely to self-label as having been bullied (95% CI: 0.016/0.045, SE = 0.007, $p = 0.000$).[14]

Secondly, there was the question of whether this gender effect is still present when the individual items of the NAQ-rev are included in the regression model (*H2*). In model 2, the average proportion of women who rate themselves as having been bullied is 1.7 percentage points higher than that of men (95% CI: 0.006/0.028, SE = 0.006, $p = 0.003$). The effect is statistically significant. The difference between the gender effects in models 1 and 2 is 1.3 percentage points (95% CI : −0.005/0.031, SE = 0.009, $p = 0.159$).[15]

In the following, a closer look is taken at the specific interaction effects between gender and the NAQ-rev items. It is questionable whether women react to all the individual items with self-labeling as having been bullied more often than men in general or whether men and women react very specifically toward the single items. Fig. 6 shows the interaction effects between gender and bullying items (the parameters from model 4 are applied, which also controls for interaction effects of scientific and non-scientific employees). The individual bullying items are divided into work-related, person-related, and physically intimidating items based on their theoretical classification.

In general, Fig. 6 shows that the strength of the interaction effects increases from the work-related to the person-related to the physically intimidating items. Partial patterns can be found, for example, women who self-identified as having experienced bullying at work also stated more frequently that they had experienced

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[13]As the threshold for assessing statistical significance, $\alpha = 0.05$ was set for all conducted tests.

[14]The conditional estimated marginal mean of male researchers in the sample who describe themselves as bullied is 6%. The average of female researchers in the sample who describe themselves as bullied is 9%. In the estimate for non-scientific employees, around 2 percentage points each are to be added for men and women, resulting in values of 8 and 11%, respectively.

[15]The following formula was used to manually calculate the difference of difference tests (Paternoster et al., 1998):

$$z = (\beta_1 - \beta_2)/\sqrt{((\mathrm{SE}\,\beta_1)^2 + (\mathrm{SE}\,\beta_2)^2)}.$$

The *p*-value was calculated using the following formula (Altman and Bland, 2011):

$$p = \exp(-0.717^* z - 0.416^* z^2).$$

Standard errors were calculated with the formula in Altman and Bland (2011):

$$\mathrm{SE} = \mathrm{Estimate}/z.$$

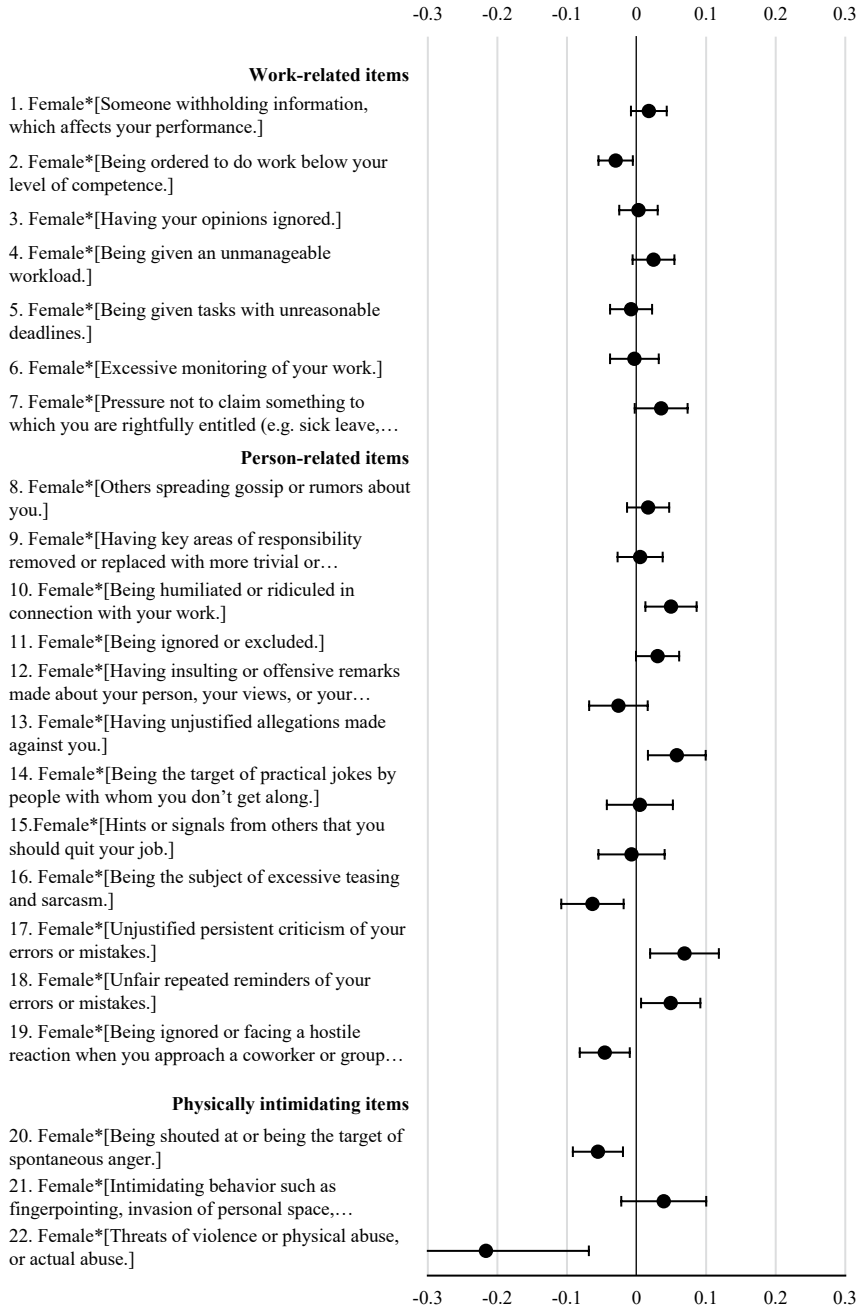

Fig. 6. Regression Coefficients of the Interaction Effects of the NAQ-rev Items with Gender, Related to the Self-ascription to Having Been Bullied Occasionally or More Frequently (Yes/No), Model 4. 95% Confidence Interval.

criticism of their work that was perceived as unjustified (see the items: "Having unjustified allegations made against you" (13), "Unjustified persistent criticism of your errors or mistakes" (17), and "Unfair repeated reminders of your errors or mistakes" (18)). In part, however, interaction effects can also be found that at first glance appear to be contradictory. For example, women who considered themselves as having been bullied more often stated that they were ignored or excluded. For men, on the other hand, the self-reported experience of "Being ignored or facing a hostile reaction when you approach a coworker or group of coworkers" reacts more strongly with the self-assessment as having been bullied.

In general, men seem to self-label as being bullied more often when they report experiencing situations that measure immediate aggression ("Being the subject of excessive teasing and sarcasm" (16), "Being ignored or facing a hostile reaction when you approach a coworker or group of coworkers" (19), "Being shouted at or being the target of spontaneous anger" (20), and "Threats of violence or physical abuse, or actual abuse" (22)).

It is questionable whether a pattern in the sense of *H3* can be identified behind the interaction effects of gender and the individual items. Fig. 7 shows that particularly those bullying items occur frequently in the sample to which women react somewhat more frequently with the self-labeling of having been bullied. Or the other way round: men on average react more frequently with the self-labeling as having been bullied to those items that occur less frequently in the sample. The dots represent the individual items of the NAQ-rev. The ordinate axis represents the calculated interaction effects between gender and the individual items (as shown in Fig. 6). The abscissa axis indicates the relative frequency of the respective items in the sample (see Appendix 1).

The pattern found is very weak. In view of the small effect size and the p-value, it cannot be claimed that men tend to respond more frequently than women to less frequent bullying items with the selflabeling as having been bullied. The estimated regression line starts at the constant −0.019 (95% CI : −0.067/0.028, SE = 0.023, $p = 0.408$) and runs with a slope of 0.082 (95% CI : -0.110/0.274, SE = 0.092, $p = 0.382$). The effect sizes of the NAQ-rev items in model 2 (Appendix 3) as a measure of the severity of an item are statistically significantly negatively related to the frequency of the items ($r(20) = -0.739$, $p = 0.000$). Subsequently, the most frequent items in Fig. 7 also tend to be those that have a smaller effect on self-attribution as having been bullied.

Table 21 shows the relationship between the men and women surveyed who describe themselves as having been bullied and the other person or persons involved. The table does not reveal any considerable differences in terms of distribution between men and women. The very weak differences imply that the men in question reported bullying by their immediate superior slightly more often, whereas the women in the sample indicated experiencing "cross-hierarchical" bullying by multiple parties slightly more often. Furthermore, women on average also reported experiencing a higher number of different specific bullying items than men ($M_{men} = 4.312$, $M_{women} = 4.746$, $M_{men} - M_{women} = -0.424$, 95% CI : −0.657/−0.190, SE = 0.119, $p = 0.000$).

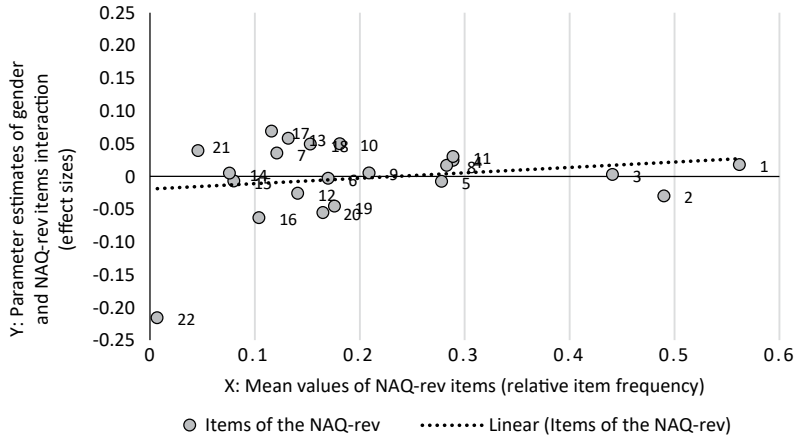

Fig. 7. Positioning of the NAQ-rev Items According to Their Descriptive Mean Values (Their Relative Frequency) and Their Parameter Estimates for the Interaction With Gender (Taken From Model 4).

Table 21. Statements by Individuals Who Stated They Had Experienced Bullying in the 12 Months Prior to the Survey, Categorizing the People From Whom the Bullying Originated, Differentiated by Gender.

Relationship to Other Persons Involved		**Male**	**Female**	**Total**
Immediate superior	Count	40	41	81
	% Within gender	20.70	15.60	17.80
Other superior	Count	15	21	36
	% Within gender	7.80	8.00	7.90
Fellow group member	Count	40	57	97
	% Within gender	20.70	21.70	21.30
Other colleague	Count	20	28	48
	% Within gender	10.40	10.60	10.50
Multiple parties	Count	78	116	194
	% Within gender	40.40	44.10	42.50
Total	Count	193	263	456
	% Within gender	100.00	100.00	100.00

Sexual Discrimination

An overview of the summary statistics of the four equations tested for calculating the average proportion of MPG employees who consider themselves as having experienced sexual discrimination and/or harassment can be found in Table 22.

Table 22. Model Summary Statistics for the Estimation of the Average Proportion of MPG Employees Who Self-label as Having Been Sexually Discriminated Against.

