Frontiers of Nursing • 10(2) • 2023
DOI: 10.2478/FON-2023-0028

sciendo

Frontiers of **Nursing**

Psychometric evaluation of Iranian version of nursing faculty's incivility questionnaire†

Original Article

Zahra Abedini[a], Sedigheh Khanjari[a], Sima Hashemi[b,*]

[a]*Department of Nursing, School of Nursing and Midwifery, Iran University of Medical Sciences, Tehran 1449614535, Iran*
[b]*Department of Nursing, Shoushtar Faculty of Medical Sciences, Shoushtar 64517-73865, Iran*

Received: 7 July 2022; Accepted: 22 November 2022; Published: 20 June 2023

Abstract: **Objective:** Faculty incivility is a growing problem in nursing schools that disrupts the learning process and affects nursing care of patients. Fostering and managing faculty incivility requires knowing this problem using a valid and reliable instrument. The purpose of this research was to evaluate the validity and reliability of the faculty's perceived incivility questionnaire in the Iranian community.
Methods: In this methodological study, the participants involved were 357 nursing students. They were selected between October and December 2019. The faculty's perceived incivility questionnaire was evaluated in terms of content and construct validity. McDonald's omega and Cronbach's alpha coefficients were calculated. Exploratory and confirmatory factor analyses were conducted to evaluate the construct validity of the questionnaire.
Results: The content validity index (CVI) was 0.86–0.91 for the items and 0.87 for the whole instrument. In factor analysis, two factors of violent and irresponsible behaviors were extracted. These factors explained >41.769% of the variance. Model fit indices (Parsimonious Comparative Fit Index [PCFI] = 0.783, Parsimonious Normed Fit Index [PNFI] = 0.756, root mean square error of approximation [RMSEA] = 0.051, Goodness-of-Fit Index [GFI] = 0.955, Adjusted Goodness-of-Fit Index [AGFI] = 0.932, Comparative Fit Index [CFI] = 0.955, $\chi_{2/df} = 2.26$) indicated the proportion of factors. Internal consistency was 0.87–0.93.
Conclusions: Faculty's perceived incivility questionnaire is a valid and reliable tool with two factors that can be used to evaluate the incivility in Iranian faculty members.

Keywords: *education • evaluation • faculty • incivility • nursing • reliability • validity*

© Shanxi Medical Periodical Press Co., Ltd.

1. Introduction

Uncivil and disrespectful behavior in nursing education is increasing, especially among faculty members.[1] Behaviors occur in real or virtual conditions. Some of the behaviors have been reported as bullying, intimidation, abuse of power, spreading rumors, aggression, rude non-verbal gestures, resistance to change, inattention, unwillingness to negotiate, humiliating others, and irrational demands. Misbehaving with a student, gossiping about a student with others, and inculcating a sense of stupidity in the student are examples of uncivil teachers' behavior.[2] Inappropriate behaviors include failure to perform tasks, distracting others during meetings, refusing to communicate, marginalizing, excluding others, and participating in a secret meeting.[3]

†This project was supported by the National Agency for Strategic Research in Medical Education of Iran (No. 4000494).

How to cite this article: Abedini Z, Khanjari S, Hashemi S. Psychometric evaluation of Iranian version of nursing faculty's incivility questionnaire. *Front Nurs*. 2023;2:249–254.

* *Corresponding author.*
E-mail: simahashemi8491@gmail.com (S. Hashemi).

Open Access. © 2023 Abedini et al., published by Sciendo. This work is licensed under the Creative Commons Attribution 4.0 License.

According to Mohammadpour et al.,[4] 61.8% of students had experienced uncivil behavior from faculty members in the past year. Rawlins[3] showed that teachers' incivility was described as four themes: "harmful to health, disruptions in teaching and learning, stress as a factor of aggravation and lack of motivation." Rad et al.[5] identified teacher-related factors of incivility in nursing education (INE) and emphasized teacher's personality, lack of respect for others, intolerance of dissent, and conflicts as the causes of incivility. A survey of students' narratives of teachers' uncivil behavior showed that these behaviors were described as "the worst experience," which made students feel stupid and inferior.[6]

These behaviors have undesirable consequences and are challenging issues for teachers and students.[7] This problem causes coaches to be reluctant to work and reduces their productivity and increases their chances of leaving the profession.[8] Absence, isolation, alienation, poor quality of work, illness, conflict, role ambiguity, weakening of working relationships, shortage of staff, reduced opportunities for improvement and empowerment, and poor leadership are also the result of such conditions.[9] Faculty incivility may negatively affect students' learning.[10] Researchers have pointed to the impact of faculty behavior on learning and clinical practice.[11] According to past studies, these behaviors increase the risk of harm to patients in the clinical setting and affect the quality of nursing care.[12]

Understanding and sensitivity to civil behavior and its perception can build healthy relationships.[13] The School of Nursing plays an important role in providing a healthy environment for the formation of positive behaviors and nursing professional identity in future nurses. It depends on appropriate social interactions in the learning setting. The informal curriculum is also hidden in the teaching methods and relationships of faculty.[14] The leaders should adopt a policy to control and supervise the severity and extent of incivility.[15] Real assessment for identifying the problem and faculty knowledge can lead to correcting misbehaviors.[11]

The first step in countering the uncivil behavior of faculty in nursing education is a careful evaluation of the problem. Making permanent changes requires understanding the situation and planning for action.[16] A credible and reliable tool is essential for understanding the problem. The incivility questionnaire in nursing education consists of 24 questions about faculty member behaviors and 24 questions about student behaviors that measure the perceived level of behavior from grades 1 to 4. This tool was designed and revised by Clark et al.[17] and may be separated into student and faculty sections.[18]

An incivility in nursing education-revised (INE-R) scale is a comprehensive tool that covers different items related to technology misapplication, physical aggression, and verbal misbehavior in the nursing education setting.[19] Our goal was to monitor nursing faculty members' uncivil behaviors in nursing schools. Thus, we tested the properties of a culturally adapted Iranian version of the INE-R. A past systematic review of incivility tools indicated that the majority of them were not specific to nursing education and most of them were designed for the student population.[20] Clark et al.'s[17] questionnaire is a unique tool. It examines the behaviors of professors from both student and faculty member perspectives and has few questions. This scale has been used in >10 languages in various countries.[19] Simplicity and specificity of the scale has made it an applicable tool for the evaluation of nursing faculty member. Past evaluations of this tool were conducted in the student section.[18] The purpose of this research was to evaluate the validity and reliability of the faculty's perceived incivility questionnaire in the Iranian community.

2. Methods

This study was conducted as methodological research. It was conducted to assess the psychometric properties of faculty's perceived incivility questionnaire in the Iranian community. The sample size for factor analysis is 10 cases per item.[21] A descriptive and cross-sectional design was used with a convenience sample of final years' nursing students. All third-year and fourth-year nursing students participated in this research. Altogether, 358 students participated in the study between October and December 2019 at two Universities in Iran. Inclusion criteria included Iranian nationality, willingness to participate in the study, and being in college for at least two semesters.

After receiving permission from the instrument's designer, it was translated into Persian by two nursing faculty members, and then it was translated into English by two other nursing teachers. This version was sent to the designer for approval.

The qualitative and quantitative evaluations were used to determine face validity. In the qualitative section, 10 faculty members were interviewed. The simplicity, appropriateness, and clarity of questions were evaluated. The content validity was evaluated by both quantitative and qualitative methods. In the qualitative evaluation, the questionnaire was given to 15 specialists in nursing education and 5 nursing students. They were asked to comment on the item allocation, grammar, wording, and scoring of the items. The questionnaire was amended based on suggestions. A validity evaluation of quantitative content was conducted based on two areas such as content validity index (CVI) and content validity ratio (CVR). To calculate the CVR, 15 experts were asked to rate the essentiality of each item

(Essential, Useful but not essential, and Not essential). To determine the value of CVR, a value higher than 0.42 based on the Lawshe[22] table was considered significant: (1 = unrelated, 2 = somewhat relevant, 3 = acceptable, 4 = related). For the CVI calculation, an expert panel was asked to rate item relevance. The CVI was obtained by dividing the number of experts that gave a score of 3 and 4 to each item on the overall score. A score of 0.78 and above was acceptable.[22] The mean CVI scores of all items were used to calculate the overall CVI.

Factor analysis was used to confirm the validity. The factors were extracted by exploratory factor analysis. The sampling adequacy index (Kaiser–Meyer–Olkin [KMO]) and Bartlett test were calculated. Then, the extraction of latent factors was performed using maximum likelihood estimation. It was conducted by $SPSS_{25}$ software. The presence of an item in a factor was determined to be approximately 0.3 based on the $CV = 5.152\ (n - 2)$ (CV: extractable factor and n: sample size). At least three items should be in each factor based on the three-indicator rule.[23] The extracted factors were verified by maximum likelihood calculation and confirmatory factor analysis (CFA). Model fit indices were calculated by AMOS 24 software.

To assess the reliability (test-retest), a questionnaire was sent to 30 nursing students and faculty members within 2 weeks. Intra-cluster correlation coefficient (ICC) was calculated. For evaluating internal consistency, McDonald's omega and Cronbach's alpha coefficients were calculated. Maximum Shared Squared Variance (MSV), Construct Reliability (CR) and Average Variance Extracted (AVE) were determined. CR > 0.7 were acceptable.[21] Standard Error of Measurement (SEM) and the formula $SEM = SD\ (1 - ICC)$ were calculated to assess the absolute reliability.[24] This project was supported by the National Agency for Strategic Research in Medical Education of Iran (No. 4000494) (Code of Ethics:IR.NASRME.REC.1400.485). All participants were informed about the goals and their written consent was obtained.

3. Results

The participants consisted of 357 nursing students. The mean age of nursing students was 23.31 ± 8.22 years. The majority of students were female (65.7%) and single (87.5%).

The content validity was verified after the modification of items by specialists. CVI and CVR were acceptable. CVI values for items were 0.86–0.91 and none of the questions were omitted.

According to exploratory factor analysis, the sampling adequacy index (KMO) was 0.904, and Bartlett's test was

Factor and items	Factor loading	h^2	λ	% of variance
Violent behaviors			4.77	32.678
Q20. Making discriminating comments (racial, ethnic, gender, etc.) directed toward others	0.782	0.58		
Q22. Threats of physical harm against others (implied or actual)	0.775	0.605		
Q21. Using profanity directed toward others	0.739	0.504		
Q23. Property damage	0.732	0.607		
Q19. Sending inappropriate or rude e-mails to others	0.682	0.513		
Q17. Exerting superiority, abusing position, or rank over others (e.g., arbitrarily threatening to fail students)	0.632	0.478		
Q16. Ignoring, failing to address, or encouraging disruptive student behaviors	0.458	0.377		
Irresponsible behaviors			4.163	9.091
Q10. Being distant and cold toward others (unapproachable, rejecting student's opinions)	0.645	0.361		
Q8. Being unprepared for class or other scheduled activities	0.609	0.373		
Q6. Arriving late for class or other scheduled activities	0.559	0.325		
Q5. Using a computer, phone, or other media device during class, meetings, or activities for unrelated purposes	0.508	0.292		
Q3. Ineffective or inefficient teaching method (deviating from the course syllabus, changing assignment or test dates)	0.494	484		
Q15. Refusing to discuss make-up exams, extensions, or grade changes	0.458	0.257		
Q4. Refusing or reluctant to answer direct questions	0.449	0.406		
Q12. Allowing side conversations by students that disrupt class	0.326	0.248		

Note: h^2: communality; λ: eigenvalue.

Table 1. Exploratory factors of nursing faculty's perceive incivility questionnaire.

2957.189 ($P < 0.001$). The two extracted factors including violent behaviors and irresponsible behaviors, explained 41.769% of the total variance of incivility (Table 1).

Based on CFA, after correcting the model, the goodness of fit of the chi-square index was calculated ($P < 0.001$, $\chi_2 = 194.898$). Then, other goodness-of-fit indices of the model were investigated which were as follows: Parsimonious Comparative Fit Index (PCFI) = 0.783, Parsimonious Normed Fit Index (PNFI) = 0.756 (>0.5 acceptable), root mean square error of approximation (RMSEA) = 0.051 (<0.08), Goodness-of-Fit Index (GFI) = 0.955, Adjusted Goodness-of-Fit Index (AGFI) = 0.932, Comparative Fit Index (CFI) = 0.955 (acceptable above 0.9), $\chi_{2/df} = 2.26$ (<3 acceptable) (Table 2). These scores confirmed the final model's goodness of fit (Figure 1). Factor loading values were >0.3 and significant (Table 1). ICC was calculated at 0.86.

4. Discussion

The purpose of this study was to determine the validity, reliability, and psychometric evaluation of the Persian version of the perceived faculty incivility questionnaire. Behavior is a culture-based variable and varies across societies. Therefore, it needs to be evaluated in the target community. Based on the results, two factors extracted from this questionnaire determined 41.769% of the variance. It indicated the proper ability of the instrument to measure the perceived incivility of Iranian

CFA Index	PGFI	CFI	GFI	AGFI	PNFI	PCFI	RMSEA	CMIN/DF	Pvalue	df	χ
Indices	0.682	0.955	0.952	0.932	0.756	0.783	0.051	20.266	0.000	86	194.898

Note: Fit indices: PNFI, PCFI, AGFI (>0.5), CFI, IFI (>0.9), RMSEA (<0.08), and CMIN/DF (<3 good, <5 acceptable).
Abbreviations: PGFI, Parsimony Goodness of Fit Index; AGFI, Adjusted Goodness-of-Fit Index; CFA, confirmatory factor analysis; CFI, Comparative Fit Index; CMIN/DF, chi-square/degree-of-freedom ratio; GFI, Goodness-of-Fit Index; IFI, Incremental Fit Index; PCFI, Parsimonious Comparative Fit Index; PNFI, Parsimonious Normed Fit Index; RMSEA. root mean square error of approximation.

Table 2. Fit indices of the CFA.

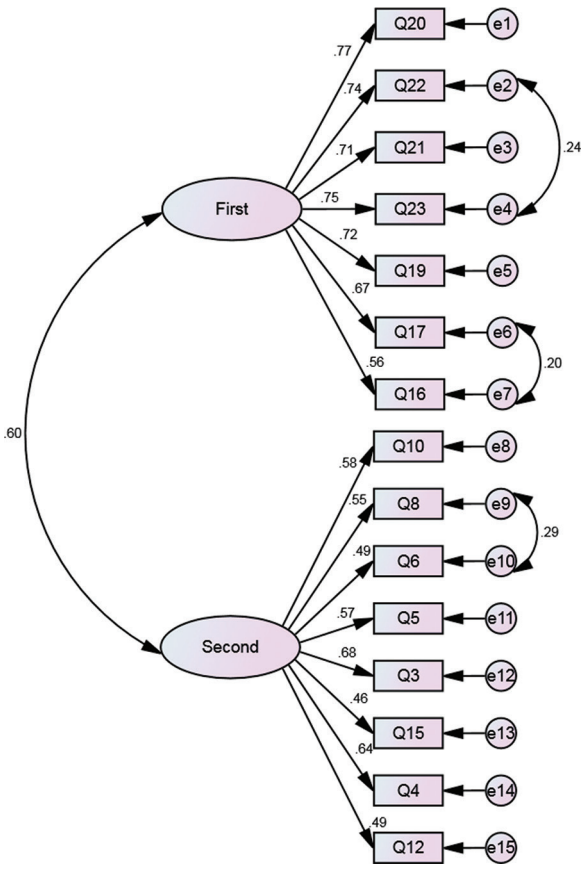

Figure 1. Factor analysis model of faculty incivility questionnaire.

faculty members. This questionnaire was identified as a valid, reliable instrument for assessing incivility in similar studies.[19] The extraction of two factors and variance in this study are per the findings of the tool's designer.[17]

The first factor identified was violent behavior. All 7 items were correlated with their factor. These items[16,17,19–23] illustrate the faculty members' violent behavior. Questions that were related to this factor indicated members' violent behaviors. Items are consistent with violent behaviors in the model of INE. This model describes the continuum of incivility in students and faculty members.[17] The violent behavior in similar studies has been described as a severe level of uncivil behavior.[18]

The results reported by students might be due to several factors, such as the political and religious conditions in Iranian society. Some violent behavior was not appropriate to Iranian culture. These are consistent with the findings reported by other researchers. [19] Cross-cultural studies could also help in identifying the effects of these characteristics.

The second extracted factor was irresponsible behavior. This factor is measured by 8 items of quesstionnatre[3–6,8,10,12,15] that explain the irresponsible behavior well. In the model of incivility in nursing, these behaviors are defined as the end of the spectrum.[17] This factor is equivalent to the mild level of incivility that is identified in similar studies.[18]

Based on factor analysis, the deleted questions included: Q1: Expressing boredom, disinterest, or apathy about the subject matter or course content, Q2: Making rude gestures or nonverbal actions toward others, Q7: Leaving class or other activities, Q9: Canceling class or other activities without informing, Q11: Punishing all the students for one student's behavior, Q13: Unfair grading, Q14: Making rude remarks or being condescending toward others, Q18: Being inaccessible outside of class, Q24: Making threatening remarks about weapons.

These behaviors were not related to two identified factors. These behaviors were not perceived by the participants or were not seen as a problem in nursing education. Threatening statements about weapons were not appropriate to Iranian culture and therefore did not exist among the faculty members. Some of the behaviors appear to conflict with Iranian religious beliefs. Since the delay in entering class, early exiting and cancelling the classes without prior warning and unfair grading are discordant with educational rules, it seems that in this study, educational rules that were observed by faculty members indicated individuals' commitment. It may also be due to the careful supervision of faculty performance by educational administrators. Similar studies have not reported the omission of items[18] that may be due to differences in culture and social and religious conditions in Iran and other communities.

McDonald's omega, CR, and Cronbach's alpha values were >0.7, indicating reliability in three factors. The coefficient alpha in the original version of the tool was similar to our finding.[17] According to the findings, this questionnaire is a reliable and valid instrument. The reliability of the tool in Korean students was also confirmed by Cronbach's alpha coefficient of 0.94.[18] These values for incivility were acceptable.

The faculty members' incivility questionnaire is a self-reporting tool and its results are influenced by the accuracy and honesty of students and faculty, so the answers may be biased. Also, the views of students who participated in the study were different. The Clark study had the same number of students as the present study.[17] In the study of Gagne, similar numbers of students participated.[18] Participants' cultural and social differences are factors that may lead to different data.

A unique trait of INE-R is that the same questionnaire can be responded to by both nursing students and faculties.[17] This research only considers the student's view of faculty incivility, so future research should assess the psychometric evaluation properties of the instrument from both the students' and the faculty's perspectives. It is recommended for use in practice and research and future study can be conducted to measure the validity of this questionnaire in other cultures.

5. Conclusions

The questionnaire on the perceived level of incivility has a proper factorial structure and items have internal consistency. This questionnaire can be used to measure incivility in Iranian society. This comprehensive tool is recommended for identifying and modifying the problem of faculty incivility.

Acknowledgments

The authors thank the students and faculty members of Qom and Iran University of Medical Sciences who contributed to the study.

Ethics approval

This research was approved by the Ethics Committee of Qom University of Medical Sciences (Code of Ethics: IR.MUQ.REC.1396.46).

Conflicts of interest

All contributing authors declare no conflicts of interest.

References

1. Natarajan J, Muliira JK, van der Colff J. Incidence and perception of nursing students' academic incivility in Oman. *BMC Nurs*. 2017;16:19.
2. Clark CM. An evidence-based approach to integrate civility, professionalism, and ethical practice into nursing curricula. *Nurse Educ*. 2017;42:120–126.
3. Rawlins L. Faculty and student incivility in undergraduate nursing education: an integrative review. *J Nurs Educ*. 2017;56:709–716.
4. Mohammadipour M, Hasanvand S, Goudarzi F, Ebrahimzadeh F, Pournia Y. The level and frequency of faculty incivility as perceived by nursing students of Lorestan University of Medical Sciences. *J Med Life*. 2018;11:334–342.
5. Rad M, Ildarabadi E-H, Moharreri F, Moonaghi HK. Causes of incivility in Iranian nursing students: a qualitative study. *Int J Community Based Nurs Midwifery*. 2016;4:47–56.
6. Lasiter S, Marchiondo L, Marchiondo K. Student narratives of faculty incivility. *Nurs Outlook*. 2012;60:121–126.
7. Shanta LL, Eliason AR. Application of an empowerment model to improve civility in nursing education. *Nurse Educ Pract*. 2014;14:82–86.
8. Peters AB. Faculty to faculty incivility: experiences of novice nurse faculty in academia. *J Prof Nurs*. 2014;30:213–227.
9. Eka NGA, Chambers D. Incivility in nursing education: a systematic literature review. *Nurse Educ Pract*. 2019;39:45–54.
10. Muliira JK, Natarajan J, van der Colff J. Nursing faculty academic incivility: perceptions of nursing students and faculty. *BMC Med Educ*. 2017;17:253.
11. Abedini Z, Parvizi S. Student's perceptions of using scenario-based education to improve civility: a mixed method study. *J Adv Med Educ Prof*. 2019;7:165–174.
12. LaSala KB, Wilson V, