

Field Study

Assessment of Workplace Bullying and Harassment: Reliability and Validity of a Japanese Version of the Negative Acts Questionnaire

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Abstract: Assessment of Workplace Bullying and Harassment: Reliability and Validity of a Japanese Version of the Negative Acts Questionnaire: Jiro TAKAKI, et al. Department of Public Health, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences—Objectives: Interest in workplace bullying and harassment has been increasing in Japan. At present, the Negative Acts Questionnaire (NAQ) is one of the most frequently used questionnaires for assessing these issues. The purpose of this study was to develop a Japanese version of the NAQ. **Methods:** We translated the original version of the NAQ using a back-translation method. Participants in this study were recruited from 737 workers at a manufacturing company in Japan. Data were obtained from questionnaires completed by 517 respondents (response rate: 70.1%). **Results:** We used a cross-validation approach. A three-factor model was obtained from exploratory factor analyses. The confirmatory factor analysis for this model revealed values of 0.94, 0.91, 0.95, and 0.054 for the goodness-of-fit index, the adjusted goodness-of-fit index, the comparative fit index, and the root mean square error of approximation, respectively. Pearson's correlation coefficients for the NAQ scores with the Job Content Questionnaire (JCQ) support scores and the Effort-Reward Imbalance Questionnaire scores for respect

and job security were significant ($p < 0.001$) and the direction of these associations were consistent with our expectations, with the exceptions of the correlations between the NAQ sexual harassment score and the JCQ support scores. Cronbach's α coefficients for the scores on the entire NAQ scale and on three subscales (person-related bullying, work-related bullying, and sexual harassment) were 0.90, 0.84, 0.60, and 0.60, respectively. **Conclusions:** A Japanese version of the NAQ was developed and it appears to have acceptable levels of internal consistency reliability and factor- and construct-validity.

(J Occup Health 2009; 52: 74–81)

Key words: Psychological stress, Reliability, Scale development, Social behavior, Validity, Workplace

According to the International Labor Office (ILO), the World Health Organization (WHO), the International Council of Nurses (ICN), and the Public Services International (PSI), bullying (or mobbing) is “repeated and long-term offensive behaviors involving vindictive, cruel, or malicious attempts to humiliate or undermine an individual or groups of employees,” and harassment is “any conduct based on age, disability, HIV status, domestic circumstances, sex, sexual orientation, gender reassignment, race, color, language, religion, political, trade union or other opinion or belief, national or social origin, association with a minority, property, birth or other status that is unreciprocated or unwanted and that affects the dignity of men and women at work¹. “Many victims of these actions demonstrate depressive or psychosomatic symptoms^{2–9}). Indeed, it is possible that workplace

Received May 20, 2009; Accepted Oct 9, 2009

Published online in J-STAGE Nov 25, 2009

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bullying has contributed to 10–15% of all suicides in Sweden annually, and each bullied worker can cost an employer between \$30,000 and \$100,000 USD per year¹⁰. Several reliable studies have estimated that stress and violence might jointly account for approximately 30% of the overall costs of illness and accidents, and that stress/violence might account for losses amounting to approximately 0.5–3.5% of the annual gross domestic product (GDP) in many countries¹¹.

According to a survey conducted by the Japan Industrial Counselors Association in November 2007, 81% of the 440 practicing industrial counselors in Japan reported that they had been consulted about bullying¹². According to the status report on the implementation of the individual labor dispute settlement system in fiscal year 2007, issued by the Japan Ministry of Health, Labour and Welfare, 12.5% of the 197,673 civil cases involving consultation on individual labor-related disputes pertaining to harassment or workplace bullying, second only to discharge as a presenting problem¹³. In the health sector, 24.1% of physicians reported having experienced verbal violence, and 2.1% of physicians reported having experienced physical violence at the workplace during the previous six months¹⁴. Thus, workplace violence, including bullying and harassment constitute issues of increasing interest in Japan.