Model	*R*	*R* Square	Adjusted *R* Square	SE of the Estimate	Change Statistics				
					R Square Change	*F* Change	df1	df2	Sig. *F* Change
1	0.109	0.012	0.012	0.186	0.012	41.794	2	6,984	0.000
2	0.509	0.259	0.257	0.166	0.247	155.171	15	6,969	0.000
3	0.529	0.280	0.276	0.160	0.020	13.105	15	6,954	0.000
4	0.541	0.293	0.288	0.158	0.013	9.126	14	6,940	0.000

According to this, gender and the status as a scientific or non-scientific employee explain 1.2% of the variance (R^2) of the dependent variable. When also considering the items of the SEQ-DoD in model 2, the R^2 increases by 24.7 percentage points. Including the interaction effect of gender and the items of specific acts of sexual discrimination increases the proportion of variance explained by an additional statistically significant 2 percentage points. In model 4, which also accounts for the interaction of the SEQ-DoD items with status as non-scientifically or scientifically employed, R^2 also increases statistically significantly by an additional 1.3 percentage points to 29.3%.

H1 was first tested to determine whether women are generally more likely than men to self-label as having experienced sexual discrimination. The average proportion of female MPG employees who consider themselves to have experienced sexual discrimination is 4 percentage points higher than the proportion of male employees (95% CI: 0.031/0.049, SE = 0.005, $p = 0.000$).[16]

Contrary to *H2*, this gender effect disappears in model 2, which also considers the individual items of the SEQ-DoD ($\beta = 0.000$, 95% CI: −0.008/0.008, SE = 0.004, $p = 0.960$). The gender effect in model 1 and the gender non-effect of model 2 accordingly show a statistically significant difference to each other.

With the falsification of *H2, H3* also lacks its basis as it was predicted that women would respond more strongly than men to the items of the SEQ-DoD that occur more frequently in the sample with the self-labeling as having experienced behaviors of sexual discrimination and/or harassment. Fig. 8 shows the interaction effects of gender and the items measuring sexual discrimination. The items were grouped based on their theoretical classification as sexist hostility, sexual hostility, unwanted sexual attention, and sexual coercion.

Considering the interaction plot of Fig. 8, in the category "sexual coercion," gender has a considerably greater influence on the extent to which the respective items contribute to the self-labeling as having been sexually discriminated against than in the other types of sexual discrimination. Partial patterns in the interaction effects of sexual discrimination are also apparent. For example, female employees more frequently react with self-labeling on sexist remarks, sayings and materials more critically ("… made personally offensive sexist remarks" (3), "… repeatedly told sexual stories or jokes that were offensive to you?" (5), and "… displayed, used, or distributed sexist or sexually suggestive materials?" (2)). Males, on the other hand, tended to respond somewhat more frequently with self-labeling to more abstract sexist hostility ("… put you down or was/were condescending to you because of your gender?" (4) and "… treated you differently because of your gender?" (1)). Some interactions also seem somewhat contradictory, such as when women more frequently react to unwanted attempts to establish a romantic or sexual relationship (9) with a self-labeling as having been sexually discriminated against, while men react more often with the same self-labeling in response to repeated and already

[16]For sexual discrimination, the conditional estimated marginal mean is 3% for male researchers and 7% for female researchers. For non-scientifically employed men it is 0% and for women 4%.

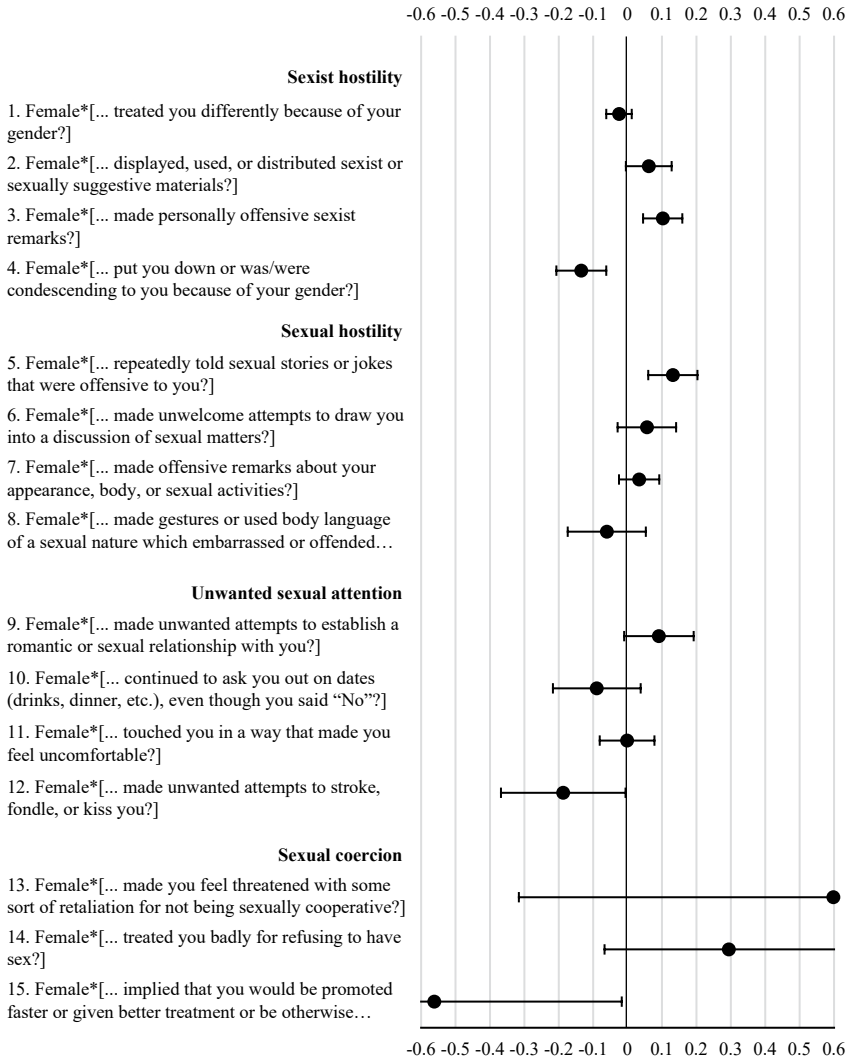

Fig. 8. Regression Coefficients of the Interaction Effects of the SEQ-DoD Items With Gender, Related to the Self-ascription of Having Experienced Sexual Discrimination and/or Harassment, Occasionally or More Frequently (Yes/No), Model 4.

denied requests for dates (10). The surveyed men and women thus react in a comparable way to unwanted attempts to initiate contact and relationships, whereby men react more frequently to the first steps toward initiating contact – dating – by self-labeling themselves as having experienced sexual discrimination.

Fig. 9 visualizes the effect size distribution by item frequency as described above for bullying. The calculated regression line has the constant 0.033 (95% CI:

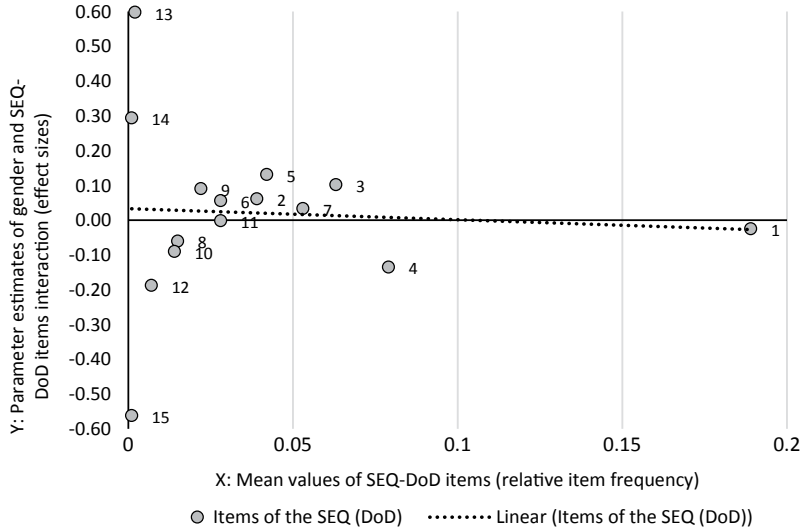

Fig. 9. Positioning of the SEQ-DoD Short Items According to Their Descriptive Mean Values (Their Relative Frequency) and Their Parameter Estimates for the Interaction With Gender (Taken from Model 4).

−0.155/0.221, SE = 0.087, $p = 0.711$) and runs with the parameter −0.317 (95% CI: −3.429/2.794, SE = 1.440, $p = 0.829$). The individual items of the SEQ-DoD short for the most part appear only rarely in the sample studied. The factual gender differences in the individual items thus have no clear implications for the correlation between the items and the self-rating as having been sexually discriminated against.

Table 23 shows the hierarchical relationship between persons who perceive themselves as having been sexually discriminated against or harassed at work and the other persons involved. The women surveyed did not report experiencing sexual discrimination by immediate or other superiors less or more often than the men. A clearer difference can be seen in the role of other colleagues, as the data implies that they are considerably more frequently involved in cases of sexual discrimination against women than against men.

However women report experiencing, on average, more than twice as many different items in the workplace than men ($M_{\text{men}} = 0.342$, $M_{\text{women}} = 0.841$, $M_{\text{men}} - M_{\text{women}} = -0.499$, 95% CI: −0.562/−0.437, SE = 0.032, $p = 0.000$).

Interpretation

The results of the hypothesis tests conducted are summarized in Table 22. For persons who self-labeled as having been bullied or as sexually discriminated against, the predicted gender effect is supported by the analyses. However, the

Table 23. Statements by Individuals Who Stated They Had Experienced Sexual Discrimination and/or Harassment in the 12 Months Prior to the Survey, Categorizing the People From Whom the Bullying Originated, Differentiated by Gender.

Relationship to other Persons Involved		**Male**	**Female**	**Total**
Immediate superior	Count	11	24	35
	% Within gender	18.6	12.8	14.2
Other superior	Count	3	19	22
	% Within gender	5.1	10.1	8.9
Fellow group member	Count	12	29	41
	% Within gender	20.3	15.4	16.6
Other colleague	Count	14	64	78
	% Within gender	23.7	34.0	31.6
Multiple parties	Count	19	52	71
	% Within gender	32.2	27.7	28.7
Total	Count	59	188	247
	% Within gender	100.0	100.0	100.0

gender-related measurement gap predicted in *H2* between the measurement of social misconduct based on behavioral items and based on the self-labeling approach, could only be determined for bullying. However, *H3* is not supported for bullying. The patterns that are shown in Figs. 6 and 8 indicate that the individual items are associated with self-labeling to a varying degree for men and women. Neither in the case of bullying nor in that of sexual discrimination a statistically significant correlation was found between the gender-related interaction effects of the individual items and the frequency of their occurrence in the sample.

The model summary statistics (Tables 20 and 22) show that for both bullying and sexual discrimination, gender can only explain a very small fraction of the variance between respondents concerning self-labeling and that the specific presence of the self-reported behavioral items is much more relevant.

For the theoretical implications of this study presented below, it is also relevant that women on average mentioned experiencing statistically significantly more different behavioral items of bullying or sexual discrimination, and that women in the sample did not report experiencing bullying or sexual discrimination by supervisors more often, that is, in the context of a subordinate relationship.

Table 24 Interpretation of the Hypotheses.

Hypotheses	Factors on Self-labeling as having Experienced Workplace Misconduct	Hypothesis	Bullying	Sexual Discrimination and/or Harassment
1	Gender	More women than men self-label as having experienced workplace bullying and sexual discrimination	Supported	Supported
2	Gender, NAQ-rev items, SEQ-DoD short items	Even when controlling for the specific self-reported behaviors, women are still more likely to self-label as having experienced bullying and sexual discrimination at work	Supported	Not supported
3	Gender*NAQ-rev items, Gender*SEQ-DoD short items	Women are more likely to respond with self-labeling to those behaviors of workplace bullying and sexual discrimination that are more prevalent	Not supported	Not supported

Robustness

To assess the robustness of the results, it was checked whether:

a) calculating with binary logistic regression models would have different implications for the hypotheses tested here;
b) calculating with a sum index instead of the individual items would have other implications for the hypotheses tested here;
c) effect directions and statistical significance of the interaction effects from model 4 (Figs. 6 and 8) differed from those of model 3;
d) the results differ with a rescaling of the dependent variable;
e) model 4 reacts sensitively to the inclusion of control variables; and
f) gender as the moderation variable might be confounded by other variables.

