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Picking out invisible glass shards hurting working women: Validation and psychometric network analysis of the Japanese version of the MIMI-16 for workplace gender microaggressions

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Research Article

Keywords: gender microaggressions, scale validation, working women, network analysis

Posted Date: November 23rd, 2026

DOI: https://doi.org/10.21203/rs.3.rs-11493146/v1

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Additional Declarations: No competing interests reported.

Abstract

Background

Although overt sexism has become easier to recognize and label as problematic, subtle and less visible forms, such as gender microaggressions, often go unrecognized and may cause cumulative psychological harm. To address this issue, we developed a Japanese version of an existing gender microaggressions measure (MicroInvalidation and MicroInsult Scale; MIMI-16) to assess subtle sexism toward women in the workplace.

Methods

Using data collected from a total of 715 working women in Japan (Study 1: *n* = 360; Study 2: *n* = 355), we examined the measure's factor structure, reliability, and validity. We also conducted a network analysis to map the interrelationships among the items an identify central items.

Results

Consistent with prior research, confirmatory factor analysis supported a two-factor structure. As expected, the measure correlated positively with scales of aversive communication (e.g., bullying, ostracism, and psychological violence) and negatively with mental health and psychological safety, supporting convergent validity. The network analysis indicated that the item concerning men being regarded as dominant in meeting-based decision-making was the most central, showing strong connections with various other forms of gender microaggressions.

Conclusions

The Japanese version of the MIMI-16 provides researchers and clinicians with a reliable and valid tool for capturing gender microaggressions in the workplace.

Introduction

The difficulties women face in the workplace are a global concern. According to the Global Gender Gap Report 2026 [1], although the global gender gap has been closed by an average of 69.2% across the 143 economies benchmarked in both the 2025 and 2026 editions, full gender parity in the domain of economic participation is projected to require an estimated 120 years to achieve worldwide. Although the rate of women entering higher education has increased threefold since 1995 and the gender gap in employment is reported to have decreased, it has also been observed that the proportion of women in the workplace remains low in various countries and regions [2]. Women currently occupy only 3 out of every 10 managerial positions, and the proportion of women in senior management is even lower, suggesting that the workplace "glass ceiling" remains firmly in place [2].

In recent years, increasing attention has been given to the fact that women in the workplace are struggling not only with the glass ceiling but also with gender microaggressions—problems that could be described as "glass shards" [3]. Microaggressions are everyday verbal, nonverbal, and environmental slights, snubs, and insults that, whether intentional or unintentional, communicate hostile, derogatory, or negative messages to the targeted persons on the basis solely of their membership in a marginalized group [4]. Gartner and Sterzing [5] also reported that gender microaggressions may serve as an entry point for legally actionable sexual harassment or sexual assault. However, Mannarini et al. [6] recently suggested that gender microaggressions are often perceived as trivial matters, implying that they are likely to escalate unless their seriousness is recognized.

Gender microaggressions are classified into three forms: microassaults, microinsults, and microinvalidations [7]. "Microassaults" most closely resemble traditional forms of sexism that manifest at the individual level, including overt forms of sexism such as sexist slurs, men refusing to wash dishes on the grounds that "that's women's work," the display of nude images in the workplace, unwanted sexual advances, sexual harassment, and coercion into sexual intercourse. In recent years, such microassaults have become widely recognized as serious problems that deserve condemnation, and they may be subject to legal action [8]. Consequently, they are often clearly identified as addressable issues, which can make it more straightforward to take corrective action, such as immediately consulting the relevant department of the work organization.

In contrast, Algner and Lorenz [9] note that microinsults and microinvalidations, unlike microassaults, are minor and thus not necessarily subject to legal action and that they consequently tend to remain unresolved in the workplace even when recognized as problematic, raising the possibility that they may become barriers to women workers' psychological health and career development. Furthermore, recent research suggests that the cumulative nature of gender microaggressions may perpetuate gender inequality in the workplace [10]. "Microinsults" refers to unintentional actions or remarks that convey rudeness or insensitivity and thereby belittle the target [7]. These insults include compliments such as "That's surprising for a woman" [11], i.e., remarks that appear positive at first glance but, when referring to matters such as professional success, primarily attribute a phenomenon to gender while implicitly denying other causes, such as the employee's own abilities, qualities, and efforts. In contrast, microinvalidations, are verbal remarks or behaviors that exclude, negate, or minimize the thoughts or feelings of the targeted group [7], such as telling a woman who has been victimized, "You are worrying too much," or telling an assertive woman, "Do not play the gender card" [11].

Because these microinsults and microinvalidations take highly subtle and frequently covert, recipients may even doubt their own reactions to them, wondering whether "it [an insult] may just be my imagination" or "perhaps I am overreacting" [11]; it has further been noted that those who are targeted by such microaggressions are placed in a highly confusing and ambiguous situation, in which it is difficult to determine whether the words or behavior were

genuinely demeaning [12]. Basford [13] raises the concern that women today experience covert discrimination more frequently than they did in the past. Furthermore, against the backdrop that recent social and legal advances have made overt sexism easier to recognize and report, Algner and Lorenz [9] highlight the need to distinguish between overt discrimination and subtle discrimination.

Therefore, with respect to the problem of gender microaggressions, it is crucial for understanding contemporary sexism to discuss the problems that microinsults and microinvalidations, which are more minor and more difficult to raise as issues, pose for women workers as opposed to those posed by microassaults, which constitute overt sexism and are subject to legal action.

Gender microaggressions in the workplace

Recent research has indicated that while gender-related microinvalidations and microinsults are becoming problematic in the workplace, they are intertwined with gender roles. According to Haynes-Baratz et al. [14], examples of such microaggressions include colleagues jokingly questioning whether a woman's promotion might threaten her husband's masculinity and, for women raising children, the scheduling of meetings at times that make them difficult to attend. In addition, in STEM fields, women have described experiences in which, even after performing specialized professional work, they were not appropriately credited by management and felt that their competence was devalued and in which women who confronted gender bias were belittled and their concerns rendered invisible [15]. In the medical field, female physicians have been reported to be less readily recognized as physicians and to feel pressure to work harder than their colleagues to be regarded as competent by patients [16]. As these findings indicate, gender microaggressions have been identified in various professions, suggesting that they are common across a wide range of workplaces.

Just as countless scratches will form if you keep brushing against a piece of broken glass, no matter how small it may be, it has also been found that when microaggressions persist over the long term, negative psychological impact, including traumatic reactions, may result [17]. Therefore, the development and validation of a scale to measure gender microaggressions in the workplace—and thereby identify the potential for negative psychological impact on women employees—is critically important. Although negative gender-related behaviors that occur in workplaces and other settings (e.g., sexism, sexual harassment, discrimination based on LGBTQ status or race, and incivility) have received scholarly attention and numerous scales have been developed to assess them, measures of gender microaggressions in the workplace remain very limited. In addition, methodological problems have been noted. For example, Gartner et al. [18] observe that while there have been numerous efforts to measure subtle forms of aggression, such as gender-based microaggressions in the workplace, many scales fail to distinguish between “subtle discrimination” and “overt discrimination,” treating them as a single category. As a recent development, the Microaggression Scale for Women [19] has demonstrated high validity; it was developed as a 34-item scale to measure various forms of gender-based microaggressions. It is important to note that while this scale covers gender-based microaggressions occurring in a wide range of settings, it is not necessarily specific to the workplace.