A variety of self-report inventories and scales measuring exposure to bullying and harassment have been introduced. One or two questions about bullying have been asked in some studies^{3, 8, 15}. However, because the numbers of items was small, high coefficients of internal consistency reliability were difficult to obtain¹⁶. The original questionnaire about bullying was developed by Quine⁴. However, this measure has been used only for healthcare workers in the United Kingdom. The Leymann Inventory of Psychological Terrorization, developed by Leymann¹⁷, has been used in several studies^{5, 9}. However, completing this questionnaire can be burdensome, because it contains at least 45 items.

Currently, two of the most frequently used questionnaires focused on workplace bullying and harassment are the original and the revised versions of the Negative Acts Questionnaire (NAQ)^{6, 7, 18–31}. Based on a review of the literature and series of case studies, Einarsen and Raknes developed the NAQ, which consists of 22 items measuring exposure to specific negative acts that are typical of bullying¹⁸. The items refer to both direct and indirect behaviors but do not require respondents to label themselves as targets of bullying. The original version of the NAQ has been administered in several countries (e.g., Denmark¹⁹, Norway^{18, 20, 21}, Belgium²², and Spain²³). Slightly modified versions were also used in Denmark^{6, 7} and Finland²⁴. The results among workers in manufacturing companies in several countries have been published and thus are available for comparisons^{6, 18}. The

scale shows high internal consistency, containing items with good face validity and with evidence of good construct validity^{18, 25}. Several revised versions of the NAQ have also been introduced^{25–32}. A new 29-item version has been used in the United Kingdom^{26, 27}, and new 27- and 28-item versions have been used in Norway^{28–30}. A 22-item revised version is now recommended by Einarsen^{25, 31}. This version has been translated into Japanese, but it was specialized, in part, for healthcare workers, and its validity remains unknown³².

To compare workplace bullying and harassment among workers in manufacturing companies in Japan with other countries, we translated the original version of NAQ. The purpose of this study was: (1) to develop a Japanese version of the original NAQ using a back-translation method; (2) to examine the internal consistency reliability, and factor- and construct-validity of this measure in a sample of Japanese workers in a manufacturing company; and (3) to compare our findings to those of studies in other countries.

Subjects and Methods

Subjects

The subjects of this study were recruited from the 737 workers at a marine engineering company in Japan. Data were obtained from questionnaires completed by 517 subjects (response rate: 70.1%). The purpose and procedure of this survey were explained to the participants. Written informed consent was obtained from all participants, who were not compensated for their participation. This study was approved by the ethics committee of the Okayama Prefectural University.

Measures

1) A Japanese version of NAQ

We translated the original version of the NAQ with the permission of Morten Birkeland Nielsen and the Bergen Bullying Research Group. The NAQ measures exposure to specific negative acts typical of bullying¹⁸. The items (Table 1) refer to both direct and indirect behaviors but do not require respondents to label themselves as targets of bullying¹⁸. Respondents indicate on a five-point scale (1=never, 2=now and then, 3=monthly, 4=weekly, and 5=daily) whether they have experienced the designated negative acts in the context of their job¹⁸.

Three bilingual individuals translated the NAQ using a back-translation method. An English specialist from the US city of San Francisco, who worked in a college English Communications department compared the original and back-translated questionnaires to evaluate any differences in the meanings of the individual items. Translation and back-translation were repeated four times until no differences in meaning between the original and back-translated items were found.