The results of the robustness checks are described in more detail in Appendix 5 and all calculations can be found in the online appendix. In summary, almost all robustness checks came to the same results regarding *H1–H3* for bullying and sexual discrimination.

If a sum index had been used instead of the individual behavioral items (see Appendix 5b), the result for *H2* for sexual discrimination would have different implications: a sum index would have displayed a gender-related measurement gap. In this study, the behavioral items were preferred, since they depict individual experiences that might be perceived as sexual discrimination in more detail than a summation of them. Especially since calculating with the individual items is the prerequisite for testing *H3* in the first place and is thus the theoretical focus of this paper.

Rescaling the dependent variable also has important implications for the results of the study (see Appendix 5d). If only cases of persons who reported having experienced bullying or sexual discrimination at least monthly were coded with "1," the corresponding number of cases of self-labeled persons in the sample would be greatly reduced. In the case of bullying, the measurement gap would disappear and thus *H2* would have to be falsified. In the case of sexual discrimination, the gender gap itself would disappear and *H1* would have to be falsified.

The researcher thus faces the challenge of choosing a scaling that is not unjustifiably sweeping and not overly precise (assuming, e.g., linear relationships between each item of the NAQ-rev and the SEQ-DoD short). This paper considers a scaling of whether, in principle, there was a specific experience of social misconduct in the workplace in the 12 months prior to the survey to be most appropriate.

Conclusions

In the concluding remarks, the theoretical and practical implications of the findings are discussed, limitations of the work are presented, and suggestions for further research are made.

Theoretical Implications

First and foremost, the present study joins the canon of those who support the predictions of social identity and social role theory based on empirical evidence on the marginalization of women in the research system. It could be shown that women in the Max Planck Society statistically significantly more frequently reported having been bullied and sexually discriminated against than men. This observation also holds true when considering the fact that women are more strongly represented among the non-scientific staff than among the scientific staff.

The validation of *H2* for bullying supports the theoretical considerations of Escartín et al. (2011) and Rosander et al. (2020) about different conceptions of bullying between men and women. According to the idea of "gendered conceptions," which is only one possible approach to explain *H2* women and men interpret the individual bullying items differently and have different understandings of "being bullied."[17] However, the hypothetical assumption derived from social role theory, according to which men might have a greater tolerance for misconduct at work due to their more competitive socialization (H3), is not supported.

The individual items of the indices used here each have a considerable influence on the slope of the regression line shown in Fig. 7, that is, the relationship between the frequency of an item and its gender-related interaction effect. From this, it can be concluded that the size of the gender-related measurement gap measured by the comparison of self-labeling with a bullying index is also considerably influenced by the addition or omission of the items mentioned. In comparison, the results for *H2* and *H3* regarding sexual discrimination show greater robustness to the inclusion or omission of individual items due to the fundamentally very low frequencies of the SEQ-DoD short items.

[17]A first alternative explanation for the gender-related measurement gap would be that women experience a higher number of bullying items in everyday worklife. Due to the stronger individual aggregation of bullying experiences, even fewer "severe" items would be associated with a self-reporting as having been bullied among women. In fact, on average, women report having experienced statistically significantly more individual bullying items. However, this explanation is clearly contradicted by the fact that no gender-related measurement gap was found for sexual discrimination, although the difference in the average number of bullying items reported by women and men is many times greater.

A second alternative explanation for why *H2* could be validated for bullying would be that women and men experience the same items with different severity. Accordingly, for example, women would experience the item "Threats of violence or physical abuse, or actual abuse" (22) with a lower severity, for example, because they experience threats more often and the threats seem less binding than in men or because men experience actual abuse more often. This explanation cannot be ruled out based on the analyses conducted.

The study also partly provides arguments against competing theoretical approaches to explain the gender-related measurement gap in bullying. From the perspective of social power theory, women would therefore react "more intensively" to bullying experiences with self-labeling as having been bullied, since they are more often in a hierarchical relationship of subordination at work than men. This theory cannot be considered relevant here, as the women in the sample who described themselves as having been bullied did not report experiencing bullying from superiors more often than men (Table 23) and the integration of a hierarchy variable for scientific employees does not change the hypothesis assessments (Appendix 5f).

Another competing explanation was that the self-labeling of women as having been bullied is more strongly influenced by experiences of sexual discrimination, which are not measured by the NAQ-rev. In principle, this explanation cannot be ruled out. In the questionnaire-based survey, the NAQ-rev items and the self-assessment as having been bullied were collected first, followed by the SEQ-DoD items and the self-labeling as having been sexually discriminated against and/or harassed. The respondents were therefore not aware of the extent to which experiences of sexual discrimination were collected and thus it cannot be ruled out that in many cases they might have implicitly included experiences of sexual discrimination in their self-assessment as having been bullied.

For sexual discrimination, both *H2* and *H3* could not be validated. This means, firstly, that the result of Kriegh (2019), according to which female students attribute a higher severity to almost all types of sexual discrimination and harassment than male students, is not supported by the approach of this study. Using the methodology chosen here, a more complex pattern of the relationship between the individual SEQ-DoD items and the self-labeling as having experienced sexual discrimination becomes visible. Second, it was suggested that the findings of Rosen and Martin (2009) and Nielsen et al. (2010a) that men who self-label as having been sexually discriminated against have lower job satisfaction and health status than women who self-identify as being discriminated against also suggest a stricter conceptualization of sexual discrimination among men. This prediction appears to be incorrect.

Overall, the individual items of the SEQ-DoD short for the measurement of sexual discrimination show a significantly lower variance in their frequency distribution than the items of the NAQ-rev for measuring bullying. Experiences of sexual discrimination were very rarely reported in the sample studied, except for the item "… treated you differently because of your gender?" (1). It can only be speculated here that the scarcity of the corresponding items could be the main reason why *H2* and *H3* were falsified by the sample. The low frequencies also level out the significance of the existing gender-specific interaction effects. A complementary explanation for the non-existence of the measurement gap here would be that acts of sexual discrimination are equally "extra-ordinary" for the women and men in the sample due to their rarity. Socialization-related differences between men and women would therefore be

less relevant since the members of both genders equally classify experiences of sexual discrimination as unusual and "abnormal."

Practical Implications

The gender-related interaction patterns in Figs. 6 and 8 give a diffuse picture. By adding or omitting individual items, the measurement gap concerning gender can be considerably influenced. In view of this, even cautious conclusions about a higher item threshold for men for self-labeling as affected by social misconduct at work or the conclusion of a higher sensitivity of women appear to be inadmissible oversimplifications.

By considering the items of the NAQ-rev and SEQ-DoD individually, the study also implies that the individual items have different severities. The regression parameters of the items in model 2 (Appendices 3 and 4) show, for example, that item 22 "Threats of violence…" is associated many times more strongly with self-labeling than item 1 "Some withholding information…." This suggests that concrete threats or experiences of violence are more quickly classified as bullying than more passive and discreet behavior.

For researchers, this points to the importance of extended robustness testing if they are conducting a study with a gender-related topic and apply a definition of bullying or sexual discrimination based on behavioral items (e.g., by tentatively excluding individual behavioral items). Given the highly variable item severity, all benchmarks based on an unweighted summation of items to classify individuals as having been bullied or sexually discriminated against should be critically questioned or rejected. Surprisingly, these benchmarks are widely used in research practice. Leymann recommends being affected by at least one negative act weekly over a six-month period as a benchmark (Nielsen et al., 2009) whereas in Mikkelsen and Einarsen it is at least two negative acts (ibidem). Notelaers and Einarsen (2013) define a series of cutoff scores based on the addition of item values.

From the author's point of view (see also Salin and Hoel, 2013), a self-labeling approach is preferable, as it allows a more holistic assessment and classification of negative actions than an item threshold. The items can be complementary and might be weighted by their frequency or their relative contribution to self-labeling as having experienced workplace misconduct. Furthermore, clustering methods (Nielsen et al., 2010a) are also preferable to benchmarking by addition.

In terms of practical action, the study encourages research managers to examine each reported case of social misconduct in detail. According to this study, women are more likely than men to respond to more frequent and less severe bullying items with a self-labeling as having been bullied, but women also report, on average, a higher number of different social transgressions in their daily work lives.

Ultimately, the interaction effects between gender and the self-reported experiences of social misconduct identified here are too complex in their patterns and the identified interaction effects in the case of bullying are too weak or – in the case of sexual discrimination – are too rare to understand them as confirmation of practical relevant differences in sensitivity to workplace misconduct between women

and men. Research management should thus be alert to and avoid gender stereotypes in conflict resolution processes. As the theoretical literature on gaslighting and victim blaming cited at the beginning implies, such expressed prejudices are more likely to serve – from a perpetrator or management perspective – to relativize, negate, or manipulate the perceptions of those affected and to strengthen one's own conflict position or justify inaction.

Finally, those affected by social misconduct in the workplace are advised to conscientiously record all conflict-related experiences to be able to point out the regularity of the incidents and their systematic character in case they are accused of complaining about incidents that are allegedly not severe enough.

Limitations

The study has several limitations that especially seem worth mentioning. Firstly, the study exclusively examined scientific and non-scientific personnel in a large German research organization. The MPG is focused on scientific qualification and, although the scientific personnel has no obligation to teach, many of the researchers also teach at a university. This also applies to PhD students, for example in the context of the International Max Planck Research Schools organized by MPG institutes in cooperation universities. However, as the questionnaire only asked about experiences of social misconduct at work in the MPG, in this respect the sample used here presumably differs from a sample from university research regarding experiences of bullying and sexual discrimination.

Secondly, a methodological strength and at the same time a limitation of the study is that, unlike previous studies, the items of the NAQ-rev and the SEQ-DoD were not aggregated into one or more indices, but were analyzed individually. With the consideration of the different interaction effects, this leads to an unusually high number of predictors in the regression equations (e.g., model 4 on bullying has 68 predictors). With regression models that include a large number of predictors, the problem of multicollinearity and overfitting can arise. Critical multicollinearity is not present, as shown above. Overfitting can occur if the sample is too small, especially if the number of predictors is high. For an appropriate ratio of the sample size to the number of predictors, a (not uncontroversial) rule of thumb of at least 10 events per predictor has been established (Riley et al., 2020). This rule of thumb is fulfilled for all predictors of the bullying models. For the predictors of sexual discrimination, however, the rule of thumb is not consistently met. The items measuring the sexual coercion subconstruct have a lower number of events, especially in the interactions with gender and scientific/non-scientific. Overfitting can lead to overly optimistic estimates (Riley et al., 2020), which can be an explanation for the large size of the interaction effects of the sexual coercion items shown in Fig. 8. However, precisely because the items occur so rarely, their influence on the validity of *H2* and *H3*, that is, the results on the existence of the gender-related measurement gap and the correlation of the gender-related interaction effects with the frequency of an item, is to be assessed as low.

A third limitation is the number of control variables used. While consideration of the hierarchical position could be informative in measuring respondents' tendency to self-label as having been bullied or sexually discriminated against, this variable was only collected and analyzed here for scientific employees.

Fourth, a limitation is that self-labeling in experiences of sexual harassment and sexual discrimination was measured using a double-barreled question. The problem is discussed in detail in the Research Approach section when introducing the variables. The question wording limits the interpretability of the study as it is not clear whether the respondents answered the self-labeling question in the affirmative because of experiences of sexual discrimination or sexual harassment or both. However, this does not necessarily call into question the validity of the results, as has been discussed. Overall, it was shown that the estimates of *H3* based on the distribution of interaction effects by effect frequency (Fig. 9) are very robust due to the overall low effect frequencies.

