

原 著

Construct Validity of a Rating Scale for Workplace Harassment among Nurses

看護師の職場におけるハラスメント測定尺度の妥当性

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Abstract

The aim of this study was to develop a rating scale to ascertain the circumstances of acts of harassment (hereinafter, "harassment scale") with the objective of obtaining basic data to aid workplace harassment prevention measures. A survey of 2,837 Japanese nurses was conducted. The survey comprised items about basic attributes (sex, age, years of experience as a nurse, years of continuous work) and six items about acts of harassment prepared with reference to earlier studies. Surveys were recovered from 1,205 nurses, 1,149 of which were without any missing items and were processed for analysis. In the statistical analysis, the processed surveys were randomly divided into two groups and the data of each group were examined by factorial invariance using a one-factor model composed of six items. The results of this analysis statistically supported the factorial invariance of this harassment scale. The discussion describes the validity of the scale development procedure and future prospects for use of this scale.

抄録

本研究は職場ハラスメントの予防対策に資する基礎資料を得ることをねらいとして、ハラスメント加害の状況を把握する測定尺度（以下、ハラスメント加害尺度）の開発を目的に行った。調査は日本の2837人の看護師を対象とした。調査項目は基本属性（性、年齢、看護師経験年数、勤務継続年数）と、先行研究を参考に準備したハラスメントの加害行為を問う6項目とした。回収された1205人のうち、解析項目の欠損のない1149人を集計対象とした。統計解析では、集計対象を無作為に2群に分割し、それぞれのデータに対して6項目で構成される一因子モデルの因子不変性について検討した。その結果、ハラスメント加害を測定する尺度の因子不変性が統計学的に支持された。考察では尺度開発の手順の妥当性と、今後の尺度活用の展望について述べた。

Key Word: Harassment, Perpetrator, Construct Validity

キーワード：ハラスメント、加害者、構成概念妥当性

1 Introduction

In 2014, the Ministry of Health, Labour and Welfare (MHLW) published the “Report by the Working Group for the Roundtable Conference Regarding Workplace Bullying and Harassment”¹⁾, which indicated that prevention of workplace “bullying and harassment” (hereinafter, “harassment”) is a pressing matter of policy. This report suggested that the effects of harassment range widely from mental and physical effects, such as depression²⁾, post-traumatic stress³⁾, onset of fibromyalgia³⁾, and job separation⁴⁾,⁵⁾, to workplace effects, such as a reduction in workplace productivity⁶⁾ or occupational accidents⁷⁾. Moreover, these effects may have been attributed to extremely serious incidents. A review of previous studies revealed that, of the four-layer structure of harassment (perpetrator, victim, spectators, bystanders)⁸⁾, quite a few studies have examined the relationship between impacts on victims and individual characteristics or workplace environment⁹⁾; however, very few studies have examined these factors in perpetrators of harassment¹⁰⁾. One reason for this is the problem of rating scales. Rating scales for harassment¹¹⁾ include the Leymann Inventory of Psychological Terrorization (LIPT-60)¹²⁾, the Negative Act Questionnaire (NAQ)¹³⁾, the Negative Act Questionnaire-Revised (NAQ-R)¹⁴⁾, the Work Harassment Scale (WHS)¹⁵⁾, and Work Bullying in Nurses in Europe¹⁶⁾ and the United States¹⁷⁾. While Munakata¹⁸⁾ has developed a workplace bullying scale in Japan, this scale only measures harassment victims²⁾, and not acts of harassment by perpetrators. If acts of harassment could be understood from the perspective of the perpetrator, regardless of that person’s intent, that knowledge could offer significant clues for the mechanisms of onset of harassment and the development of prevention measures.

In light of the above, the aim of this study was to develop a rating scale to ascertain the circumstances of acts of harassment (hereinafter, “harassment scale”) with the objective of obtaining basic data to aid workplace harassment prevention measures.

2 Methods

2.1 Survey subjects

The authors surveyed 2,837 nurses working at one of the 25 facilities that consented to participate from among the 165 medical facilities that were randomly extracted by the authors from among medical facilities listed in the Status of Acceptance of “Notification of Facility Criteria” published by each Regional Bureau of Health and Welfare in Japan. The survey was in the form of an anonymous self-administered questionnaire. The questionnaires were distributed by nursing administrators (investigators) at the facilities that consented to participate. The questionnaires contained a clear explanation regarding the purpose of the study and the ethical considerations, and subjects were requested to answer the questionnaire and return it by mail only if they consented to participate in the study. Approval to conduct the survey was obtained from the ethical review board of the authors’ institution (approval number: 317). The survey was conducted between November and December 2014.