Table 1. Items of the Negative Acts Questionnaire and sex differences in responses to each item

Items	<i>p</i> ^a
1. Someone withholding necessary information so that your work gets complicated	0.149
2. Unwanted sexual advances	0.611
3. Ridicule or insulting teasing	0.100
4. Ordered to do work below your level of competence	0.263
5. Being deprived of responsibility or work tasks	0.888
6. Gossip or rumors about you	0.880
7. Social exclusion from co-workers or work group activities	0.850
8. Repeated offensive remarks about you or your private life	0.764
9. Verbal abuse	0.359
10. Unwanted sexual attention	0.201
11. Hint or signals from others that you should quit your job	0.589
12. Physical abuse or threats of physical abuse	0.580
13. Repeated reminders about your blunders	0.240
14. Silence or hostility as a response to your questions or attempts at conversations	0.318
15. Devaluing of your work and efforts	0.267
16. Neglect of your opinions or views	0.337
17. Offending telephone calls or written messages	0.329
18. "Funny" surprises	0.193
19. Devaluing of your "rights" and opinions with reference to your gender	0.001
20. Devaluing of your "rights" and opinions with reference to your age	0.196
21. Exploitation at work, such as private errands"	0.480
22. Reactions from others because you work too hard	0.479

^a: Sex differences in the responses to each item were assessed with the Mann-Whitney *U*-test.

2) Measures of other psychosocial work characteristics

The 22-item Japanese version of the Job Content Questionnaire (JCQ)^{33,34} and the Japanese version of the Effort-Reward Imbalance Questionnaire (ERIQ)^{35,36} were also administered in order to test the construct validity of the NAQ. The JCQ was developed by Karasek, based on the demand-control-support model, and it separately evaluates supervisor and coworker support scores³³. The sum of the two support scores constitutes the total support score³³. The ERIQ was developed by Siegrist *et al.* based on the effort-reward imbalance model³⁶. The internal consistency reliability and factor- and construct-validity of the Japanese version of both scales have been confirmed^{34,35}. We hypothesized that high scores on the NAQ would correlate with low JCQ scores for support and low ERIQ scores for respect and job security.

Statistical analyses

Sex differences in the responses to each item were assessed with the Mann-Whitney *U*-test. Fisher's exact test was used for categorical comparisons of the data on participant characteristics, and differences in the means of continuous measurements were tested by the unpaired *t*-test. Using confirmatory factor analyses, we tested the goodness-of-fit of the structural equation model in which

factors were correlated with each other. Model fit was assessed using a combination of fit indices including the goodness-of-fit index (GFI), the adjusted goodness-of-fit index (AGFI), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA). The acceptability of model fit was judged by the following criteria: GFI, AGFI, and CFI > 0.90, and RMSEA < 0.05³⁷ or < 0.08³⁸. In the exploratory factor analyses, factors with eigenvalues greater than 1.0 were extracted, and the promax rotation method was used to obtain factor structures. To assess construct validity, we calculated Pearson's correlations between NAQ scores and JCQ support scores and ERIQ respect and job security scores. To test internal consistency reliability, Cronbach's *alpha* coefficients were calculated for NAQ scores. In international comparisons, based on the article by Einarsen and Raknes¹⁸, we calculated the number of Norwegian subjects who reported having experienced at least one behavior measured by the NAQ during the previous six months by multiplying the number of the total subjects by the percentage of the subjects who reported so. Based on the article by Mikkelsen and Einarsen⁶, we used the same calculation system to record the number of Danish subjects who reported having experienced at least one behavior measured by the NAQ

Table 2. Demographic characteristics and the average score for each job stressor scale according to sex