Finally, it should be noted that the present study examined gender differences in self-identification as having been bullied or sexually discriminated against, but not the willingness of those affected to report it or whether the self-reported acts of social misconduct actually took place. It cannot be ruled out that there are gender differences in official reporting and complaints and that there is a considerable gray area between perceived and factual misconduct.

Directions for Further Research

Three possible starting points for future research are highlighted here. Firstly, it is noteworthy that a very large proportion of unexplained variance remains in the regression models (R^2), that is, the behavioral items are only able to capture the self-labeling of a person as having been bullied or sexually discriminated against to a very limited extent. This indicates that the currently established scales of the NAQ and the SEQ leave many blind spots if one wants to explain a person's self-assessment based on them and that alternative scales could potentially have better results in this context. It also suggests that scales should be developed that capture the regularity, severity, or power imbalance of a conflict situation at the workplace in a more comprehensive way.

Secondly, the interaction analysis of gender with the individual items showed that a whole range of forms of social misconduct is more often assessed as bullying or sexual discrimination by women than by men and vice versa. These patterns could only be touched on superficially here and could be better justified theoretically using expert interviews with psychological service personnel at research institutions or focus groups.

Thirdly, it could be assumed that awareness of sexual discrimination in particular increases with increasing educational attainment, as in these cases the abstract concept of equality is more easily adapted and transferred to everyday working life (see relative deprivation theory). In this respect, a higher awareness of sexual discrimination would be assumed among scientific personnel. As can be seen from Appendix 3, non-scientific employees are indeed less likely to report

having been sexually discriminated against, but the status-related interaction effects in the behavioral items are similarly diffuse regarding the gender of the respondents. As with the gender interactions, a preliminary evaluation of these results suggests an influence of the different situational circumstances between scientists and non-scientists rather than an effect of their educational level. More in-depth research on how the context of scientists and non-scientists' employment shapes their experiences of sexual discrimination seems promising.

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Appendices

1. Descriptive Statistics for the Bullying Regression Model

Table A1. Descriptive Statistics of Dependent, Independent, and Control Variables in the Regression Model for Bullying.

Variable Name	**Mean**	**SD**	***N*(1)**	***N***
Dependent Variable				
Self-ascription to occasional or more frequent bullying, binary	0.083	0.276	486	5,831
Independent Variables				
Please indicate your gender	0.463	0.499	2,697	5,831
Scientific or non-scientific staff	0.573	0.495	3,339	5,831
[Someone withholding information, which affects your performance]	0.562	0.496	3,279	5,831
[Being humiliated or ridiculed in connection with your work]	0.181	0.385	1,058	5,831
[Being ordered to do work below your level of competence]	0.490	0.500	2,859	5,831
[Having key areas of responsibility removed or replaced with more trivial or unpleasant tasks]	0.209	0.407	1,218	5,831
[Others spreading gossip or rumors about you]	0.283	0.451	1,651	5,831
[Being ignored or excluded]	0.289	0.453	1,682	5,831
[Having insulting or offensive remarks made about your person, your views, or your private life]	0.141	0.348	821	5,831
[Being shouted at or being the target of spontaneous anger]	0.165	0.371	960	5,831
[Intimidating behavior such as finger-pointing, invasion of personal space, shoving, or having your way blocked]	0.046	0.209	267	5,831
[Hints or signals from others that you should quit your job]	0.080	0.271	466	5,831

(*Continued*)

Table A1. (*Continued*)

Variable Name	Mean	SD	*N*(1)	*N*
[Unfair repeated reminders of your errors or mistakes]	0.153	0.360	894	5,831
[Being ignored or facing a hostile reaction when you approach a coworker or group of coworkers]	0.176	0.381	1,024	5,831
[Unjustified persistent criticism of your errors or mistakes]	0.116	0.320	677	5,831
[Having your opinions ignored]	0.441	0.497	2,569	5,831
[Being the target of practical jokes by people with whom you don't get along]	0.076	0.265	444	5,831
[Being given tasks with unreasonable deadlines]	0.278	0.448	1,620	5,831
[Having unjustified allegations made against you]	0.132	0.339	770	5,831
[Excessive monitoring of your work]	0.170	0.376	992	5,831
[Pressure not to claim something to which you are rightfully entitled (e.g., sick leave, parental leave, holiday)]	0.121	0.326	706	5,831
[Being the subject of excessive teasing and sarcasm]	0.104	0.305	604	5,831
[Being given an unmanageable workload]	0.289	0.453	1,687	5,831
[Threats of violence or physical abuse, or actual abuse]	0.007	0.080	38	5,831
Female*[Someone withholding information, which affects your performance]	0.281	0.449	1,636	5,831
Female*[Being ordered to do work below your level of competence]	0.228	0.419	1,328	5,831
Female*[Having your opinions ignored]	0.208	0.406	1,213	5,831
Female*[Being given tasks with unreasonable deadlines]	0.126	0.332	736	5,831
Female*[Excessive monitoring of your work]	0.085	0.278	494	5,831
Female*[Pressure not to claim something to which you are rightfully entitled (e.g., sick leave, parental leave, holiday)]	0.061	0.239	355	5,831

Table A1. (*Continued*)

Variable Name	Mean	SD	*N*(1)	*N*
Female*[Being given an unmanageable workload]	0.143	0.350	834	5,831
Female*[Being humiliated or ridiculed in connection with your work]	0.092	0.289	536	5,831
Female*[Having key areas of responsibility removed or replaced with more trivial or unpleasant tasks]	0.099	0.298	575	5,831
Female*[Others spreading gossip or rumors about you]	0.138	0.345	804	5,831
Female*[Being ignored or excluded]	0.132	0.338	768	5,831
Female*[Having insulting or offensive remarks made about your person, your views, or your private life]	0.074	0.262	433	5,831
Female*[Hints or signals from others that you should quit your job]	0.039	0.193	227	5,831
Female*[Unfair repeated reminders of your errors or mistakes]	0.074	0.262	432	5,831
Female*[Being ignored or facing a hostile reaction when you approach a coworker or group of coworkers]	0.088	0.283	512	5,831
Female*[Unjustified persistent criticism of your errors or mistakes]	0.058	0.233	335	5,831
Female*[Being the target of practical jokes by people with whom you don't get along]	0.038	0.192	223	5,831
Female*[Having unjustified allegations made against you]	0.065	0.247	381	5,831
Female*[Being the subject of excessive teasing and sarcasm]	0.051	0.220	296	5,831
Female*[Being shouted at or being the target of spontaneous anger]	0.085	0.280	498	5,831
Female*[Intimidating behavior such as finger-pointing, invasion of personal space, shoving, or having your way blocked]	0.024	0.154	142	5,831
Female*[Threats of violence or physical abuse, or actual abuse]	0.002	0.049	14	5,831
Scientist*[Someone withholding information, which affects your performance]	0.275	0.446	1,602	5,831

(*Continued*)

Table A1. (*Continued*)

Variable Name	Mean	SD	*N*(1)	*N*
Scientist*[Being ordered to do work below your level of competence]	0.241	0.427	1,403	5,831
Scientist*[Having your opinions ignored]	0.242	0.429	1,413	5,831
Scientist*[Being given tasks with unreasonable deadlines]	0.161	0.367	936	5,831
Scientist*[Excessive monitoring of your work]	0.085	0.279	495	5,831
Scientist*[Pressure not to claim something to which you are rightfully entitled (e.g., sick leave, parental leave, holiday)]	0.077	0.266	447	5,831
Scientist*[Being given an unmanageable workload]	0.156	0.363	910	5,831
Scientist*[Being humiliated or ridiculed in connection with your work]	0.101	0.302	590	5,831
Scientist*[Having key areas of responsibility removed or replaced with more trivial or unpleasant tasks]	0.103	0.304	599	5,831
Scientist*[Others spreading gossip or rumors about you]	0.147	0.354	855	5,831
Scientist*[Being ignored or excluded]	0.179	0.383	1,041	5,831
Scientist*[Having insulting or offensive remarks made about your person, your views, or your private life]	0.083	0.275	482	5,831
Scientist*[Hints or signals from others that you should quit your job]	0.050	0.218	293	5,831
Scientist*[Unfair repeated reminders of your errors or mistakes]	0.079	0.269	459	5,831
Scientist*[Being ignored or facing a hostile reaction when you approach a coworker or group of coworkers]	0.100	0.300	585	5,831
Scientist*[Unjustified persistent criticism of your errors or mistakes]	0.059	0.236	346	5,831
Scientist*[Being the target of practical jokes by people with whom you don't get along]	0.037	0.190	218	5,831
Scientist*[Having unjustified allegations made against you]	0.064	0.244	372	5,831

Table A1. (*Continued*)

Variable Name	Mean	SD	*N*(1)	*N*
Scientist*[Being the subject of excessive teasing and sarcasm]	0.054	0.227	317	5,831
Scientist*[Being shouted at or being the target of spontaneous anger]	0.095	0.293	554	5,831
Scientist*[Intimidating behavior such as finger-pointing, invasion of personal space, shoving, or having your way blocked]	0.029	0.167	168	5,831
Scientist*[Threats of violence or physical abuse, or actual abuse]	0.004	0.063	23	5,831

2. Descriptive Statistics for the Sexual Discrimination Regression Model

Table A2. Descriptive Statistics of Dependent, Independent, and Control variables in the Regression Model for Sexual Discrimination.

Variable Name	Mean	SD	*N*(1)	*N*
Dependent Variable				
Self-ascription to occasional or more frequent sexual discrimination, binary	0.036	0.188	255	6,987
Independent Variables				
Please indicate your gender	0.480	0.500	3,352	6,987
Scientific or non-scientific staff	0.544	0.498	3,800	6,987
[… treated you differently because of your gender?]	0.189	0.392	1,321	6,987
[… displayed, used, or distributed sexist or sexually suggestive materials?]	0.039	0.193	271	6,987
[… made personally offensive sexist remarks?]	0.063	0.242	437	6,987
[… put you down or was/were condescending to you because of your gender?]	0.079	0.269	549	6,987
[… repeatedly told sexual stories or jokes that were offensive to you?]	0.042	0.200	292	6,987

(*Continued*)

Table A2. (*Continued*)

Variable Name	Mean	SD	*N*(1)	*N*
[… made unwelcome attempts to draw you into a discussion on sexual matters?]	0.028	0.166	198	6,987
[… made offensive remarks about your appearance, body, or sexual activities?]	0.053	0.223	367	6,987
[… made gestures or used body language of a sexual nature which embarrassed or offended you?]	0.015	0.122	105	6,987
[… made unwanted attempts to establish a romantic or sexual relationship with you?]	0.022	0.147	155	6,987
[… continued to ask you out on dates (drinks, dinner, etc.), even though you said "No"?]	0.014	0.116	95	6,987
[… touched you in a way that made you feel uncomfortable?]	0.028	0.165	195	6,987
[… made unwanted attempts to stroke, fondle, or kiss you?]	0.007	0.083	49	6,987
[… made you feel threatened with some sort of retaliation for not being sexually cooperative?]	0.002	0.040	11	6,987
[… treated you badly for refusing to have sex?]	0.001	0.038	10	6,987
[… implied that you would be promoted faster or given better treatment or be otherwise rewarded if you engage in sexual behavior?]	0.001	0.034	8	6,987
Female*[… treated you differently because of your gender?]	0.141	0.348	982	6,987
Female*[… displayed, used, or distributed sexist or sexually suggestive materials?]	0.018	0.134	128	6,987
Female*[… made personally offensive sexist remarks?]	0.039	0.193	272	6,987
Female*[… put you down or was/were condescending to you because of your gender?]	0.069	0.254	483	6,987
Female*[… repeatedly told sexual stories or jokes that were offensive to you?]	0.025	0.157	177	6,987
Female*[… made unwelcome attempts to draw you into a discussion on sexual matters?]	0.017	0.129	118	6,987