In recent, the MicroInvalidation and MicroInsult Scale (MIMI-16; Algner and Lorenz [9]), which is developed not only in English but also in German, is a scale designed for women in the workplace that measures both microinsults and microinvalidation. Consisting of only 16 items, it is relatively short and easy to use, which allows for the assessment of both microinsults and microinvalidation and distinguishing between them. As noted earlier, this scale is likely to prove especially useful because in recent years subtle rather than overt forms of discrimination have increasingly become a source of concern. Moreover, if the two dimensions of microinvalidations and microinsults can be accurately captured, it becomes possible to better understand the challenges women face and to propose intervention strategies conducive to resolving them. The scale is therefore considered useful for improving the workplace environment of business organizations around the world. However, no studies have applied this measure in Asia, and further investigation is needed.

Overview of the present research

On the basis of the research findings and the current status of research described above, this study aimed to translate the MIMI-16 into Japanese and examine its validity. In Japan, the legal definition of sexual harassment is vague, making it difficult to impose penalties [20], and institutional frameworks for specifically addressing sexual harassment have yet to be established. Furthermore, it has been reported that the number of consultations regarding sexual harassment at government-designated counseling services has increased considerably [21]. Furthermore, it has been argued that, in the workplace in Japan, those in vulnerable positions, such as nonregular employees, are especially likely to be victimized and that even where institutional mechanisms for addressing sexual harassment and sexist harassment exist, their effectiveness is extremely low and they fail to translate into redress for victims or prevent recurrence [22]. The same has been noted to hold even for those in higher positions: in Japan, even women who rise to managerial roles are subject to gender-based bias, and because many women find it difficult to substantiate their claims even when they experience sexual harassment at work, giving up on resolving the problem or opting to resign has become the current reality [20].

Taken together, these findings suggest that, in Japan, gender microaggressions, understood as subtle, everyday forms of discrimination, may also arise in the workplace alongside overt harassment, and, thus, there is a substantial need to develop a scale capable of measuring them. However, no workplace-specific measure of gender microaggressions has yet been developed in the country; moreover, no research has focused on how microinvalidations and microinsults, the more minor forms of discrimination, become recognized as problems.

Although the MIMI-16 Scale [9] was developed in Germany, both Germany and Japan are characterized as having highly masculinity, according to indices that quantify national cultural characteristics [23, 24], and the two countries share a similar historical background of women finding it difficult to secure higher social status [25]. Moreover, a Spanish version of the MIMI-16 was recently developed by Guillem et al. [10], and as with the German version, a two-factor structure was demonstrated. Concerns have likewise been raised in Spain regarding women's social status and the unequal division of spousal roles within the household [26, 27], whereby problems similar to those in Japan and Germany have been evident; therefore, developing a Japanese version of the scale is highly important.

Against this backdrop, translating and validating a Japanese version of the MIMI-16 could contribute significantly to resolving the problem of discrimination against women in Japanese society. Additionally, a Japanese version of the scale would represent a contribution to the related theoretical literature by making it possible to examine whether the MIMI-16 can be applied beyond the German and Spanish cultural contexts. Therefore, in the present study, we aimed to develop a Japanese version of the MIMI-16 to measure gender microaggressions among Japanese working women. Furthermore, if the validity of the scale can be confirmed, conducting a network analysis [28] using the scale's items will enable us to examine the interrelationships among individual behaviors related to microinsults and microinvalidation in the workplace. Ultimately, the analysis may provide a practical understanding of how these behaviors interact with one another to sustain and perpetuate the phenomenon of gender microaggression in the workplace.

Study 1

In Study 1, we aimed to conduct two examinations to develop a gender microaggression scale for Japanese female workers. First, after the MIMI-16, an existing scale developed in Germany, was translated, we conducted confirmatory factor analysis (CFA) to confirm its factor structure. Second, we examined the associations of gender microaggressions with harassment and psychological violence, constructs considered conceptually similar to gender microaggressions, and thereby tested the convergent validity. In addition, we aimed to examine the declines in mental health and self-esteem that arise following experiences of gender microaggressions.

Method

Participants

Prior to conducting Study 1, a screening survey was conducted among 2,000 women through a Japanese online survey company. Respondents who met the following criteria were selected: (1) they were Japanese women; (2) they were currently employed and in their 20s through 60s (i.e., full-time homemakers, students, and the unemployed were excluded); and (3) they submitted clear and appropriate open-ended responses to the questions presented as an attention check. We extracted 463 respondents who met these conditions, sent them an email containing the URL for Study 1, and requested their responses. As a result, we obtained responses from 360 individuals who identified as women, were employed in Japan, and who ranged in age from 22 to 65 years (M = 46.94; SD = 9.47), who were included in the final analysis.

In terms of educational attainment, 31.2% of the participants had completed secondary education, 1.1% had graduated from a college of technology (*kosen*), 15.5% had graduated from a junior college, 13.0% had completed vocational school, 34.3% had completed university education, and 4.4% had completed graduate education. With respect to relationship status, 55.0% were single and 44.5% were married. In terms of employment status, 35.1% worked full-time, 14.4% were contract employees, 44.8% worked part-time, and 5.2% were in other employment arrangements (e.g., civil servants, health care workers). With respect to household income, 11.6% earned less than 2 million yen, 37.0% earned 2 to 4.99 million yen, 39.2% earned 5 to 9.99 million yen, 9.6% earned 10 to 19.99 million yen, and 1.9% earned 20 million yen or more.

Procedure

Study 1 was conducted with the approval of the University Research Ethics Committee. Participants were recruited in Japan through an online survey company. Before beginning the survey, the participants were informed of the purpose of the study, the anonymity of their responses, and the voluntary nature of their participation. All participants provided informed consent prior to answering. The survey was conducted online, and each participant received reward points determined by the survey company as compensation for their participation.

Demographics. The participants were asked to report their family composition; whether they had siblings; whether they engaged in remote work; their length of employment; their weekly working hours; their industry; their occupation; the gender ratio of their workplace; the proportion of women in managerial positions across their organization; the gender ratio among the coworkers they regularly interacted with in person; the number of employees at their organization; the number of coworkers they came into contact with in their regular duties; whether the schools they had attended were coeducational or single-sex; and the gender ratio of any other institutions to which they had belonged.

Japanese version of the MIMI-16. Microaggressions toward women were assessed using the MIMI-16 Scale, originally developed in English and German by Algner and Lorenz [9]. With the approval of the original authors, the scale was translated and adapted into Japanese to measure microaggressions in the workplace. The translation followed the guidelines set out in the International Society for Pharmacoeconomics and Outcomes Research (ISPOR) report [29] to ensure conceptual equivalence with the original version. Two experts first translated the scale into Japanese, after which professional translators back-translated the Japanese version into English. The back-translated version was then reviewed and approved by the scale's original authors. The scale consists of 16 items rated on a 6-point scale (e.g., "I have the feeling that people expect less of me because I am a woman" and "I feel that my appearance is more responsible for my professional success than my qualifications").