Demographic characteristics	Men (N=481)		Women (N=36)		<i>p</i> ^a	Number of missing data (Men, Women)
	Mean	SD ^b	Mean	SD		
Age (yr)	47.1	12.8	39.3	13.3	<0.001	(0, 0)
	N	%	N	%		
Educational status (yr)					0.035	(0, 0)
12 yr or less	280	58.2	14	38.9		
More than 12 yr	201	41.8	22	61.1		
Supervisory or management position	63	13.2	–	0.0	0.015	(4, 0)
Job stressor scores	Mean	SD	Mean	SD		
NAQ ^c total score (22 items)	27.6	7.3	26.9	7.4	0.608	(0, 0)
Total of three subscales (NAQ)	15.5	4.3	14.6	3.0	0.208	(0, 0)
Person-related bullying (NAQ)	7.6	2.7	7.2	1.9	0.452	(0, 0)
Work-related bullying (NAQ)	4.7	1.7	4.3	1.6	0.201	(0, 0)
Sexual harassment (NAQ)	3.3	0.8	3.1	0.3	0.169	(0, 0)
Supervisor support (JCQ ^d)	11.0	2.4	11.2	2.6	0.668	(10, 1)
Coworker support (JCQ)	11.3	2.1	11.2	1.8	0.801	(9, 1)
Total support (JCQ)	22.3	4.0	22.4	3.8	0.863	(14, 1)
Respect (ERIQ ^e)	20.6	4.0	21.5	4.2	0.201	(5, 1)
Job security (ERIQ)	8.4	1.9	8.5	2.0	0.813	(6, 0)

^a: Fisher’s exact test was used for categorical comparisons of the data on participant characteristics, and differences in the means of continuous measurements were tested by unpaired *t*-tests. ^b: Standard deviation. ^c: Negative Acts Questionnaire. ^d: Job Content Questionnaire. ^e: Effort-Reward Imbalance Questionnaire.

on a weekly or more frequent basis during the previous six months. Furthermore, we calculated in the same manner, the number of the subjects in Denmark who reported having experienced two or more negative behaviors on a weekly or more frequent basis during the previous six months⁶⁾. The numbers were then rounded off. Fisher’s exact test was used for categorical comparisons of the data. We also calculated the numbers of the workers who endorsed each item in Norway or Denmark by multiplying the number of the total subjects by the percentages of the subjects who endorsed each item in Norway¹⁸⁾ or Denmark⁶⁾, respectively. The numbers were rounded off. Differences in the numbers who endorsed each item were assessed with the Mann-Whitney *U*-test. All *p* values were two-tailed. List-wise deletion was used in each analysis. SPSS 11.0J and Amos 4.02 were used for the statistical analyses.

Results

Characteristics of the subjects

Table 1 shows the sex differences in responses to each item on the NAQ. Only item 19 produced significant differences between men and women (*p*<0.05). Table 2 presents the demographic characteristics and the average score for each job stressor scale according to sex. Because we found no significant differences between men and

women for most items on the NAQ and for average scores on the job stressor scales (*p*>0.05), we analyzed the data as a whole.

Factor validity of the NAQ used in this study

In the confirmatory factor analysis assuming the model suggested in a previous study¹⁸⁾, we found fit indices of 0.82, 0.77, 0.80, and 0.096 (95% confidence interval [CI]: 0.091–0.102) for GFI, AGFI, CFI, and RMSEA, respectively, for this sample. Because the values did not reach the predetermined level of acceptability, we used a cross-validation approach³⁹⁾. We divided our sample into random sub-samples. The first sub-sample served to examine dimensionality through exploratory factor analyses. We omitted the items that loaded highly on two or more factors, and repeated the analyses. We finally obtained a three-factor model with 12 items. Factor 1 consisted of items 6, 7, 8, 9, 13, and 14. The label “person-related bullying” seemed to best capture the essence of these items. Factor 2 consisted of items 1, 4, and 22. We labeled this factor “work-related bullying.” Factor 3 consisted of items 2, 10, and 18. We labeled this factor “sexual harassment.” The second sub-sample was used for confirmatory factor analysis to assess the replicability of the factor model. Fit indices were 0.94, 0.91, 0.95, and 0.054 (95% CI: 0.036–0.072) for GFI,

Table 3. Confirmatory factor analysis of the Negative Acts Questionnaire assuming the three-factor model that the authors finally obtained (standardized estimate value)

	Person-related bullying	Work-related bullying	Sexual harassment	<i>p</i>
Item 6	0.70			<0.001
Item 7	0.52			<0.001
Item 8	0.73			<0.001
Item 9	0.74			<0.001
Item 13	0.65			<0.001
Item 14	0.59			<0.001
Item 1		0.51		<0.001
Item 4		0.66		<0.001
Item 22		0.42		<0.001
Item 2			0.44	<0.001
Item 10			0.73	<0.001
Item 18			0.50	<0.001

Table 4. Pearson's correlation coefficients for Negative Acts Questionnaire (NAQ) scores with Job Content Questionnaire (JCQ) support scores and Effort-Reward Imbalance Questionnaire (ERIQ) scores for respect and job security

		NAQ total score (22 items)	Total of three subscales (12 items)	Person-related bullying score	Work-related bullying score	Sexual harassment score
JCQ supervisor support score	<i>r</i>	-0.23	-0.21	-0.16	-0.24	-0.02
	<i>p</i>	<0.001	<0.001	<0.001	<0.001	0.620
JCQ coworker support score	<i>r</i>	-0.17	-0.18	-0.17	-0.15	-0.02
	<i>p</i>	<0.001	<0.001	<0.001	<0.001	0.722
JCQ total support score	<i>r</i>	-0.23	-0.22	-0.19	-0.23	-0.02
	<i>p</i>	<0.001	<0.001	<0.001	<0.001	0.617
ERIQ respect score	<i>r</i>	-0.54	-0.51	-0.43	-0.47	-0.23
	<i>p</i>	<0.001	<0.001	<0.001	<0.001	<0.001
ERIQ job security score	<i>r</i>	-0.50	-0.47	-0.41	-0.44	-0.15
	<i>p</i>	<0.001	<0.001	<0.001	<0.001	<0.001

r: correlation coefficient.

AGFI, CFI, and RMSEA, respectively. Standardized estimate values were all significant ($p < 0.001$) and are shown in Table 3.

Construct validity of the NAQ used in this study

Pearson's correlation coefficients for NAQ scores (the entire NAQ score [22 items], the total of the three subscales [12 items], and the three subscales) with JCQ support scores and ERIQ scores for respect and job security are presented in Table 4. All the correlations were significant ($p < 0.001$) and matched our prediction that high NAQ scores would correlate with low JCQ support scores and low ERIQ scores for respect and job security, with the exceptions of the

correlations between the NAQ score for sexual harassment and the JCQ support scores.

Reliability of the NAQ used in this study

Cronbach's *alpha* coefficients for the internal consistency reliability of the entire NAQ (22 items), the total of the three subscales (12 items), and the three subscales, person-related bullying, work-related bullying, and sexual harassment, were 0.90, 0.82, 0.84, 0.60, and 0.60, respectively.

Comparisons with results in other countries

Workers in the same industry (marine engineering)

Table 5. Percentages of workers in Japan, Norway, and Denmark who endorsed each item on the Negative Acts Questionnaire (NAQ) and differences among them