2.2 Survey content

The survey was composed of items on basic subject characteristics (sex, age, years of experience as a nurse, years working at the present facility) and items on harassment.

Harassment is a superordinate concept encompassing bullying and harassment¹⁹⁾ and is etymologically formed of the term “harass,” which means to annoy, and “-ment,” which is a suffix added to a noun to indicate a result, condition, action, or procedure on the previous term. Whether it is bullying or harassment, if an act annoys someone, it can be perceived as harassment²⁰⁾. Terms associated with harassment include “sexual harassment,” “academic harassment,” “moral harassment,” and “power harassment” (a Japanese-English term), resulting in a mix of various expressions¹⁹⁾. These individual forms of harassment cannot always be clearly classified²¹⁾. In light of this, the present study uses the term “harassment” as a generic term meaning “an act perpetrated against someone in the same workplace that causes mental or physical suffering, or exacerbates the workplace environment,

that exceeds the appropriate scope of work, and that is related to workplace superiority, such as job status or interpersonal relationships.” This definition was given in the “Report by the Working Group for the Roundtable Conference Regarding Workplace Bullying and Harassment”²²⁾. At the same time, the authors took the Japanese versions^{2, 23)} of the NAQ-R¹⁴⁾ and the Inventory of Violence and Psychological Harassment (IVAPT-PANDO)²⁴⁾, as well as earlier studies^{12, 13, 15-17, 25)} as references to select scale items through brainstorming (examination of content validity) with staff working in medical health and welfare settings and university faculty specializing in the field of medical health and welfare. In conjunction with satisfying the above definition of harassment, attention was paid to the general rule that items highly likely to occur regardless of a hierarchical relationship between staff take precedence, resulting in the final selection of six items. The decision was therefore made in the present study not to make this planned scale a measure that covered as much workplace harassment as possible, but rather a means of ascertaining the circumstances of workplace harassment. Specifically, this scale was composed of the items, “x1. Not recognizing the work or effort of that person,” “x2. Making the person think he/she has no ability,” “x3. Avoiding or refusing to interact with that person, even while working,” “x4. Criticizing that person’s working methods,” “x5. Overexaggerating or repeatedly bringing up that person’s past failures,” and “x6. Pointing out how ineffectively that person works.” Responses to items were given on a five-point scale comprising, “I have never thought or done this,” “I have thought this, but I have never done this,” “I have thought this and attempted to do this,” “I have done this,” and “I have done this many times continuously.” Responses were set up in this way in order to confirm the continuity of acts because harassment can be identified as a continuous sequence of acts observed over a certain period of time instead of a single act^{21, 26, 27)}, as pointed out by Leymann²⁸⁾ and Einarsen²⁹⁾. A score of 0 (“I have not done this”) was given for the first three responses, while a score of 1 (“I have done this”) was given for

the last two responses.

2.3 Statistical analysis

To obtain suggestions regarding the construct validity of the rating scale, the conformity of the pre-assumed six-item, one-factor model to the data was examined by confirmatory factor analysis. In this statistical analysis, subjects were randomly divided into two groups (Group A and Group B) and the strength of factorial invariance was investigated using simultaneous multi-population analysis with equivalence constraints of threshold alone in Step 1 (Model I), factor loading in addition to Step 1 in Step 2 (Model II), and error variance in addition to Step 2 in Step 3 (Model III). Comparisons of Model I and II and of Model II and III were done using a difference test (DIFFTEST)³⁰⁾. If the results of the DIFFTEST were $p > 0.05$, this was considered to indicate that the model was not wrong.

To determine the goodness-of-fit of the aforementioned factor model to the data, comparative fit index (CFI) and root mean square error of approximation (RMSEA) were used as fit indices and weighted least squares means and variance adjusted estimation was used to estimate parameters. If the CFI was generally 0.9 or above, the model was considered to fit the data. If the RMSEA was 0.05 or below, the model was considered to fit the data well, and if the RMSEA was 0.1 or above, the model was not considered to fit the data very well³¹⁾. The rating scale reliability was also examined using the confidence coefficient omega³²⁾. In analyses in the present study, the software SPSS Statistics 22.0 was used for descriptive statistics, M-Plus7.2 was used for confirmatory factor analysis and simultaneous factor analysis, and R3.2.2 and EZRI 1.32³³⁾ were used for the confidence coefficient omega.