Furthermore, considering the insights of Dalton [30], who argued that in Japan, victims are forced into silence by structural discrimination and institutional betrayal in the form of victim-blaming and that a social structure exists in which silent suffering is perpetuated, we also asked about the following three items. At the same time, to minimize the response burden on participants, we randomly divided the sample into three subsample groups and asked each group about one of these items. In Subsamples 1 and 2 (n = 238), the participants indicated, for each of the 16 items, whether they had personally experienced the described words and behaviors in the workplace, using a dichotomous (yes/no) response format. In addition, participants in Subsample 1 (n = 122) were asked whether, if they had experienced such conduct, they had reported it to a coworker (yes/no), whereas those in Subsample 2 (n = 116) were asked whether, if they had experienced such conduct, they had reported or discussed it with the relevant department established within their organization

(yes/no). In Subsample 3 (n = 122), participants rated, on a 5-point scale, the statement, “If a female coworker—not only oneself—experienced the same thing, would the people around her perceive the act or remark as unproblematic?” We predicted that if the 16 items truly capture microaggressions, such behaviors would be viewed as “micro” and, therefore, would rarely be reported to colleagues or relevant departments (Subsamples 1 and 2). At the same time, for these items of microaggressions, we predicted that respondents would anticipate that coworkers would not perceive these behaviors as unproblematic if respondents perceived them as a form of “aggression”, even if only "micro" (Subsample 3). Then, if these predictions were verified, this would serve as evidence supporting the content validity of the Japanese version of MIMI-16.

Gender harassment. To examine the convergent validity of the Japanese MIMI-16, we used the 13-item Gender Harassment Scale [31] (as presented in Kobayashi [32]). Developed in Japan, this scale assesses gender-based discriminatory harassment directed at women in the workplace by both men and other women. The reliability and a certain degree of validity of this scale have been confirmed [31]. Grounded in the concept of gender-based harassment, it captures behaviors such as underestimating women's professional abilities relative to men's or expecting women to be more considerate and attentive than men are. In the original scale, items are rated on a 5-point Likert-type scale ranging from 1 (quite appropriate) to 5 (quite inappropriate). Sample items include “I was not expected to have been a leader because I am a woman" and “I was told that women make for a sociable atmosphere." The wording of the response options was modified to range from 1 (never) to 5 (very frequently) to better fit the context of the present study. A mean score was calculated, with higher scores indicating more frequent experiences of gender harassment.

Well-Being Index. Kim et al. [33] reported that experiences of gender microaggressions in the workplace affect mental health, suggesting that the two constructs are related. Accordingly, we used the Japanese version of the Well-Being Index (WHO-5) [34, 35] to assess mental health. The scale, which has been shown to have adequate reliability and validity, consists of five items rated on a 6-point scale ranging from 0 (at no time) to 5 (all of the time), on which respondents indicate the extent to which they experienced a pleasant, cheerful mood over the preceding two weeks. Sample items include “I have felt cheerful and in good spirits” and “I have felt calm and relaxed”. A mean score was calculated, with higher scores indicating greater well-being.

Rosenberg Self-Esteem Scale. Nadal [11] proposed that gender microaggressions, when experienced repeatedly over the long term, may contribute to decreased self-esteem, suggesting that the two constructs are related. Accordingly, we used the Japanese version of the Rosenberg Self-Esteem Scale [36, 37] to measure self-esteem. The Japanese version has demonstrated internal consistency (as indexed by its alpha coefficient), test–retest reliability, and convergent validity [38]. The scale consists of 10 items rated on a 4-point scale ranging from 1 (strongly agree) to 4 (strongly disagree). Sample items include “On the whole, I am satisfied with myself” and “At times, I think I am not good at all”. Items were recoded so that higher scores indicated greater self-esteem, and a mean score was calculated.

Inventory of Violence and Psychological Harassment at Work. In the workplace, gender microaggressions may lead women to feel that their own struggles are being invalidated [13], and Nadal [11] suggested that demeaning and invalidating messages can have a serious psychological impact on women; we therefore expected gender microaggressions to be associated with scores on the Inventory of Violence and Psychological Harassment at Work (IVAPT) [39, 40]. The IVAPT has been shown to perform comparably to the Negative Acts Questionnaire–Revised (NAQ-R) in assessing workplace psychological harassment and to have high internal consistency and reliability. Prior research has further suggested that the IVAPT may have a factor structure specific to the Japanese context and has established its convergent validity. The questionnaire consists of 22 items, and respondents report the frequency of their experience of each behavior on a 5-point scale ranging from 0 (never) to 4 (very frequently). Sample items include “I experience attacks on my reputation” and “I am ignored or excluded from work meetings or from decision-making”. Participants who reported experiencing any of these behaviors were then asked to identify the perpetrators, with response options including “superiors at work,” “colleagues,” and “others,” and to report the perpetrators' gender separately for men and women. A mean score was calculated, with higher scores indicating more frequent experiences of workplace psychological violence and harassment.

Negative Acts Questionnaire–Revised. Nadal [11] characterized gender microaggressions as conveying hostility, contempt, or sexist connotations regardless of intent; therefore, workplace bullying was expected to be related to gender microaggressions. Workplace bullying was assessed using the NAQ-R [41, 42], which is based on participants' experiences of negative acts in the workplace. The internal consistency of the scale is high, and the reliability and validity of the Japanese version have been shown to be acceptable [42]. Here, respondents first rated the frequency with which they experienced 22 negative acts during the previous six months on a 5-point scale ranging from 1 (never) to 5 (daily). Sample items include “Having allegations made against you” and “Threats of violence or physical abuse or actual abuse”. In addition, participants indicated whether, over a certain period, they experienced situations in which they found it difficult to defend themselves against such negative acts and had been continuously subjected to undesirable behaviors; these items were rated on a 5-point scale ranging from 1 (no) to 5 (almost daily). A mean score was calculated, with higher scores indicating more frequent exposure to workplace bullying.

Data analysis

The data analysis of the responses to the Japanese version of the MIMI-16 was conducted in three steps. First, CFA was conducted using R (version 4.5.2) to test model fit. Second, Cronbach's alpha coefficients were calculated to test internal consistency. Finally, correlation coefficients were calculated to test convergent validity. With respect to the CFA, the comparative fit index (CFI), root mean square error of approximation (RMSEA), and ratio of $\chi 2$ to degrees of freedom ($\chi 2/df$) were reported. In accordance with the criteria of MacCallum et al. [43], a CFI of .90 or greater indicates acceptable fit, and a RMSEA between .05 and .08 indicates reasonable fit.

Results

Confirmatory factor analysis

To confirm whether the same factor structure also applied to the Japanese version of the MON, we conducted confirmatory factor analysis (CFA) using the lavaan package (0.6–21) in R (4.5.2). The two-factor model had a significant chi-square test outcome, $\chi^2(103) = 263.62$ ($p < .001$), and the other fit indices indicated good model fit: CFI = .925 and TLI = .913. The information criteria for this model were AIC = 15,176, BIC = 15,304, and SABIC = 15,199 (Fig. 1). As an alternative, we also tested a one-factor model, which assumed that all items were influenced by a single factor. This model showed poorer fit than the two-factor model did, $\chi^2(104) = 361.1$ ($p < .001$), CFI = .879, and TLI = .860, and it had higher AIC, BIC, and SABIC values than the two-factor model did (AIC = 15,337; BIC = 15,461; SABIC = 15,360). Therefore, we interpreted these results as indicating that the two-factor structure established in previous studies [9] is also applicable in Japan. Following the original scale, we named the two factors “Gender Microinvalidations” (8 items) and “Gender Microinsults” (8 items).

Note

Standardized estimates are presented for Study 1 (left) and Study 2 (right).