Table A2. (*Continued*)

Variable Name	Mean	SD	*N*(1)	*N*
Female*[… made offensive remarks about your appearance, body, or sexual activities?]	0.032	0.175	220	6,987
Female*[… made gestures or used body language of a sexual nature which embarrassed or offended you?]	0.010	0.098	68	6,987
Female*[… made unwanted attempts to establish a romantic or sexual relationship with you?]	0.016	0.127	114	6,987
Female*[… continued to ask you out on dates (drinks, dinner, etc.), even though you said "No"?]	0.010	0.100	70	6,987
Female*[… touched you in a way that made you feel uncomfortable?]	0.018	0.134	128	6,987
Female*[… made unwanted attempts to stroke, fondle, or kiss you?]	0.005	0.073	37	6,987
Female*[… made you feel threatened with some sort of retaliation for not being sexually cooperative?]	0.001	0.038	10	6,987
Female*[… treated you badly for refusing to have sex?]	0.001	0.032	7	6,987
Female*[… implied that you would be promoted faster or given better treatment or be otherwise rewarded if you engage in sexual behavior?]	0.001	0.029	6	6,987
Scientist*[… treated you differently because of your gender?]	0.116	0.320	808	6,987
Scientist*[… displayed, used, or distributed sexist or sexually suggestive materials?]	0.025	0.155	173	6,987
Scientist*[… made personally offensive sexist remarks?]	0.045	0.208	316	6,987
Scientist*[… put you down or was/were condescending to you because of your gender?]	0.046	0.209	319	6,987
Scientist*[… repeatedly told sexual stories or jokes that were offensive to you?]	0.026	0.158	179	6,987
Scientist*[… made unwelcome attempts to draw you into a discussion on sexual matters?]	0.016	0.126	112	6,987

(*Continued*)

Table A2. (*Continued*)

Variable Name	Mean	SD	*N*(1)	*N*
Scientist*[… made offensive remarks about your appearance, body, or sexual activities?]	0.030	0.171	211	6,987
Scientist*[… made gestures or used body language of a sexual nature which embarrassed or offended you?]	0.011	0.103	75	6,987
Scientist*[… made unwanted attempts to establish a romantic or sexual relationship with you?]	0.014	0.119	100	6,987
Scientist*[… continued to ask you out on dates (drinks, dinner, etc.), even though you said "No"?]	0.008	0.089	56	6,987
Scientist*[… touched you in a way that made you feel uncomfortable?]	0.014	0.117	97	6,987
Scientist*[… made unwanted attempts to stroke, fondle, or kiss you?]	0.004	0.060	25	6,987
Scientist*[… made you feel threatened with some sort of retaliation for not being sexually cooperative?]	0.001	0.029	6	6,987
Scientist*[… treated you badly for refusing to have sex?]	0.001	0.036	9	6,987
Scientist*[… implied that you would be promoted faster or given better treatment or be otherwise rewarded if you engage in sexual behavior?]	0.001	0.029	6	6,987

3. Parameter Estimates of Regression for Self-Ascription to Bullying

Table A3. Parameter Estimates for Self-ascription to Occasional or More Frequent Bullying (Yes/No).

	Model	Unstandardized Coefficients		*t*	Sig.	95% Confidence Interval for *B*	
		B	SE			Lower Bound	Upper Bound
1	(Constant)	0.083	0.007	11.965	0.000	0.069	0.097
	Please indicate your gender	0.030	0.007	4.093	0.000	0.016	0.045
	Scientific or non-scientific staff with employment contract	−0.024	0.007	−3.220	0.001	−0.038	−0.009
2	(Constant)	−0.003	0.007	−0.370	0.711	−0.017	0.011
	Please indicate your gender	0.017	0.006	2.936	0.003	0.006	0.028
	Scientific or non-scientific staff with employment contract	−0.019	0.006	−3.139	0.002	−0.031	−0.007
	[Someone withholding information, which affects your performance]	−0.008	0.007	−1.169	0.242	−0.021	0.005
	[Being humiliated or ridiculed in connection with your work]	0.054	0.009	5.764	0.000	0.036	0.073
	[Being ordered to do work below your level of competence]	−0.012	0.006	−1.914	0.056	−0.024	0.000
	[Having key areas of responsibility removed or replaced with more trivial or unpleasant tasks]	0.054	0.008	6.555	0.000	0.038	0.070

(*Continued*)

Table A3. (*Continued*)

Model	Unstandardized Coefficients		*t*	Sig.	95% Confidence Interval for *B*	
	B	SE			Lower Bound	Upper Bound
[Others spreading gossip or rumors about you]	0.027	0.008	3.442	0.001	0.011	0.042
[Being ignored or excluded]	0.014	0.008	1.791	0.073	−0.001	0.030
[Having insulting or offensive remarks made about your person, your views, or your private life]	0.078	0.011	7.277	0.000	0.057	0.099
[Being shouted at or being the target of spontaneous anger]	0.025	0.009	2.705	0.007	0.007	0.043
[Intimidating behavior such as finger-pointing, invasion of personal space, shoving, or having your way blocked]	0.126	0.016	8.055	0.000	0.095	0.156
[Hints or signals from others that you should quit your job]	0.120	0.012	9.822	0.000	0.096	0.144
[Unfair repeated reminders of your errors or mistakes]	0.008	0.011	0.765	0.444	−0.013	0.029
[Being ignored or facing a hostile reaction when you approach a coworker or group of coworkers]	0.054	0.009	5.892	0.000	0.036	0.072
[Unjustified persistent criticism of your errors or mistakes]	0.073	0.013	5.817	0.000	0.048	0.097

	[Having your opinions ignored]	−0.016	0.007	−2.350	0.019	−0.030	−0.003
	[Being the target of practical jokes by people with whom you don't get along]	0.051	0.012	4.228	0.000	0.028	0.075
	[Being given tasks with unreasonable deadlines]	−0.014	0.008	−1.805	0.071	−0.029	0.001
	[Having unjustified allegations made against you]	0.119	0.011	11.158	0.000	0.098	0.140
	[Excessive monitoring of your work]	0.002	0.009	0.229	0.819	−0.015	0.020
	[Pressure not to claim something to which you are rightfully entitled (e.g., sick leave, parental leave, holiday)]	0.010	0.010	0.988	0.323	−0.009	0.029
	[Being the subject of excessive teasing and sarcasm]	0.071	0.012	6.144	0.000	0.048	0.093
	[Being given an unmanageable workload]	−0.005	0.008	−0.652	0.514	−0.020	0.010
	[Threats of violence or physical abuse, or actual abuse]	0.154	0.037	4.172	0.000	0.081	0.226
3	(Constant)	0.010	0.008	1.260	0.208	−0.006	0.026
	Please indicate your gender	−0.010	0.010	−0.985	0.325	−0.029	0.010
	Scientific or non-scientific staff with employment contract	−0.021	0.006	−3.542	0.000	−0.033	−0.010
	[Someone withholding information, which affects your performance]	−0.014	0.009	−1.556	0.120	−0.032	0.004

(*Continued*)

Table A3. (*Continued*)

Model	Unstandardized Coefficients		*t*	Sig.	95% Confidence Interval for *B*	
	B	SE			Lower Bound	Upper Bound
[Being humiliated or ridiculed in connection with your work]	0.026	0.013	1.958	0.050	0.000	0.052
[Being ordered to do work below your level of competence]	0.002	0.009	0.229	0.819	−0.015	0.019
[Having key areas of responsibility removed or replaced with more trivial or unpleasant tasks]	0.053	0.011	4.668	0.000	0.030	0.075
[Others spreading gossip or rumors about you]	0.016	0.011	1.487	0.137	−0.005	0.036
[Being ignored or excluded]	0.000	0.011	−0.001	1.000	−0.021	0.021
[Having insulting or offensive remarks made about your person, your views, or your private life]	0.096	0.015	6.266	0.000	0.066	0.125
[Being shouted at or being the target of spontaneous anger]	0.053	0.013	4.153	0.000	0.028	0.079
[Intimidating behavior such as finger-pointing, invasion of personal space, shoving, or having your way blocked]	0.096	0.023	4.204	0.000	0.051	0.140
[Hints or signals from others that you should quit your job]	0.125	0.017	7.299	0.000	0.091	0.158

[Unfair repeated reminders of your errors or mistakes]	−0.011	0.015	−0.731	0.465	−0.040	0.018
[Being ignored or facing a hostile reaction when you approach a coworker or group of coworkers]	0.071	0.013	5.553	0.000	0.046	0.097
[Unjustified persistent criticism of your errors or mistakes]	0.042	0.017	2.487	0.013	0.009	0.075
[Having your opinions ignored]	−0.016	0.010	−1.683	0.092	−0.035	0.003
[Being the target of practical jokes by people with whom you don't get along]	0.055	0.017	3.212	.001	0.021	0.088
[Being given tasks with unreasonable deadlines]	−0.011	0.010	−1.099	0.272	−0.032	0.009
[Having unjustified allegations made against you]	0.092	0.015	6.301	0.000	0.063	0.120
[Excessive monitoring of your work]	0.001	0.012	0.104	0.917	−0.023	0.025
[Pressure not to claim something to which you are rightfully entitled (e.g., sick leave, parental leave, holiday)]	−0.010	0.014	−0.721	0.471	−0.037	0.017
[Being the subject of excessive teasing and sarcasm]	0.094	0.016	5.995	0.000	0.063	0.125
[Being given an unmanageable workload]	−0.017	0.011	−1.606	0.108	−0.038	0.004
[Threats of violence or physical abuse, or actual abuse]	0.260	0.047	5.533	0.000	0.168	0.353

(*Continued*)

Table A3. (*Continued*)

Model	Unstandardized Coefficients		*t*	Sig.	95% Confidence Interval for *B*	
	B	SE			Lower Bound	Upper Bound
Female*[Someone withholding information, which affects your performance]	0.014	0.013	1.078	0.281	−0.011	0.039
Female*[Being ordered to do work below your level of competence]	−0.027	0.012	−2.164	0.030	−0.051	−0.003
Female*[Having your opinions ignored]	−0.001	0.014	−0.057	0.955	−0.028	0.027
Female*[Being given tasks with unreasonable deadlines]	−0.005	0.015	−0.358	0.721	−0.036	0.025
Female*[Excessive monitoring of your work]	−0.002	0.018	−0.125	0.901	−0.037	0.033
Female*[Pressure not to claim something to which you are rightfully entitled (e.g., sick leave, parental leave, holiday)]	0.040	0.019	2.060	0.039	0.002	0.078
Female*[Being given an unmanageable workload]	0.028	0.015	1.851	0.064	−0.002	0.058
Female*[Being humiliated or ridiculed in connection with your work]	0.056	0.019	2.969	0.003	0.019	0.092
Female*[Having key areas of responsibility removed or replaced with more trivial or unpleasant tasks]	0.002	0.016	0.100	0.920	−0.031	0.034
Female*[Others spreading gossip or rumors about you]	0.021	0.015	1.398	0.162	−0.009	0.052