	Japan			Norway ^a			<i>P</i> ^c	Japan		Denmark ^b		<i>P</i> ^c
	Men working in the marine engineering industry			Men working in the marine engineering industry				Men and women working in a manufacturing company		Men and women working in a manufacturing company		
	Now and then (%)	Monthly (%)	Weekly or Daily (%)	Now and then (%)	Monthly (%)	Weekly or Daily (%)		Now and then or Monthly (%)	Weekly or Daily (%)	Now and then (%)	Weekly or Daily (%)	
Item 1	48.0	3.6	8.0	43.9	6.8	1.0	0.361	51.4	7.6	57.5	5.9	0.445
Item 2	4.0	0.6	0.2	0.2	0.0	0.2	<0.001	4.6	0.2	0.5 ^d	0.0 ^d	
Item 3	19.1	1.8	2.2	35.1	2.4	4.3	<0.001	20.0	2.0	16.0 ^e	1.0 ^e	
Item 4	27.2	2.4	3.0	38.1	4.6	3.7	<0.001	28.6	3.1	14.0 ^f	1.0 ^f	< 0.001
Item 5	15.6	1.6	1.8	27.3	2.4	1.1	<0.001	16.6	2.0	37.3	7.7	< 0.001
Item 6	25.8	1.2	2.0	31.7	3.9	2.2	0.001	27.3	1.8	21.0	1.0	0.352
Item 7	10.6	1.0	1.0	10.5	0.9	1.1	0.877	11.6	0.9	31.0	2.0	0.296
Item 8	17.5	1.4	2.4	15.3	1.1	1.1	0.153	18.9	2.2	18.5	1.0	0.013
Item 9	15.1	3.1	1.1	24.0	0.9	0.4	0.032	17.8	1.1	11.0	2.0	0.008
Item 10	4.2	0.2	0.2	2.5	0.2	0.2	0.411	4.2	0.2	18.5	1.0	0.952
Item 11	7.6	0.6	0.8	4.3	0.4	0.0	0.016	8.3	0.7	2.0	1.0	0.003
Item 12	5.0	0.2	0.2	2.2	0.2	0.0	0.063	5.0	0.2	0.0	0.0	0.001
Item 13	19.4	1.2	1.6	24.9	0.4	1.1	0.066	20.1	1.5	22.0	1.0	0.688
Item 14	22.0	2.4	2.0	24.5	1.3	2.0	0.406	23.6	2.2	14.5	1.0	0.003
Item 15	28.8	2.6	3.4	27.6	3.5	1.3	0.734	30.4	3.5	18.0	1.5	<0.001
Item 16	29.7	2.8	2.0	46.6	3.9	3.1	<0.001	31.7	2.0	35.6	2.7	0.166
Item 17	11.8	0.8	1.0	3.9	0.2	0.2	<0.001	13.1	0.9	9.5	0.0	0.088
Item 18	11.6	1.2	0.8	41.9	1.3	5.0	<0.001	12.2	0.7	36.5	6.7	<0.001
Item 19	5.0	0.6	0.6	1.8	0.0	0.2	<0.001	6.3	0.9	7.2	0.5	0.644
Item 20	10.0	0.8	1.2	8.0	0.7	0.2	0.072	11.3	1.3	5.5	0.5	0.005
Item 21	8.0	0.4	1.2	12.4	1.3	0.8	0.003	8.3	1.1	4.5	0.5	0.037
Item 22	22.3	3.5	4.6	28.4	2.4	3.1	0.179	25.5	4.5	27.6	4.1	0.567

^aSource: Einarsen and Raknes¹⁸⁾. ^bSource: Mikkelsen and Einarsen⁶⁾. ^c: We calculated the numbers who endorsed each item by multiplying the total number of subjects by the percentages of persons who endorsed each item. The numbers were rounded off. Differences in the numbers of persons who endorsed each item were assessed with the Mann-Whitney *U*-test. ^{d, e, f}: The NAQ used in Denmark was slightly different from the original version⁶⁾. It did not include items 2, 3, and 10. Instead, it included items “sexual harassment,” “insulting teasing,” and “ridicule.” ^d: The item answered was “sexual harassment.” ^e: The item answered was “insulting teasing.” ^f: The item answered was “ridicule.”

were studied in Japan and Norway¹⁸⁾. Because only men were surveyed in Norway¹⁸⁾, we used the data obtained from men for purposes of comparison. In Japan, 78.5% of the sample reported having experienced at least one of the behaviors measured by the NAQ during the previous six months, whereas the comparable figure for Norway was 88.5%¹⁸⁾. The figures were significantly ($p < 0.001$) different from each other.