Descriptive statistics and Pearson correlations

Convergent Validity. Internal consistency was examined by computing Cronbach's alpha (Table 1); reliability met the established criterion across all the subscales. Convergent validity was then examined through correlation analyses. The MIMI-16 was positively correlated with Gender Harassment, the IVAPT, and the NAQ-R—existing measures that assess workplace gender discrimination and psychological violence—and weakly but significantly negatively correlated with the WHO-5. In contrast, the MIMI-16 score was not significantly associated with self-esteem.

Table 1
Correlations and Descriptive Statistics of the Japanese Version of the MIMI-16 Scale (Study 1)

MIMI-16	α	Mean	SD	2		3		4		5		6		7		8		9		10	11	
MIMI-16 total	.94	2.11	0.87	.95	***	.93	***	.64	***	.68	***	.58	***	.56	***	.48	***	.41	***	− .04	− .13	
Micro-invalidation	.90	2.39	0.99	—		.78	***	.64	***	.68	***	.49	***	.48	***	.43	***	.36	***	− .04	− .14	
Microinsult	.90	1.84	0.86			—		.56	***	.59	***	.61	***	.57	***	.49	***	.42	***	− .04	− .10	
Gender Harassment								—														
Comission	.90	2.02	0.87							.87	***	.51	***	.49	***	.48	***	.36	***	.02	− .11	
Omission	.93	1.84	0.83							—		.58	***	.55	***	.52	***	.43	***	.02	− .15	
IVAPT												—										
Manipulation to induce the punishment	.97	0.50	0.76											.93	***	.79	***	.63	***	− .10	− .18	*
Damage to public image	.93	0.60	0.85											—		.73	***	.69	***	− .15	− .20	*
Obstacles to work performance	.79	0.65	0.91													—		.48	***	− .10	− .23	*
(9) NAQ-R total	.97	1.18	0.46															—		− .12	− .19	*
(10) Self-esteem	.89	2.37	0.57																	—	.60	*
(11) WHO-5	.94	3.33	1.32																		—	

Note: MIMI-16 = Microinsult and Microinvalidation Scale; IVAPT=Inventory of Violence and Psychological Harassment at Work Scale; NAQ-R=Negative Acts Questionnaire–Revised Scale; WHO-5 = Well-Being Index. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Experiences of gender microaggression victimization. Gender microaggression victimization in the workplace is summarized in Table 2. Compared with the experience rate (i.e., participants' reports of their own victimization), relatively few participants consulted a colleague or sought help by reporting the incident to a designated reporting office (subsample 1, 2). Furthermore, when asked, “If a female coworker—not only oneself—experienced the same thing, would the people around her perceive the act or remark as unproblematic?” relatively few respondents overall selected “agree. (subsample 3)” These results were interpreted as evidence that the MIMI-16 Scale used in this study does in fact successfully measure microaggression, indicating content validity.

Table 2
Original English and translated Japanese items, descriptive statistics, and prevalence of workplace gender microaggressions

NO			Study 1							Study 2	
	English wording	Japanese wording	*M*	*SD*	Experience	Report (coworkers)	Report (department)	Perceive as unproblematic *M*	*SD*	*M*	*SD*
microinvalidations											
m1	It happens that male colleagues continue a meeting after the women have left the room		1.77	1.12	11.8%	3.3%	3.4%	2.01	1.18	1.66	1.05
m2	I have the feeling that people expect less of me because I am a woman		2.38	1.29	17.6%	9.0%	5.2%	2.33	1.16	2.26	1.35
m3	Women get compliments for their appearance, men for their work performance		2.37	1.28	16.4%	6.6%	4.3%	2.32	1.09	2.20	1.26
m4	Others assume that starting a family has a negative impact on women's work performance		2.79	1.36	27.7%	10.7%	6.9%	2.51	1.21	2.53	1.41
m5	My assertiveness is viewed negatively in a professional context		2.22	1.22	12.2%	5.7%	3.4%	2.16	1.11	2.14	1.23
m6	I have been made to feel that my professional performance is valued differently from that of men		2.39	1.25	20.6%	7.4%	3.4%	2.30	1.24	2.30	1.33
m7	I have the feeling that I have to prove my professional qualifications all the time		2.62	1.37	24.8%	9.0%	8.6%	2.40	1.22	2.66	1.51
m8	Suggestions are more likely to be accepted if they are made by a man insults		2.61	1.31	23.5%	11.5%	9.5%	2.36	1.15	2.50	1.36
microinsults											
m9	Sometimes I receive compliments that I consider inappropriate		2.16	1.21	10.9%	4.9%	5.2%	2.16	1.16	2.10	1.25
m10	Among my colleagues,sometimes suggestive jokes are made toward women		1.88	1.19	8.4%	2.5%	3.4%	1.94	1.12	1.70	1.06
m11	It has happened that colleagues have commented on the way I was dressed		2.00	1.20	13.9%	6.0%	2.6%	2.03	1.15	1.99	1.24
m12	I have been asked about my menstrual cycle at my workplace		1.39	0.89	4.2%	4.1%	1.7%	1.61	1.01	1.39	0.94
m13	I have been sexualized in a professional context		1.86	1.19	13.0%	5.7%	5.2%	1.84	1.06	1.81	1.20

Note: Items were translated from English into Japanese. N = 360 (Study 1) and 355 (Study 2). M = mean; SD = standard deviation. "Experience" indicates the percentage of participants in Subsamples 1 and 2 who reported having experienced each type of workplace gender microaggression. "Report" indicates the percentage of participants who sought help from coworkers (Subsample 1) or from a relevant department (Subsample 2) when such an incident occurred. "Perceive as unproblematic" indicates the extent to which participants in Subsample 3 anticipated that their coworkers would perceive each behavior as unproblematic if it were directed at a female coworker (mean scores on a [1–5] scale).

NO			Study 1							Study 2	
	English wording	Japanese wording	*M*	*SD*	Experience	Report (coworkers)	Report (department)	Perceive as unproblematic *M SD*		*M*	*SD*
m14	It has happened that I have been given suggestive pet names at my workplace	[illegible]	1.47	0.91	3.8%	3.3%	2.6%	1.87	1.04	1.41	0.89
m15	My behavior has been jokingly imitated because of my gender	[illegible]	1.78	1.10	7.1%	3.3%	0.9%	1.90	1.05	1.59	1.00
m16	I feel that my appearance is more responsible for my professional success than my qualifications	[illegible]	2.16	1.20	13.0%	4.1%	3.4%	2.25	1.12	2.02	1.21

Note: Items were translated from English into Japanese. N = 360 (Study 1) and 355 (Study 2). M = mean; SD = standard deviation. "Experience" indicates the percentage of participants in Subsamples 1 and 2 who reported having experienced each type of workplace gender microaggression. "Report" indicates the percentage of participants who sought help from coworkers (Subsample 1) or from a relevant department (Subsample 2) when such an incident occurred. "Perceive as unproblematic" indicates the extent to which participants in Subsample 3 anticipated that their coworkers would perceive each behavior as unproblematic if it were directed at a female coworker (mean scores on a [1–5] scale).

Discussion

In Study 1, we conducted a CFA. Consistent with Algner and Lorenz [9], two factors were identified; therefore, following Algner and Lorenz [9], we interpreted the first factor as "microinvalidation" and the second factor as "microinsults."