Female*[Being ignored or excluded]	0.037	0.016	2.385	0.017	0.007	0.068
Female*[Having insulting or offensive remarks made about your person, your views, or your private life]	−0.037	0.021	−1.725	0.085	−0.079	0.005
Female*[Hints or signals from others that you should quit your job]	−0.005	0.024	−0.187	0.852	−0.052	0.043
Female*[Unfair repeated reminders of your errors or mistakes]	0.037	0.022	1.736	0.083	−0.005	0.080
Female*[Being ignored or facing a hostile reaction when you approach a coworker or group of coworkers]	−0.036	0.018	−1.949	0.051	−0.072	0.000
Female*[Unjustified persistent criticism of your errors or mistakes]	0.066	0.025	2.627	0.009	0.017	0.115
Female*[Being the target of practical jokes by people with whom you don't get along]	−0.003	0.024	−0.119	0.905	−0.050	0.045
Female*[Having unjustified allegations made against you]	0.052	0.021	2.462	0.014	0.011	0.094
Female*[Being the subject of excessive teasing and sarcasm]	−0.053	0.023	−2.302	0.021	−0.098	−0.008
Female*[Being shouted at or being the target of spontaneous anger]	−0.060	0.018	−3.312	0.001	−0.096	−0.025
Female*[Intimidating behavior such as finger-pointing, invasion of personal space, shoving, or having your way blocked]	0.049	0.031	1.573	0.116	−0.012	0.110

(*Continued*)

Table A3. (*Continued*)

	Model	Unstandardized Coefficients		*t*	Sig.	95% Confidence Interval for *B*	
		B	SE			Lower Bound	Upper Bound
	Female*[Threats of violence or physical abuse, or actual abuse]	−0.237	0.075	−3.136	0.002	−0.384	−0.089
4	(Constant)	0.002	0.010	0.232	0.817	−0.018	0.022
	Please indicate your gender	−0.005	0.010	−0.517	0.605	−0.025	0.014
	Scientific or non-scientific staff with employment contract	−0.007	0.011	−0.695	0.487	−0.028	0.013
	[Someone withholding information, which affects your performance]	−0.027	0.013	−2.124	0.034	−0.052	−0.002
	[Being humiliated or ridiculed in connection with your work]	0.042	0.018	2.366	0.018	0.007	0.077
	[Being ordered to do work below your level of competence]	0.007	0.012	0.557	0.578	−0.017	0.030
	[Having key areas of responsibility removed or replaced with more trivial or unpleasant tasks]	0.045	0.015	3.016	0.003	0.016	0.074
	[Others spreading gossip or rumors about you]	0.038	0.014	2.681	0.007	0.010	0.066
	[Being ignored or excluded]	0.036	0.016	2.283	0.022	0.005	0.066
	[Having insulting or offensive remarks made about your person, your views, or your private life]	0.080	0.021	3.709	0.000	0.038	0.122

[Being shouted at or being the target of spontaneous anger]	0.030	0.018	1.671	0.095	−0.005	0.065
[Intimidating behavior such as finger-pointing, invasion of personal space, shoving, or having your way blocked]	0.142	0.031	4.535	0.000	0.080	0.203
[Hints or signals from others that you should quit your job]	0.191	0.024	7.810	0.000	0.143	0.239
[Unfair repeated reminders of your errors or mistakes]	−0.040	0.020	−1.999	0.046	−0.079	−0.001
[Being ignored or facing a hostile reaction when you approach a coworker or group of coworkers]	0.128	0.018	7.226	0.000	0.094	0.163
[Unjustified persistent criticism of your errors or mistakes]	0.027	0.023	1.194	0.232	−0.018	0.072
[Having your opinions ignored]	−0.032	0.013	−2.415	0.016	−0.059	−0.006
[Being the target of practical jokes by people with whom you don't get along]	0.038	0.021	1.788	0.074	−0.004	0.079
[Being given tasks with unreasonable deadlines]	−0.005	0.014	−0.326	0.744	−0.033	0.023
[Having unjustified allegations made against you]	0.042	0.019	2.246	0.025	0.005	0.079

(*Continued*)

Table A3. (*Continued*)

Model	Unstandardized Coefficients		*t*	Sig.	95% Confidence Interval for *B*	
	B	SE			Lower Bound	Upper Bound
[Excessive monitoring of your work]	0.003	0.016	0.185	0.853	−0.029	0.035
[Pressure not to claim something to which you are rightfully entitled (e.g., sick leave, parental leave, holiday)]	−0.002	0.019	−0.098	0.922	−0.039	0.036
[Being the subject of excessive teasing and sarcasm]	0.097	0.021	4.565	0.000	0.055	0.138
[Being given an unmanageable workload]	−0.004	0.014	−0.296	0.767	−0.032	0.024
[Threats of violence or physical abuse, or actual abuse]	0.302	0.064	4.715	0.000	0.177	0.428
Female*[Someone withholding information, which affects your performance]	0.018	0.013	1.348	0.178	−0.008	0.043
Female*[Being ordered to do work below your level of competence]	−0.030	0.013	−2.383	0.017	−0.055	−0.005
Female*[Having your opinions ignored]	0.003	0.014	0.197	0.844	−0.025	0.030
Female*[Being given tasks with unreasonable deadlines]	−0.008	0.015	−0.510	0.610	−0.038	0.022
Female*[Excessive monitoring of your work]	−0.003	0.018	−0.173	0.863	−0.038	0.032
Female*[Pressure not to claim something to which you are rightfully entitled (e.g., sick leave, parental leave, holiday)]	0.035	0.019	1.825	0.068	−0.003	0.073

Female*[Being given an unmanageable workload]	0.024	0.015	1.591	0.112	−0.006	0.054
Female*[Being humiliated or ridiculed in connection with your work]	0.050	0.019	2.639	0.008	0.013	0.086
Female*[Having key areas of responsibility removed or replaced with more trivial or unpleasant tasks]	0.005	0.017	0.312	0.755	−0.027	0.038
Female*[Others spreading gossip or rumors about you]	0.017	0.015	1.077	0.282	−0.014	0.047
Female*[Being ignored or excluded]	0.030	0.016	1.911	0.056	−0.001	0.061
Female*[Having insulting or offensive remarks made about your person, your views, or your private life]	−0.026	0.021	−1.213	0.225	−0.068	0.016
Female*[Hints or signals from others that you should quit your job]	−0.007	0.024	−0.297	0.766	−0.055	0.040
Female*[Unfair repeated reminders of your errors or mistakes]	0.049	0.022	2.261	0.024	0.007	0.092
Female*[Being ignored or facing a hostile reaction when you approach a coworker or group of coworkers]	−0.046	0.018	−2.491	0.013	−0.082	−0.010
Female*[Unjustified persistent criticism of your errors or mistakes]	0.069	0.025	2.735	0.006	0.020	0.118

(*Continued*)

Table A3. (*Continued*)

Model	Unstandardized Coefficients		*t*	Sig.	95% Confidence Interval for *B*	
	B	SE			Lower Bound	Upper Bound
Female*[Being the target of practical jokes by people with whom you don't get along]	0.005	0.024	0.197	0.844	−0.043	0.052
Female*[Having unjustified allegations made against you]	0.058	0.021	2.733	0.006	0.016	0.099
Female*[Being the subject of excessive teasing and sarcasm]	−0.063	0.023	−2.773	0.006	−0.108	−0.019
Female*[Being shouted at or being the target of spontaneous anger]	−0.056	0.018	−3.023	0.003	−0.092	−0.020
Female*[Intimidating behavior such as finger-pointing, invasion of personal space, shoving, or having your way blocked]	0.039	0.031	1.255	0.210	−0.022	0.100
Female*[Threats of violence or physical abuse, or actual abuse]	−0.216	0.075	−2.869	0.004	−0.364	−0.069
Scientist*[Someone withholding information, which affects your performance]	0.022	0.013	1.636	0.102	−0.004	0.049
Scientist*[Being ordered to do work below your level of competence]	−0.007	0.013	−0.527	0.598	−0.032	0.018
Scientist*[Having your opinions ignored]	0.026	0.014	1.818	0.069	−0.002	0.054
Scientist*[Being given tasks with unreasonable deadlines]	−0.010	0.016	−0.616	0.538	−0.040	0.021

Scientist*[Excessive monitoring of your work]	−0.005	0.018	−0.262	0.794	−0.040	0.030
Scientist*[Pressure not to claim something to which you are rightfully entitled (e.g., sick leave, parental leave, holiday)]	−0.010	0.020	−0.499	0.618	−0.049	0.029
Scientist*[Being given an unmanageable workload]	−0.019	0.015	−1.211	0.226	−0.049	0.012
Scientist*[Being humiliated or ridiculed in connection with your work]	−0.026	0.019	−1.364	0.173	−0.063	0.011
Scientist*[Having key areas of responsibility removed or replaced with more trivial or unpleasant tasks]	0.004	0.017	0.255	0.799	−0.028	0.037
Scientist*[Others spreading gossip or rumors about you]	−0.038	0.016	−2.458	0.014	−0.069	−0.008
Scientist*[Being ignored or excluded]	−0.051	0.016	−3.089	0.002	−0.083	−0.019
Scientist*[Having insulting or offensive remarks made about your person, your views, or your private life]	0.020	0.022	0.896	0.370	−0.024	0.063
Scientist*[Hints or signals from others that you should quit your job]	−0.097	0.025	−3.797	0.000	−0.147	−0.047
Scientist*[Unfair repeated reminders of your errors or mistakes]	0.042	0.022	1.949	0.051	0.000	0.085

(*Continued*)

Table A3. (*Continued*)

Model	Unstandardized Coefficients		*t*	Sig.	95% Confidence Interval for *B*	
	B	SE			Lower Bound	Upper Bound
Scientist*[Being ignored or facing a hostile reaction when you approach a coworker or group of coworkers]	−0.090	0.019	−4.797	0.000	−0.127	−0.053
Scientist*[Unjustified persistent criticism of your errors or mistakes]	0.020	0.025	0.812	0.417	−0.029	0.070
Scientist*[Being the target of practical jokes by people with whom you don't get along]	0.026	0.024	1.080	0.280	−0.021	0.074
Scientist*[Having unjustified allegations made against you]	0.082	0.021	3.874	0.000	0.041	0.124
Scientist*[Being the subject of excessive teasing and sarcasm]	0.001	0.023	0.030	0.976	−0.045	0.046
Scientist*[Being shouted at or being the target of spontaneous anger]	0.034	0.019	1.829	0.067	−0.002	0.071
Scientist*[Intimidating behavior such as finger-pointing, invasion of personal space, shoving, or having your way blocked]	−0.068	0.032	−2.111	0.035	−0.131	−0.005
Scientist*[Threats of violence or physical abuse, or actual abuse]	−0.085	0.075	−1.132	0.258	−0.231	0.062

4. Parameter Estimates of Regression for Self-Ascription to Sexual Discrimination

Table A4. Parameter Estimates With Robust Estimators for Non-scientific Staff's Self-ascription to Occasional or More Frequent Sexual Discrimination (Yes/No).