3 Results

Of the 1,205 survey forms recovered (number distributed: 2,837), 1,149 without any missing items were processed for analysis.

3.1 Distribution of processed subject attributes

The distribution of processed subject attributes is

presented in Table 1. The majority of subjects were women, with only 178 men (15.5%). Ages ranged from 18 to 71 years and the mean age was 42.5 years. Nursing careers ranged from 0.1 to 57.8 years, and years working at the present facility ranged from 0.4 to 9.5 years.

3.2 Examination of rating scale construct validity

The distribution of answers for harassment is presented in Table 2. Answers of “I have done this” and “I have done this many times continuously” each accounted for less than 10% of all answers to the six items. The answers “I have done this” and “I have done this many times continuously” were most commonly given in response to “x3. Avoiding or refusing to interact with that person, even while working” (100 subjects; 8.7%), followed by “x1. Not recognizing the work or effort of that person”(79 subjects; 6.9%) and “x6. Criticizing that person’s working methods” (57 subjects; 5%).

The results of the confirmatory factor analysis of the harassment scale are presented in Figure 1. The fit indices were RMSEA = 0.041 and CFI = 0.954 in Group A, and RMSEA = 0.024 and CFI = 0.983 in Group B, indicating that a statistically acceptable level was met. Furthermore, the confidence coefficient omega was 0.75 in Group A and 0.72 in Group B.

The results of the simultaneous factor analysis performed while adding parameter (coefficient) equivalence constraints are presented in Table 3. Adding parameter equivalence constraints lowered the RMSEA and chi-square/df ratio but the CFI remained mostly unchanged and the chi-square decreased. Moreover, the RMSEA was within the range of 0.025 to 0.033 and the CFI was within the range of 0.972 to 0.976. The results of the DIFFTEST were a chi-square of 4.220, *df* of 5, and p-value of 0.518 between Model I and Model II, and a chi-square of 4.281, *df* of 5, and p-value of 0.383 between Model II and Model III.

4 Discussion

The aim of this study was to develop a rating scale to ascertain the circumstances of acts of harassment (“harassment scale”) with the objective

of obtaining basic data to aid workplace harassment prevention measures. Workplace bullying is an important factor of suicide risk routes (bullying → depression → suicide)³⁴. In 2009, the MHLW added “enduring serious harassment, bullying or assault” to problems with interpersonal relationships as “specific psychologically stressful events” in the partial revision to their publication, “Guidelines for Determining the Role of Work in Psychological Stress-related Mental Disorders.” This problem was ranked III (“Strong psychological stress that is rarely experienced in life”) in terms of severity³⁵. This suggested that this study was appropriate to address acts of harassment in the workplace. During scale development, the construct validity of the pre-assumed factor model was examined by a structural equation model, which suggested that the selection of statistical methods was appropriate, based on recent trends in scale development. This examination also suggested that factorial invariance examination at each step in the two randomly classified groups was appropriate.

The results of the statistical analysis in this study revealed that the pre-assumed six-item, one-factor model fit the data. These results support the finding that this is a strong scale in terms of factorial invariance. In earlier studies, workplace harassment underwent so-called isolated classification, such as relational aggression³⁶ (verbal, bodily and physical aggression, neglect, etc.) and taking away opportunities⁹). The six-item scale planned in the present study more or less corresponds to this type of harassment if you exclude the bodily and physical aggression. As a general rule, harassment is a phenomenon formed on the premise of victim awareness^{27, 28, 37}; however, there are instances where the victim is not aware they are being harassed because they sometimes view harassment as teaching or guidance, and there are also instances where the victim does not report harassment due to fear of being fired³⁸). The harassment scale developed in the present study may provide useful information for resolving such workplace problems.