Correlations were also examined with similar constructs that prior research has shown to be related to our focus. Gender microaggression showed significant, moderate-to-large positive correlations with Gender Harassment, the IVAPT, and the NAQ-R. In addition, a weak but significant negative correlation with the WHO-5 emerged, supporting its convergent validity. In contrast, no significant correlation was found with self-esteem. This finding may be attributable to the fact that the self-esteem measure used in the present study, unlike the occupational self-efficacy measure employed by Algner and Lorenz [9], assessed global self-esteem rather than workplace-specific self-esteem. Accordingly, we conducted the subsequent analyses in Study 2 using a workplace-specific measure of self-efficacy.

Study 2

To further validate the Japanese version of the MIMI-16 developed in Study 1, we pursued three aims. First, we conducted CFA to reconfirm the scale's factor structure. Second, we examined the relationship between gender microaggressions and workplace-related variables to conduct a more rigorous validation of the scale. Third, after confirming the validity, network analysis was used to investigate the interrelationships among the MIMI-16 items.

Method

Participants

Following the same procedure as in Study 1, initial participant responses were carefully reviewed against the eligibility criteria. The final analytic sample consisted of 355 individuals who identified as women and were employed in Japan, ranging in age from 20 to 65 years (*M* = 46.16, *SD* = 9.66).

In terms of educational attainment, 26.4% had completed secondary education, 1.1% had graduated from a college of technology (*kosen*), 15.7% had graduated from a junior college, 11.2% had completed vocational school, 39.5% had completed university education, and 5.6% had completed graduate education. With respect to relationship status, 52.5% were single, and 47.2% were married. In terms of employment status, 38.5% worked full-time, 10.2% were contract employees, 43.3% worked part-time, and 7.9% were in other employment arrangements (e.g., civil servants, health care workers). With respect to household income, 9.5% earned less than 2 million yen, 37.2% earned 2 to 4.99 million yen, 35.6% earned 5 to 9.99 million yen, 16.3% earned 10 to 19.99 million yen, and 0.8% earned 20 million yen or more.

Procedure

Study 2 was also conducted with approval from the University Research Ethics Committee on the basis of the same conditions as in Study 1.

Demographics. Participants were asked to report their family composition; whether they had siblings; whether they engaged in remote work; their length of employment; their weekly working hours; their industry; their occupation; the gender ratio of their workplace; the proportion of women in managerial positions across their organization; the gender ratio among the coworkers they regularly interacted with in person; the number of employees at their organization; the

number of coworkers they came into contact with in their regular duties; the number of subordinates and supervisors they had; and whether the schools they had previously attended were coeducational or single-sex.

Japanese version of the MIMI-16. The same items as in Study 1 were asked.

Psychological safety. According to Sue [8], microaggressions create a hostile and invalidating environment, thereby threatening the psychological safety of those who experience them. Therefore, gender microaggressions were expected to be negatively associated with psychological safety. To assess respondents' perceptions of psychological safety within their workplace teams, we used the seven-item Psychological Safety Scale [44, 45]. The Japanese version of this scale has demonstrated high reliability and adequate model fit [45]. Items were rated on a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). Sample items include “It is safe to take a risk on this team." and "Members of this team are able to bring up problems and tough issues." A mean score was calculated, with higher scores indicating greater psychological safety.

Social capital. “Social capital” refers to the perceived importance of structures that support interpersonal relationships and social connectedness [46]. However, Sue and Capodilupo [7] suggested that microaggressions may make targets feel isolated and marginalized within groups. Therefore, microaggressions were expected to be negatively associated with social capital. Workplace relationships were assessed using the six-item Japanese version of the Workplace Social Capital Scale [46]. Prior research has supported the scale's unidimensional structure, internal consistency, test–retest reliability, and convergent validity through its correlations with relevant workplace psychosocial factors [46]. Items were rated on a 4-point Likert-type scale ranging from 1 (disagree) to 4 (agree). Sample items include “People feel understood and accepted by each other” and “In our workplace, we trust each other”. A mean score was calculated, with higher scores indicating greater workplace social capital.

Job satisfaction. Experiencing gender-related microaggressions on a regular basis in the workplace may reduce job satisfaction. Therefore, job satisfaction was assessed using the three-item job satisfaction subscale of the Michigan Organizational Assessment Questionnaire [47, 48]. The Japanese version has demonstrated high reliability and adequate validity through its correlations with related variables. The participants responded to each item on a 6-point Likert-type scale ranging from 1 (strongly disagree) to 6 (strongly agree). Sample items include “All in all, I am satisfied with my job” and “In general, I like working here”. A mean score was calculated, with higher scores indicating greater job satisfaction.

Organization-based self-esteem. Study 1 revealed no significant association between gender microaggressions and self-esteem. This finding suggests that although microaggressions occurring in the workplace may not be associated with general self-esteem, they may be negatively associated with self-esteem specifically within the workplace. Study 2 further examined this possibility using the 10-item Organization-Based Self-Esteem Scale (OBSE) [49, 50]. The Japanese version of the OBSE has demonstrated very high internal consistency and test–retest reliability, measurement invariance across two samples in confirmatory factor analysis, and nomological validity [50]. Items were rated on a 5-point Likert-type scale ranging from 1 (does not apply) to 5 (applies). Sample items include “I am a valuable part of this place” and “I am trusted around here”. A mean score was calculated, with higher scores indicating greater organization-based self-esteem.

Turnover intention. According to Kim and Meister [15], experiencing gender microaggressions on a daily basis may cause individuals to question their own agency and their ability to continue working in their current positions. Furthermore, because individuals may overwork themselves in an attempt to prove their abilities, these experiences may ultimately lead to turnover. Therefore, gender microaggressions were expected to be associated with turnover intention. Turnover intention was assessed using the three-item Turnover Intention Scale [51, 52]. Item analysis of the Japanese version revealed no problematic items, and, consistent with the original version, the scale demonstrated a one-factor structure [52]. Items were rated on a 6-point Likert-type scale ranging from 1 (strongly disagree) to 6 (strongly agree). Sample items include “I often seriously consider quitting my current job” and “I intend to quit my current job”. A mean score was calculated, with higher scores indicating stronger turnover intention.

Work engagement. Algner and Lorenz [9] reported that work engagement may be impaired among individuals who experience gender-based microaggressions. Here, work engagement was assessed using the nine-item Utrecht Work Engagement Scale–9[53, 54], which measures the extent to which individuals feel vigor in the workplace and actively engage in their work. The Japanese version has demonstrated adequate reliability, factorial invariance, and construct validity [54]. Items were rated on a 7-point frequency scale ranging from 0 (never) to 6 (always). Sample items include “At my work, I feel bursting with energy” and “I am enthusiastic about my job”. A mean score was calculated, with higher scores indicating greater work engagement.

Workplace ostracism. According to Kim and Meister [15], women reportedly experience being constantly interrupted or completely ignored by both women and men in the workplace because of their gender. Therefore, gender microaggressions were expected to be associated with workplace ostracism. Workplace ostracism was assessed using the 10-item Workplace Ostracism Scale [55, 56], which measures respondents' perceptions of ostracism in the workplace. Consistent with the original scale, the Japanese version demonstrated a one-factor structure, and its reliability and validity have been supported [56]. Items were rated on a 7-point frequency scale ranging from 1 (never) to 7 (always). Sample items include “Others ignored you at work” and “Others avoided you at work”. A mean score was calculated, with higher scores indicating greater experience of workplace ostracism.