	Model	Unstandardized Coefficients		t	Sig.	95% Confidence Interval for B	
		B	SE			Lower Bound	Upper Bound
1	(Constant)	0.006	0.004	1.445	0.148	−0.002	0.015
	Please indicate your gender	0.040	0.005	8.679	0.000	0.031	0.049
	Scientific or non-scientific staff with employment contract	0.021	0.005	4.568	0.000	0.012	0.030
2	(Constant)	−0.001	0.004	−0.360	0.719	−0.009	0.006
	Please indicate your gender	0.000	0.004	0.050	0.960	−0.008	0.008
	Scientific or non-scientific staff with employment contract	0.003	0.004	0.849	0.396	−0.004	0.011
	[… treated you differently because of your gender?]	0.033	0.006	5.422	0.000	0.021	0.044
	[… displayed, used, or distributed sexist or sexually suggestive materials?]	0.018	0.011	1.585	0.113	−0.004	0.040
	[… made personally offensive sexist remarks?]	0.063	0.010	6.552	0.000	0.044	0.081
	[… put you down or was/were condescending to you because of your gender?]	0.129	0.009	14.480	0.000	0.111	0.146

(*Continued*)

Table A4. (*Continued*)

Model	Unstandardized Coefficients		*t*	Sig.	95% Confidence Interval for *B*	
	B	SE			Lower Bound	Upper Bound
[… repeatedly told sexual stories or jokes that were offensive to you?]	0.064	0.012	5.409	0.000	0.041	0.087
[… made unwelcome attempts to draw you into a discussion on sexual matters?]	0.070	0.014	4.917	0.000	0.042	0.097
[… made offensive remarks about your appearance, body, or sexual activities?]	0.055	0.010	5.616	0.000	0.036	0.074
[… made gestures or used body language of a sexual nature which embarrassed or offended you?]	0.093	0.018	5.059	0.000	0.057	0.129
[… made unwanted attempts to establish a romantic or sexual relationship with you?]	0.095	0.016	6.082	0.000	0.064	0.126
[… continued to ask you out on dates (drinks, dinner, etc.), even though you said "No"?]	0.078	0.019	4.091	0.000	0.040	0.115
[… touched you in a way that made you feel uncomfortable?]	0.020	0.013	1.542	0.123	−0.006	0.046
[… made unwanted attempts to stroke, fondle, or kiss you?]	0.266	0.026	10.129	0.000	0.214	0.317
[… made you feel threatened with some sort of retaliation for not being sexually cooperative?]	0.075	0.061	1.227	0.220	−0.045	0.195

	[… treated you badly for refusing to have sex?]	−0.032	0.057	−0.561	0.575	−0.144	0.080
	[… implied that you would be promoted faster or given better treatment or be otherwise rewarded if you engage in sexual behavior?]	0.365	0.069	5.257	0.000	0.229	0.501
3	(Constant)	0.004	0.004	0.929	0.353	−0.004	0.011
	Please indicate your gender.	−0.005	0.004	−1.101	0.271	−0.014	0.004
	Scientific or non-scientific staff with employment contract	0.003	0.004	0.817	0.414	−0.005	0.011
	[… treated you differently because of your gender?]	0.045	0.010	4.534	0.000	0.026	0.065
	[… displayed, used, or distributed sexist or sexually suggestive materials?]	−0.004	0.015	−0.241	0.810	−0.033	0.026
	[… made personally offensive sexist remarks?]	0.001	0.015	0.072	0.943	−0.028	0.030
	[… put you down or was/were condescending to you because of your gender?]	0.243	0.022	10.825	0.000	0.199	0.287
	[… repeatedly told sexual stories or jokes that were offensive to you?]	−0.010	0.018	-0.562	0.574	-0.046	0.025
	[… made unwelcome attempts to draw you into a discussion on sexual matters?]	0.035	0.022	1.628	0.104	−0.007	0.078
	[… made offensive remarks about your appearance, body, or sexual activities?]	0.023	0.015	1.559	0.119	−0.006	0.052

(*Continued*)

Table A4. (*Continued*)

Model	Unstandardized Coefficients		*t*	Sig.	95% Confidence Interval for *B*	
	B	SE			Lower Bound	Upper Bound
[… made gestures or used body language of a sexual nature which embarrassed or offended you?]	0.113	0.030	3.731	0.000	0.054	0.173
[… made unwanted attempts to establish a romantic or sexual relationship with you?]	0.001	0.028	0.023	0.982	−0.055	0.056
[… continued to ask you out on dates (drinks, dinner, etc.), even though you said "No"?]	0.150	0.037	4.072	0.000	0.078	0.222
[… touched you in a way that made you feel uncomfortable?]	0.025	0.021	1.195	0.232	−0.016	0.066
[… made unwanted attempts to stroke, fondle, or kiss you?]	0.377	0.052	7.294	0.000	0.276	0.479
[… made you feel threatened with some sort of retaliation for not being sexually cooperative?]	−0.924	0.237	−3.903	0.000	−1.389	−0.460
[… treated you badly for refusing to have sex?]	−0.211	0.095	−2.234	0.026	−0.397	−0.026
[… implied that you would be promoted faster or given better treatment or be otherwise rewarded if you engage in sexual behavior?]	0.922	0.162	5.696	0.000	0.604	1.239

Female*[… treated you differently because of your gender?]	−0.025	0.012	−1.995	0.046	−0.049	0.000
Female*[… displayed, used, or distributed sexist or sexually suggestive materials?]	0.060	0.022	2.689	0.007	0.016	0.104
Female*[… made personally offensive sexist remarks?]	0.113	0.019	5.904	0.000	0.076	0.151
Female*[… put you down or was/were condescending to you because of your gender?]	−0.144	0.024	−5.893	0.000	−0.192	−0.096
Female*[… repeatedly told sexual stories or jokes that were offensive to you?]	0.123	0.024	5.183	0.000	0.077	0.170
Female*[… made unwelcome attempts to draw you into a discussion on sexual matters?]	0.041	0.029	1.439	0.150	−0.015	0.097
Female*[… made offensive remarks about your appearance, body, or sexual activities?]	0.038	0.020	1.936	0.053	0.000	0.077
Female*[… made gestures or used body language of a sexual nature which embarrassed or offended you?]	−0.040	0.038	−1.058	0.290	−0.115	0.034
Female*[… made unwanted attempts to establish a romantic or sexual relationship with you?]	0.104	0.034	3.068	0.002	0.038	0.171

(*Continued*)

Table A4. (*Continued*)

Model		Unstandardized Coefficients		*t*	Sig.	95% Confidence Interval for *B*	
		B	SE			Lower Bound	Upper Bound
	Female*[… continued to ask you out on dates (drinks, dinner, etc.), even though you said "No"?]	−0.092	0.043	−2.147	0.032	−0.176	−0.008
	Female*[… touched you in a way that made you feel uncomfortable?]	−0.003	0.027	−0.119	0.905	−0.056	0.049
	Female*[… made unwanted attempts to stroke, fondle, or kiss you?]	−0.145	0.060	−2.414	0.016	−0.263	−0.027
	Female*[… made you feel threatened with some sort of retaliation for not being sexually cooperative?]	1.017	0.245	4.145	0.000	0.536	1.498
	Female*[… treated you badly for refusing to have sex?]	0.247	0.120	2.063	0.039	0.012	0.482
	Female*[… implied that you would be promoted faster or given better treatment or be otherwise rewarded if you engage in sexual behavior?]	−0.630	0.181	−3.483	0.000	−0.985	−0.275
4	(Constant)	0.007	0.004	1.809	0.071	−0.001	0.015
	Please indicate your gender	−0.006	0.004	−1.229	0.219	−0.014	0.003
	Scientific or non-scientific staff with employment contract	−0.002	0.004	−0.467	0.641	−0.011	0.007

[… treated you differently because of your gender?]	0.047	0.013	3.633	0.000	0.021	0.072
[… displayed, used, or distributed sexist or sexually suggestive materials?]	−0.045	0.021	−2.087	0.037	−0.086	−0.003
[… made personally offensive sexist remarks?]	0.115	0.021	5.464	0.000	0.074	0.157
[… put you down or was/were condescending to you because of your gender?]	0.184	0.025	7.389	0.000	0.135	0.233
[… repeatedly told sexual stories or jokes that were offensive to you?]	−0.049	0.025	−1.992	0.046	−0.098	−0.001
[… made unwelcome attempts to draw you into a discussion on sexual matters?]	−0.035	0.027	−1.264	0.206	−0.088	0.019
[… made offensive remarks about your appearance, body, or sexual activities?]	0.035	0.019	1.832	0.067	−0.002	0.073
[… made gestures or used body language of a sexual nature which embarrassed or offended you?]	0.191	0.042	4.493	0.000	0.108	0.274
[… made unwanted attempts to establish a romantic or sexual relationship with you?]	−0.009	0.036	−0.237	0.813	−0.079	0.062
[… continued to ask you out on dates (drinks, dinner, etc.), even though you said “No”?]	0.111	0.045	2.452	0.014	0.022	0.200
[… touched you in a way that made you feel uncomfortable?]	0.027	0.026	1.049	0.294	−0.023	0.077

(*Continued*)

Table A4. (*Continued*)

Model	Unstandardized Coefficients		*t*	Sig.	95% Confidence Interval for *B*	
	B	SE			Lower Bound	Upper Bound
[… made unwanted attempts to stroke, fondle, or kiss you?]	0.363	0.057	6.409	0.000	0.252	0.475
[… made you feel threatened with some sort of retaliation for not being sexually cooperative?]	−0.477	0.320	−1.491	0.136	−1.105	0.150
[… treated you badly for refusing to have sex?]	−0.256	0.095	−2.708	0.007	−0.442	−0.071
[… implied that you would be promoted faster or given better treatment or be otherwise rewarded if you engage in sexual behavior?]	0.525	0.270	1.946	0.052	−0.004	1.054
Female*[… treated you differently because of your gender?]	−0.025	0.012	−1.969	0.049	−0.049	0.000
Female*[… displayed, used, or distributed sexist or sexually suggestive materials?]	0.062	0.022	2.766	0.006	0.018	0.105
Female*[… made personally offensive sexist remarks?]	0.102	0.019	5.341	0.000	0.065	0.140
Female*[… put you down or was/were condescending to you because of your gender?]	−0.135	0.024	−5.526	0.000	−0.182	−0.087

Female*[… repeatedly told sexual stories or jokes that were offensive to you?]	0.132	0.024	5.486	0.000	0.085	0.179
Female*[… made unwelcome attempts to draw you into a discussion on sexual matters?]	0.056	0.029	1.971	0.049	0.000	0.112
Female*[… made offensive remarks about your appearance, body, or sexual activities?]	0.034	0.020	1.697	0.090	−0.005	0.072
Female*[… made gestures or used body language of a sexual nature which embarrassed or offended you?]	−0.060	0.038	−1.579	0.114	−0.135	0.015
Female*[… made unwanted attempts to establish a romantic or sexual relationship with you?]	0.091	0.034	2.680	0.007	0.024	0.157
Female*[… continued to ask you out on dates (drinks, dinner, etc.), even though you said "No"?]	−0.090	0.043	−2.087	0.037	−0.174	−0.005
Female*[… touched you in a way that made you feel uncomfortable?]	−0.001	0.027	−0.053	0.957	−0.054	0.051
Female*[… made unwanted attempts to stroke, fondle, or kiss you?]	−0.187	0.061	−3.074	0.002	−0.307	−0.068
Female*[… made you feel threatened with some sort of retaliation for not being sexually cooperative?]	0.598	0.308	1.942	0.052	−0.006	1.202

(*Continued*)

Table A4. (*Continued*)

Model	Unstandardized Coefficients		*t*	Sig.	95% Confidence Interval for *B*	
	B	SE			Lower Bound	Upper Bound
Female*[… treated you badly for refusing to have sex?]	0.294	0.122	2.418	0.016	0.056	0.533
Female*[… implied that you would be promoted faster or given better treatment or be otherwise rewarded if you engage in sexual behavior?]	−0.562	0.183	−3.063	0.002	−0.921	−0.202
Scientist*[… treated you differently because of your gender?]	0.000	0.012	−0.003	0.998	−0.023	0.023
Scientist*[… displayed, used, or distributed sexist or sexually suggestive materials?]	0.058	0.023	2.518	0.012	0.013	0.103
Scientist*[… made personally offensive sexist remarks?]	−0.156	0.021	−7.441	0.000	−0.198	−0.115
Scientist*[… put you down or was/were condescending to you because of your gender?]	0.092	0.018	5.238	0.000	0.057	0.126
Scientist*[… repeatedly told sexual stories or jokes that were offensive to you?]	0.052	0.024	2.159	0.031	0.005	0.100
Scientist*[… made unwelcome attempts to draw you into a discussion on sexual matters?]	0.111	0.028	3.915	0.000	0.055	0.166

Scientist*[… made offensive remarks about your appearance, body, or sexual activities?]	−0.027	0.020	−1.379	0.168	−0.066	0.011
Scientist*[… made gestures or used body language of a sexual nature which embarrassed or offended you?]	−0.107	0.040	−2.644	0.008	−0.186	−0.028
Scientist*[… made unwanted attempts to establish a romantic or sexual relationship with you?]	0.031	0.033	0.961	0.336	−0.033	0.095
Scientist*[… continued to ask you out on dates (drinks, dinner, etc.), even though you said "No"?]	0.051	0.039	1.317	0.188	−0.025	0.127
Scientist*[… touched you in a way that made you feel uncomfortable?]	−0.010	0.026	−0.364	0.716	−0.061	0.042
Scientist*[… made unwanted attempts to stroke, fondle, or kiss you?]	0.124	0.053	2.325	0.020	0.019	0.229
Scientist*[… made you feel threatened with some sort of retaliation for not being sexually cooperative?]	−0.056	0.129	−0.431	0.667	−0.308	0.197
Scientist*[… implied that you would be promoted faster or given better treatment or be otherwise rewarded if you engage in sexual behavior?]	0.385	0.217	1.778	0.075	−0.039	0.810

5. Robustness Checks

a) Comparison of the Linear Model With Binary Logistic Model

Due to the better interpretability of the regression parameters, linear regression models were used. However, since a binary outcome is to be explained, a logistic regression model promises more precise estimates (Best and Wolf, 2010).