The NAQ used in Denmark was slightly different from the original version. It did not include items 2, 3, and 10⁶⁾. Instead, it included items “sexual harassment,” “insulting teasing,” and “ridicule.” Response categories were “never,” “now and then,” “weekly,” and “daily.” Of the male and female workers in a manufacturing company in Japan, 15.5% reported having experienced at least one of the behaviors measured by the NAQ on a

weekly or more frequent basis during the previous six months, whereas the comparable figure in Denmark was 8%⁶⁾, which was significantly ($p = 0.006$) different from that in Japan. Using the more stringent criterion of two or more behaviors a week, this figure was reduced to 7.7% in Japan and 2.7% in Denmark⁶⁾, which were significantly ($p = 0.008$) different from each other.

Table 5 presents the percentages of workers in Japan, Norway, and Denmark who endorsed each item on the NAQ and differences among them. Exposure to behaviors described in items 4 and 18 was significantly ($p < 0.001$) less frequent in Japan than in either Norway or Denmark, whereas the frequency of exposure to behaviors described in items 1 and 22 was not significantly different between Japan and Northern Europe countries ($p > 0.05$).

Discussion

In the confirmatory factor analysis based on the model suggested in a previous study¹⁸⁾, fit indices did not reach the predetermined acceptable levels. Thus, we conducted a cross-validation study. We divided our sample into random sub-samples. Through exploratory factor analyses using the first sub-sample, we obtained a three-factor model. In confirmatory factor analysis using the second sub-sample, all fit indices reached predetermined acceptable levels of fit. Most previous studies of the NAQ have indicated that its structure includes two or three dimensions. The two dimensions were identified as personal bullying and work-related bullying or personal derogation and work-related harassment^{21, 23, 40)}. The three dimensions were identified as person-related bullying, work-related bullying, and physically intimidating bullying²⁵⁾. In this study, the third factor included items pertaining to sexual harassment (items 2 and 10). The label “sexual harassment” seemed to capture well the essence of these items.

For construct validity, the correlations between the NAQ score for sexual harassment and the JCQ support scores were not significant. One possible reason for this is that as support itself might be interpreted as sexual harassment, instead of relief from sexual harassment. Nevertheless, the correlations between all the NAQ scores and the ERIQ scores for respect and job security and the correlations between the NAQ scores, except for sexual harassment, and the JCQ support scores were consistent with the predicted directions and were significant.

Cronbach's *alpha* coefficients for the work-related bullying and sexual harassment subscales were relatively low, possibly because each subscale consisted of relatively few items. It is important to consider possible measurement errors when using these subscales. However, Cronbach's *alpha* coefficients for the total (22 items) and the person-related bullying subscale (6 items) scores were high and acceptable. Thus, the internal consistency reliability and factor- and construct-validity of the Japanese version of the NAQ developed in this study seem acceptable.

In international comparisons, experience with at least one negative act was significantly less prevalent among Japanese workers than among Norwegian workers, whereas weekly or more frequent experiences with negative acts were significantly more prevalent in Japan than in Denmark. Answers for several items (especially items 4 and 18) were significantly different between Japan and Northern Europe countries, whereas answers for items 1 and 22 were similar.

In terms of limitations, our findings should be generalized with caution, because our data were drawn from one particular manufacturing company. However, a previous study found only minor differences in

responses to the NAQ among four different organizations⁶⁾. In terms of construct validity, correlations with other work-related psychosocial factors might have been artificially inflated by the common method variance. The present study did not examine test-retest reliability, which should be tested in future longitudinal studies.

Acknowledgments: This work was partly supported by a Grant-in-Aid for Scientific Research (C) 2007–2009 from the Ministry of Education, Culture, Sports, Science and Technology, Japan. The authors thank Morten Birkeland Nielsen and the Bergen Bullying Research Group for permission to use the Negative Act Questionnaire. The Bergen Bullying Research Group holds the copyrights for the Japanese version of the Negative Act Questionnaire used in this study. Please contact the Bergen Bullying Research Group for permission to use this instrument (e-mail: mail@bullying.no).

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