Data analysis

The data analysis was conducted in four steps. First, CFA was conducted to test the factor structure of the Japanese MIMI-16 obtained in Study 1. The evaluation criteria were the same as those in Study 1. Second, the convergent validity of the constructs related to the Japanese MIMI-16 was tested through correlation analysis. Third, network analysis was conducted to examine the interrelationships among the constructs of the Japanese MIMI-16. All the statistical analyses were conducted using RStudio (version 4.5.2). First, to estimate the network, we used the graphical lasso (EBICglasso) implemented in the bootnet package (version 1.7.1). Subsequently, the qgraph package was used to visualize the network structure. Because the data consisted of

nonnormal continuous variables, Spearman correlations were used to estimate the associations among items [57], and the tuning parameter (γ) of the EBIC was set to 0.25 to examine interconnectivity among the items.

Results

Confirmatory factor analysis

To confirm the two-factor structure of the MIMI-16, we conducted confirmatory factor analysis (CFA) similar to Study 1. The two-factor model had a significant chi-square test, $\chi^2(103) = 224.57$ ($p < .001$), and the other fit indices indicated good model fit: CFI = .931 and TLI = .920. The information criteria for this model were AIC = 15,538, BIC = 15,665, and SABIC = 15,561 (Fig. 1). As an alternative, we also tested a one-factor model, which assumed that all items were influenced by a single factor. This model showed poorer fit than the two-factor model did, $\chi^2(104) = 300.28$ ($p < .001$), CFI = .887, and TLI = .870, and it had higher AIC, BIC, and SABIC values than the two-factor model did (AIC = 15,663; BIC = 15,787; SABIC = 15,685). Therefore, we interpreted these results as indicating that the two-factor structure identified in previous studies and in Study 1 was replicated.

Descriptive statistics and Pearson correlations

Convergent Validity. Internal consistency was examined by computing Cronbach's alpha (Table 3); reliability met the established criterion across all the subscales. Convergent validity was then examined through correlation analyses. The MIMI-16 scores were positively correlated with experiences of workplace ostracism as well as turnover intention. In contrast, the MIMI-16 score was negatively correlated with psychological safety, social capital, and job satisfaction—constructs reflecting healthy communication in the workplace. Furthermore, whereas Study 1 revealed no correlation between the MIMI-16 score and global self-esteem, a significant negative correlation emerged with organization-based self-esteem, that is, self-esteem derived from one's work experience within the organization. Although no significant association was found with work engagement, the predicted correlations with many other variables were demonstrated; therefore, we concluded that convergent validity was sufficiently confirmed.

Table 3
Correlations and descriptive statistics of the Japanese version of the MIMI-16 scale (study 2)

Valiable	α	Mean	SD	2	3	4	5	6	7	8	9
MIMI-16											
MIMI-16 total	.93	2.02	0.84	.94 ***	.92 ***	− .45 ***	− .38 ***	− .26 ***	− .18 **	.32 ***	− .08
Micro-invalidation	.88	2.28	0.97	—	.75 ***	− .41 ***	− .38 ***	− .26 ***	− .19 **	.28 ***	− .08
Microinsult	.89	1.75	0.83		—	− .43 ***	− .33 ***	− .23 ***	− .14	.33 ***	− .05
(4)psychological safety	.76	4.63	0.96			—	.66 ***	.56 ***	.49 ***	− .40 ***	.33 ***
(5)social capital	.94	2.95	0.67				—	.67 ***	.49 ***	− .43 ***	.48 ***
(6)JOB satisfaction	.86	3.87	1.17					—	.54 ***	− .60 ***	.66 ***
(7)OBSE	.95	3.47	0.83						—	− .32 ***	.49 ***
(8)Turnover Intention	.91	2.42	1.40							—	− .32 ***
(9)WE	.96	2.64	1.65								—
(10)WOS	.94	1.52	0.88								

Note: Study 2 correlations. MIMI-16 = Microinsult and Microinvalidation Scale; OBSE=Organization-based Self-esteem Scale; WE=Work Engagement Scale; WOS=Workplace Ostracism Scale. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Network structure. The estimated network of the MIMI-16 was visualized using the Fruchterman-Reingold algorithm, and the resulting structural patterns were interpreted. Blue and red edges indicate positive and negative regularized partial correlations, respectively, and the thickness of an edge indicates the absolute value of the regularized partial correlation. Second, to identify influential nodes within the network, we estimated centrality indices (strength, closeness, and betweenness); in addition, we assessed bridge centrality (bridge strength, bridge closeness, and bridge betweenness) using the networktools package. In both steps, bootstrapped difference tests were also conducted. Third, to estimate the accuracy of the edge weights, a nonparametric bootstrapping procedure (nBoots = 2000) was performed to calculate 95% confidence intervals. Fourth, to estimate the stability of the network, a case-dropping bootstrapping procedure (nBoots = 2500) was performed to calculate the correlation stability coefficient (CS coefficient). A CS coefficient of at least .25 is recommended, and the network is considered stable when the value is above .5 [28].

The MIMI-16 comprised 16 nodes with a two-factor structure (Fig. 2). A nonparametric bootstrap procedure (nBoots = 2000) indicated that the edge weights were estimated with good stability. Among the 120 possible edges, 79 (66%) were nonzero, comprising 78 positive edges and a single negative edge (m12–m8). The strongest edge was between m14 (It has happened that I have been given suggestive pet names at my workplace) and m15 (My behavior has been

jokingly imitated because of my gender), with an edge weight of .24. Furthermore, strong connections were found between m1 (It happens that male colleagues continue a meeting after the women have left the room) and m5 (My assertiveness is viewed negatively in a professional context) as well as between m12 (I have been asked about my menstrual cycle at my workplace), m15 (My behavior has been jokingly imitated because my gender), and m16 (I feel that my appearance is more responsible for my professional success than my qualifications). In other words, although m1 belongs to the first factor, it occupies a central position that is also strongly connected to the second factor.

Figure 2

Network of the Japanese version of the MIMI-16

Note

[a] Descriptions of the nodes can be found in Table 2.

With respect to strength centrality, m8 (Suggestions are more likely to be accepted if they are made by a man) had the highest value (strength = 1.071). The bootstrap difference test implemented in bootnet revealed that m7 (I have the feeling that I have to prove my professional qualifications all the time) had the lowest strength (strength = 0.614), which differed significantly from m8. On the other hand, with respect to closeness centrality, m3 (women receive compliments for their appearance, men for their work performance) had the highest value (closeness = 0.006). In the case-dropping bootstrap, the stability of strength (CS coefficient = .36) and closeness (CS coefficient = .28) fell within acceptable ranges, whereas betweenness (CS coefficient = .05) showed low stability and was therefore excluded from the interpretations above.

In addition, we examined bridge centrality and stability. With respect to bridge strength, m1 (It happens that male colleagues continue a meeting after the women have left the room) had the highest value (bridge strength = 0.64). The bootstrap difference test implemented in bootnet revealed that m7 (I have the feeling that I have to prove my professional qualifications all the time) had the lowest bridge strength (bridge strength = 0.114), which differed significantly from m1. With respect to bridge closeness, m16 (I feel that my appearance is more responsible for my professional success than my qualifications) had the highest value (bridge closeness = 0.097). In the case-dropping bootstrap, bridge strength (CS coefficient = .67) and bridge closeness (CS coefficient = .52) were highly stable, whereas bridge betweenness (CS coefficient = .05) was weakly stable and was therefore excluded from the interpretations above.