Comparing the parameter estimates of the gender and scientists/non-scientists variables of models 1, 2, 3, and 4 between the linear and logistic regressions for bullying, there are no differences in the statistical significance ratings ($\alpha = 0.05$) and effect directions. When comparing the interaction effects of bullying items by gender from model 4 of the linear and logistic regression, 7 of 22 interaction effects change their statistical significance rating. For two weak and statistically non-significant effects, the direction of the effect changes. Both the statistical significance rating and effect direction do not change for any interaction effect. The regression parameter for the linear function for the effect size distribution by item frequency behaves in the logistic model – concerning its effect direction and significance evaluation – as in the linear model. The standardized regression coefficient of the linear model is 0.452. In the logistic model, it is 0.578 ($\beta = 2.186$, 95% CI: 0.747/3.626, SE = 0.690, $p = 0.005$).

In the case of sexual discrimination, the effect directions partly changed for the variables gender and scientist/non-scientist in models 1, 2, 3, and 4, which can be attributed to the fact that the respective variables have minimal and statistically non-significant effect sizes. When assessing the statistical significance, there are no differences between linear and logistic regression. Looking at the interaction effects of the SEQ-DoD items with gender between the two types of regression, the significance ratings changed for 9 of 15 interaction effects, for two items the directions of the effects, and for one item, both. The regression parameter of the linear function describing the relationship between effect size and item frequency in the logistic model behaves as in the linear model concerning direction and significance evaluation. The standardized regression coefficient of the linear model is −0.062 and of the logistic model −0.226 ($\beta = -27.847$, 95% CI: −99.838/44.144, SE = 33.323, $p = 0.418$).

In summary, the logistic and linear regression models do not differ in their implications for *H1* and *H2*. With regard to the patterns of interaction effects, as shown in Figs. 6 and 8, there are minimal differences. Above all, the linear regression models overestimate the *p*-values and thus the statistical significance of the results. However, the *p*-values of the individual interaction effects are not important for testing the hypotheses of this study. The distribution patterns and regression lines shown in Figs. 7 and 9 and the tests of the regression coefficients do not show any differences regarding their implications for *H3*.

b) Impact of a Sum Index

All individual items of the NAQ-rev and the SEQ-DoD were considered in the regression models. In total, the bullying model has 68 predictors and the sexual discrimination model 47. It was questionable whether the large number of included items had an impact on the variables gender and scientist/non-scientist in the four regression models for bullying and sexual discrimination. Therefore, two indices were created by summing the non-transformed NAQ-rev items and SEQ-DoD items (original item scaling: Never (1), Occasionally (2), Monthly (3), Weekly (4), Daily (5)), and logistic regression equations were calculated with them instead of the individual items.

For bullying, calculating with the sum index has no other implications for *H1* and *H2* than calculating with the individual items. In models 3 and 4 of the bullying regressions, in which the index variable is controlled for its interaction with gender and scientist/non-scientist, there is no statistically significant interaction effect. In these models, only the index variable is statistically significant.

Concerning sexual discrimination, the use of the sum index has implications for *H2*: when controlling for the index in model 2, women are statistically significantly more likely than men to rate themselves as having experienced sexual discrimination, unlike in the results presented here. Models 3 and 4 show that both the index and its interaction with gender are statistically significant.

This shows that regarding *H2*, the study would have come to a different assessment when calculating with a sum index in relation to sexual discrimination. The model fit, the Nagelkerke *R* square, of models 2, 3, and 4 with the sum index is between 0.347 and 0.350. The logistic models with the sum index thus explain a smaller part of the variance of the dependent variable than the logistic models with the binary single item predictors, whose Nagelkerke *R* Square for models 2 to 4 is between 0.391 and 0.411.[18]

c) Comparison of Models 3 and 4

In the present study, the interaction effects between gender and the bullying items from the respective model 4 were used. It is conceivable that the interaction effects between models 3 and 4 differ considerably and that the study would have come to different assessments with regard to *H3* if the interaction effects from model 3 had been used for the corresponding calculations.

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[18]However, a meaningful comparison of Nagelkerke's *R* square of different logistic regression models is not possible as the measure depends on the effects sizes as well as the distribution of the predictors in a regression model. In the end, theoretical considerations are decisive as to whether one attributes more relevance to the models with the sum index or with the individual items. In the context of the present study, the main focus is on the influence of the effects sizes and distribution of the individual items on a supposed measurement gap between men and women.

With respect to the bullying models, different effect directions were found for the items "Having your opinions ignored" ($\beta_{\text{Model 4}} = 0.003, \beta_{\text{Model 3}} = -0.001$) and "Being the target of practical jokes by people with whom you don't get along" ($\beta_{\text{Model 4}} = 0.005, \beta_{\text{Model 3}} = -0.003$). The significance rating does not change and the evaluation of *H3* does not change.

In the regression models on sexual discrimination, there are no differences in the effect directions for the interaction effects of gender and SEQ-DoD items. According to model 3, the assessment of statistical significance changes for the items "… made unwanted attempts to establish a romantic or sexual relationship with you?" ($\beta_{\text{Model 4}} = 0.091, \beta_{\text{Model 3}} = 0.104$), "… made unwanted attempts to stroke, fondle, or kiss you?" ($\beta_{\text{Model 4}} = -0.187, \beta_{\text{Model 3}} = -0.145$), and "… made you feel threatened with some sort of retaliation for not being sexually cooperative?" ($\beta_{\text{Model 4}} = 0.598, \beta_{\text{Model 3}} = 1.017$). These differences have no implications for *H3*.

The differences between models 3 and 4 are not considered critical, as they are only minor. However, it is worth noting that the interaction effect of gender and the threat of "some sort of retaliation for not being sexually cooperative" is considerably more pronounced in model 3.

d) Rescaling of the Dependent Variable

It was further tested whether the effect directions and significance ratings of the gender effects in models 1 and 2 and the interaction effects remain constant if the value "1" is assigned to the dependent variable only when a person reports having experienced bullying or sexual discrimination monthly or more frequently (not already from "occasionally" onwards).

This modification reduces the proportion of individuals classifying themselves as having been bullied from 8.33% to 2.45%, and the results for bullying change considerably. The gender effect in model 1 remains statistically significant ($\beta_{\text{Model 1}} = 0.030, \beta_{\text{Model 1 rescaled}} = 0.009$), but in model 2 it is no longer statistically significant ($\beta_{\text{Model 2}} = 0.017, \beta_{\text{Model 2 rescaled}} = 0.004$). Furthermore, the effect direction changes for 10 of 22 interaction variables in model 4. The statistical significance rating changes for two interaction variables: the item "Threats of violence or physical abuse, or actual abuse" becomes significant ($\beta_{\text{Model 4}} = 0.216, \beta_{\text{Model 4 rescaled}} = 0.234$) and the item "Being shouted at or being the target of spontaneous anger" loses its significance ($\beta_{\text{Model 4}} = -0.006, \beta_{\text{Model 4 rescaled}} = 1.017$). The considerably changed interaction effects have no impact on the assessment of *H3*.

In the case of sexual discrimination, the rescaling of the dependent variable reduces the proportion of persons in the sample who consider themselves to be sexually discriminated from 3.65% to 0.59%. The gender effect in model 1 disappears ($\beta_{\text{Model 1}} = 0.040, \beta_{\text{Model 1 rescaled}} = 0.004$). In model 2, the gender effect does not change with rescaling ($\beta_{\text{Model 1}} = 0.000, \beta_{\text{Model 1 rescaled}} = -0.003$) and the assessment of *H3* also remains constant.

The robustness test with the rescaling of the dependent variable shows that the variable scaling considerably influences the results, especially in the study on bullying.

e) Inclusion of Control Variables

A five-stage hierarchical regression model was also computed, with scientific discipline (as a section of MPG) and the respondents' length of employment as control variables in the last stage. The scientific institutes and facilities of the MPG are divided into three sections, which are oriented toward scientific disciplines (Chemistry, Physics and Technology Section; Biology and Medicine Section; Humanities and Social Sciences Section; Other). In addition, some employees are not assigned to any of the sections, for example, if they work in the general administration of the MPG. The individual sections differ in parts regarding their proportion of women and the forms of cooperation practiced in them. The control variable "scientific discipline" is intended to take account of confounding effects due to the functional differentiation of the respondents. The variable "length of employment" (one year and less; one year and more, less than four years; more than four years) considers that bullying constellations often develop over a longer period of time along a spiral of escalation. However, an influence of this variable is rather unlikely, as men and women are largely equally distributed across the categories of the variable.

In the bullying regression, the inclusion of the control variables does not change any effect directions or any of the significance ratings. In the sexual discrimination regression, the effect direction of the interaction variable of the item "… touched you in a way that made you feel uncomfortable?" becomes negative ($\beta_{\text{Model 4}} = -0.001, \beta_{\text{Model 5}} = 0.002$). The significance ratings do not change. As a result, adding the control variables does not affect the results at all in principle.

f) Confounded Moderation

As noted above, in the sample, women are underrepresented in hierarchically higher-ranking positions and overrepresented in lower-ranking positions. This could imply that the gender effect considered here is confounded by a hierarchy effect. This seems plausible as several of the bullying items are particularly frequent in hierarchical work relationships (e.g., "Being ordered to do work below your level of competence" or "Being given an unmanageable workload").

To check whether the gender effects in the bullying and sexual discrimination models are confounded by a hierarchical effect, four-stage hierarchical regression models were calculated. However, the regressions now no longer include the variable distinguishing researchers from non-scientific employees. Instead, the hierarchical positions of the researchers (PhD, postdoc, other research associates, and directors or research group leaders) were included. The calculation therefore only includes researchers ($n_{\text{bullying}} = 2{,}916/n_{\text{sexual discrim}} = 3{,}307$).

Regarding the main effect of gender in the respective models 1 and 2 for bullying and sexual discrimination, the effect directions, and statements on the existence of statistical significance remain the same. As expected, the interaction effects of gender and the item batteries have changed considerably. For bullying, three effect directions and eight statements of statistical significance change in the 22 interactions. In none of the interactions do both effect direction and significance

statement change. In only one case does a statistically significant effect direction change. For sexual discrimination, two effect directions change (both from non-significant interactions), and six significance statements. The changed interaction effects do not lead to a different assessment of *H3*.

Thus, the influence of gender as a moderating variable is confounded to some extent by hierarchical position; the hypothesis assessment is not changed by taking hierarchical position into account.