At present, the impact of harassment on the perpetrator has not been empirically clarified using

data regarding perpetrators. However, Kato³⁹⁾ developed an interpersonal stress coping scale with delayed resolution coping, positive relationship coping, and negative relationship coping, such as “ignoring” and “labeling the other party as the villain” as subordinate factors, in order to examine the relationship between those coping and stress reactions. Of these subordinate factors, only negative relationship coping is reported to be associated with stress reactions such as depression, anxiety, and anger⁴⁰⁾. This suggests that harassment including “ignoring” and “labeling the other party as the villain” not only causes stress reactions such as depression in just the victim, but also causes negative reactions in the perpetrator. The harassment scale developed in the present study can therefore be used to shed light on the impact of harassment on perpetrators.

In the present study, we were able to develop a scale, with statistically supported construct validity,

to measure the harassment circumstances of perpetrators in relation to workplace harassment. This suggests that Lazarus *et al.*'s theory of coping cannot be ruled out in perpetrators, while the theoretical variables (concepts) of stressors cannot be ruled out in victims. The rating scale developed in the present study therefore contributes to the clarification of the mechanisms of onset of workplace harassment in both perpetrators and victims, and can be expected to contribute to the development of prevention measures.

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Table 1. Characteristics of subjects

	n(%)
Gender	
Male	178(15.5%)
Female	971(84.5%)
	Mean±SD (Range)
Age	42.5±10.9 (18-71)
Years of experience as a nurse	18.9±11.6 (0.5-57.8)
Years of service in current hospital	11.4±9.5 (0.1-48.8)

Table 2. Distribution of answers for harassment

Items	Answers				
	1	2	3	4	5
x1. Not recognizing the work or effort of that person	511 (44.5)	421 (36.6)	138 (12.0)	65 (5.7)	14 (1.2)
x2. Making the person think he/she has no ability	818 (71.2)	237 (20.6)	69 (6.0)	18 (1.6)	7 (0.6)
x3. Avoiding or refusing to interact with that person, even while working	464 (40.4)	422 (36.7)	163 (14.2)	80 (7.0)	20 (1.7)
x4. Criticizing that person's working methods	584 (50.8)	420 (36.6)	88 (7.7)	54 (4.7)	3 (0.3)
x5. Overexaggerating or repeatedly bringing up that person's past failures	901 (78.4)	188 (16.4)	43 (3.7)	17 (1.5)	0 (0.0)
x6. Pointing out how ineffectively that person works	840 (73.1)	227 (19.8)	57 (5.0)	20 (1.7)	5 (0.4)

Answers: 1: I have never thought or done this, 2: I have thought this, but I have never done this, 3: I have thought this and attempted to do this,

4: I have done this, 5: I have done this many times continuously

Values are number of subjects (%).

Table 3. Goodness of fit according to parameter (coefficient) equivalence constraints

	df	Chi-square	Chi-square/df ratio	RMSEA	CFI
Model I	18	29.645	1.647	0.034	0.969
Model II	23	36.746	1.598	0.032	0.963
Model III	24	35.602	1.483	0.029	0.969
Model IV	29	40.478	1.396	0.026	0.969

Model I: No equivalence constraints.

Model II: Factor loading of the primary factor as the equivalence constraint.

Model III: Model II + variance of the primary factor as the equivalence constraints.

Model IV: Model III + error variance of the observed variable as the equivalence constraints.

RMSEA : root mean square error of approximation.

CFI : comparative fit index.

Chi-Square Test for Difference Testing.

Between model 1 and model 2: Chi-Square=4.220, df=5, p-value=0.518

Between model 2 and model 3: Chi-Square=4.281, df=5, p-value=0.3831)

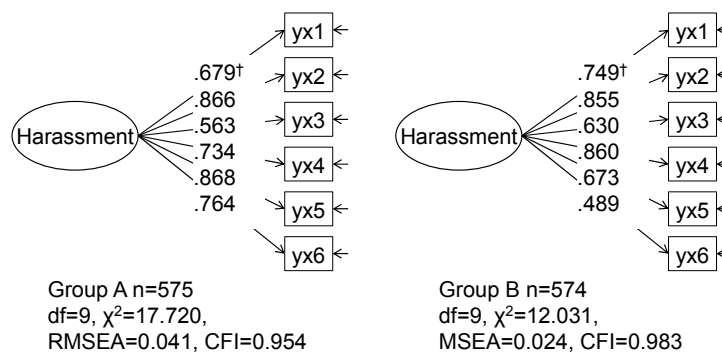


Figure 1. A Result of Confirmatory Factor Analysis

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