Discussion

In Study 2, CFA was again conducted, and as in Study 1, two factors were extracted, confirming the replicability of the factor structure. Correlation analysis revealed that higher MIMI-16 scores were associated with lower levels of positive constructs (psychological safety, social capital, job satisfaction, and organization-based self-esteem) and with higher levels of negative constructs (turnover intention and experienced ostracism). These results indicate that higher MIMI-16 scores reflect a more problematic workplace environment, supporting sufficient convergent validity similar to Study 1. Furthermore, through network analysis, we identified behaviors that showed strong interrelationships and clarified which behaviors played central roles in various types of gender microaggressions in the workplace.

General discussion

In this study, the MIMI-16 [9]—a scale originally developed in Germany to measure gender microaggressions against female workers—was translated into Japanese, and the validity of the Japanese version was examined. Previously, there were no measurement tools available for Japan or other Asian regions with which to properly assess gender-based microaggressions in the workplace. However, following Algner and Lorenz [9], we developed a measurement tool consisting of two factors—microinvalidation and microinsult—targeted at female employees in Japan and confirmed the tool's sufficient validity. Furthermore, this study is the first to examine the network structure of these factors.

According to Hofstede et al. [23], Germany and Japan are closely aligned across several cultural dimensions, including masculinity, long-term orientation, and indulgence versus restraint. Furthermore, the GLOBE Foundation [24] reported that the two societies hold comparable social values regarding gender egalitarianism (Gender Egalitarianism Societal Practices). Furthermore, as Shire and Nemoto [25] noted, Germany and Japan share the commonality that women's advancement in society has long been difficult. Although Algner and Lorenz [9], the developers of the MIMI-16, have noted that the application of this scale in different cultural contexts requires careful consideration, the translation and validation of the scale for use in Japan—a country with high cultural similarity to Germany—is a particularly significant approach.

In fact, the results of the confirmatory factor analysis (CFA) conducted in this study revealed that the Japanese version of the MIMI-16 possesses the same factor structure as the original version across multiple independent samples. These findings provide empirical support for the direct applicability of the MIMI-16 in other cultural contexts, including Japan. Although further assessment of cross-cultural measurement invariance is needed, this study suggests that conducting such assessments is extremely beneficial for understanding the cross-cultural characteristics of gender microaggressions.

Furthermore, we asked respondents whether they would report incidents of gender microaggressions experienced in the workplace to colleagues or relevant departments and found that, overall, the percentage of respondents who said they would report such experiences was extremely low. Moreover, we confirmed that respondents perceived these behaviors as aggressive, even if only micro. These results can be interpreted as evidence that the Japanese version of the MIMI-16 possesses enough content validity as a measurement tool for gender microaggressions, which, as demonstrated in previous studies, are characterized by seemingly trivial everyday behaviors yet are perceived as harmful and problematic.

In this study, we further examined the convergent validity of the MIMI-16 through two studies. The results were generally as expected. In particular, positive correlations were found with gender harassment, psychological violence in the workplace (IVAPT), workplace bullying (NAQ-R), intention to leave, and experiences of exclusion. On the other hand, negative associations were observed with mental health, psychological safety, social capital, job satisfaction, and job self-efficacy. These results provide evidence that the Japanese version of the MIMI-16 has sufficient convergent validity.

Meanwhile, this study made two findings that differed from the initially predicted results. First, the Japanese version of the MIMI-16 did not significantly correlate with self-esteem in Study 1. However, the discrepancy between this finding and the prediction was resolved in Study 2, in which the relationship with organization-based self-esteem was examined, and a significant correlation was found. These results can be consistently interpreted in light of findings indicating that Japanese self-concept and self-descriptions tend to depend on social role and context [58, 59]. In other words, even if the “workplace self” of Japanese individuals is treated negatively, this does not readily lead to a negative evaluation of their self-concept in different situations or contexts; therefore, it is plausible that experiences of gender microaggressions in the workplace did not undermine their general self-esteem.

Second, there was no significant association between the Japanese version of the MIMI-16 and work engagement. As discussed by Algner and Lorenz [9], experiencing gender-based microaggressions is expected to reduce employees’ organizational attachment and, consequently, lower their work engagement. However, work engagement has been reported to be lower in Japan than in European countries [60, 61]. In fact, Shimazu et al. [62] compared work engagement across multiple countries, including Germany, Japan, and Spain, and reported that Japanese workers’ scores were significantly lower than those of workers in other countries. The work engagement scores obtained in this study were approximately the same as those reported by Shimazu et al. [62]. These low scores may stem from the item wording in the Japanese version of the work engagement scale. If this is the case, the lack of a significant correlation between microaggressions and work engagement in this study may be attributable to the specific phrasing of the Japanese version of the work engagement scale. Future studies should therefore reconsider this relationship using a different scale.

The network analysis conducted in the study revealed that, overall, the individual items were deeply interconnected. The edge showing the strongest association was between m14 (It has happened that I have been given suggestive pet names at my workplace) and m15 (My behavior has been jokingly imitated because of my gender)”. Sue [8] identified, as examples of gender microaggressions, behaviors that objectify and sexualize women as well as sexist jokes; the strong association between m14 and m15 observed in the present study can be interpreted consistently with Sue [8], who suggested that these two forms are likely to cooccur.

Furthermore, m8 (Suggestions are more likely to be accepted if they are made by a man) exhibited the highest strength centrality. Ross et al. [63] reported that in scientific fields, women are significantly less likely than men to be listed as authors on the papers and patents produced by their teams and that although women's contributions tend to go unrecognized unless they speak up, doing so works to their disadvantage. Similarly, Lindgren and Packendorff [64] reported that, in academic workplaces marked by strong homosocial, male-dominated cultural norms, highly powerful and outspoken men take over discussions during meetings, whereas young women either sit silently without speaking or avoid attacks from men by engaging in heterosocial behavior. This finding is consistent with prior research confirming that, at the organizational level, women perceive their own influence to be lower than that of men [65]; accordingly, in workplace environments where men's voices are prioritized, women may refrain from actively voicing their own ideas. Taken together, these findings suggest that m8 (Suggestions are more likely to be accepted if they are made by a man) is likely to occur across a variety of workplace settings and may, in turn, serve as a trigger for other gender microaggressions.

Moreover, the network analysis provided new insight into how the first and second factors—Gender Invalidation and Gender Insult—are connected. Specifically, m1 (It happens that male colleagues continue a meeting after the women have left the room) was identified, and in terms of bridge centrality, it was shown to represent the major bridge strength between the two factors. This is a particularly noteworthy finding. Recent research has shown that even when women attend meetings, speaking up remains difficult for them in male-dominated organizational meetings [64, 66]. Moreover, according to Pattani et al. [67], one organizational consequence of the gender gap that women face is that men socially exclude women from meetings scheduled outside working hours and from formal networking, which contributes to a devaluation of women's status and dignity in the workplace. The results of this study provide new insights into these findings and suggest that situations in which women are unable to participate in the decision-making process until its final stages may be caused by microinsults—such as ridicule and belittlement—as captured by Factor 2 in the MIMI-16.

Overall, the results of this study provide evidence supporting the validity of the Japanese version of the MIMI-16 and demonstrate that this scale, which is theoretically grounded, can contribute to the identification and further understanding of gender microaggressions, which represent “glass shards” in the workplace.

Limitations

The sample and study methods represent important limitations of this study. First, participants were recruited through an online survey company, and it is possible that women who are highly interested in gender microaggressions were more likely to participate. Future research should examine generalizability using random sampling. Second, responses were measured and evaluated using self-report scales, and because the influence of relying on the same data collection method can be assumed, it would be desirable for future research to incorporate longitudinal reports and assessments from multiple perspectives. Third, although the network analysis in the present study yielded a range of insights, interpretative caution is needed because the results are based on a cross-sectional survey. Future research should collect longitudinal data and conduct investigations such as causal network analysis that incorporate a time-series perspective.

Practical implications

Ollo-López and Núñez [68] reported that workplace sexual harassment is more likely to occur within deteriorated organizational cultures that may lack even minimal respect and consideration. In addition, research has demonstrated that women employed in medical settings with a high proportion of men report

more gender harassment and that women working in organizations led by men likewise report more gender harassment [69]. Although severe forms of harassment are frequently observed within such organizations, more subtle forms are also expected to be observed in everyday interactions. The scale developed in the present study represents a meaningful contribution in that it not only makes it possible to distinguish between these two subtle forms—gender microinsults and microinvalidations—but also to examine them in a more nuanced manner. Furthermore, although excellent measures already exist—such as the Women's Microaggressions Scale [19], which encompasses all three forms of gender microaggressions and comprises 34 items across eight factors—we were able to develop the MIMI-16, a workplace-specific measure that, with only 16 items, imposes a low burden on respondents.

The present study also provides insight into the processes through which the problems associated with microaggressions ripple outward and spread, which may in turn contribute to addressing the problem of gender microaggressions. Although recent research has reported that organizational structure and leadership can reduce the likelihood of harassment [70], the present findings further suggest that understanding how each individual's microaggression is interconnected with other problems and interrupting these links may help prevent the problem from becoming more severe. For example, as Pattani et al. [67] also note, this study suggests that strictly enforcing a rule requiring meetings to be held during regular working hours—such that female employees can attend and fully participate in all aspects of the decision-making process—can be an effective way to address gender microaggressions and, by extension, prevent serious gender discrimination and harassment that might otherwise occur.

Conclusion

The present study translated the MIMI-16—a measure originally developed in Germany, a cultural context bearing notable similarities to Japan's—and examined the psychometric properties of the Japanese version of the MIMI-16 among a sample of Japanese women employees. Consistent with prior research [9], confirmatory factor analysis supported a two-factor structure, with the first factor reflecting gender microinvalidations and the second factor reflecting gender microinsults. Associations with a range of theoretically related measures were largely confirmed, providing evidence of the scale's validity. In replicating the findings of prior research, our results align with those obtained for the German and Spanish versions of the scale. Furthermore, network analysis clarified the structure underlying which items mediate gender microinvalidations and gender microinsults. To our knowledge, the present study is the first to identify the network structure of the MIMI-16. In conclusion, the present study provided evidence for the validity of the Japanese version of the MIMI-16, a measure grounded in the theory of gender microaggressions, within Japanese occupational settings. Our findings offer a means of accurately capturing gender microaggressions—subtle and often ambiguous forms of sexism that can be difficult to discern—and thereby contribute to their prevention. We hope that this study represents a first step toward addressing not only the difficulties that women employees routinely endure within their organizations but also the broader array of sexism-related problems that may develop out of gender microaggressions.

Abbreviations

IVAPT
Inventory of Violence and Psychological Harassment at Work
MIMI-16
MicroInvalidation and MicroInsult Scale
NAQ-R
Negative Acts Questionnaire–Revised
OBSE
Organization-Based Self-Esteem Scale
WHO-5
Well-Being Index

Declarations

Ethics approval and consent to participate

This research was conducted with approval from the University of Tsukuba research ethics committee (Ref. No.: East 24–94). Before beginning the survey, participants were informed of the purpose of the study, the anonymity of their responses, and the voluntary nature of their participation, and all participants provided informed consent prior to answering.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests

Funding

This study received no external funding from government agencies, private companies, or non-profit organizations. All expenses associated with the research were covered by the authors themselves.

Author Contribution

AM developed the study proposal, conducted data analysis, and wrote the manuscript. KF, as the corresponding author, developed the study proposal, conducted data analysis, and provided comments and revisions to the manuscript.

Acknowledgement

The authors sincerely thank all participants and those who provided valuable support and assistance throughout this study.

Data Availability

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

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Figures

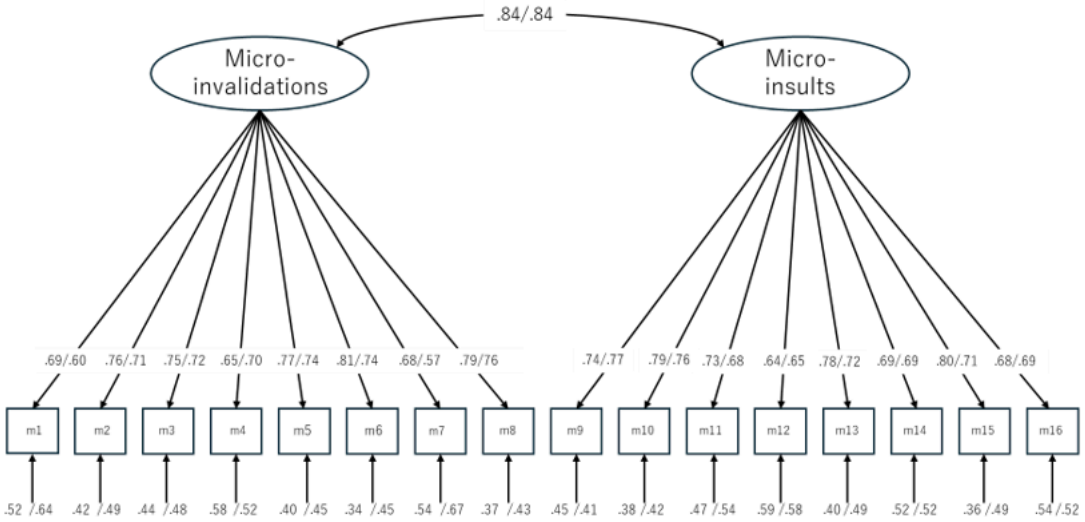

Figure 1

Confirmatory Factor Analysis Results for the Two-Dimensional Model of the MIMI-16 Scale for Japanese Women Employees

*Note.*Standardized estimates are presented for Study 1 (left) and Study 2 (right).

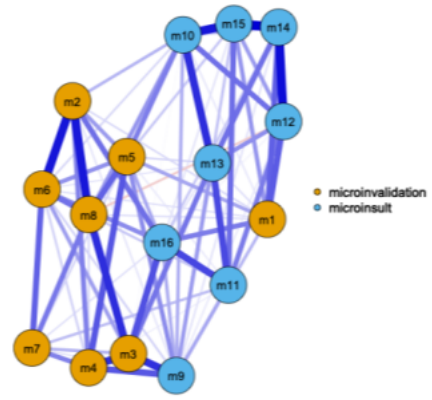

Figure 2

Network of the Japanese version of the MIMI-16

Note. [a] Descriptions of the nodes can be found in Table 2.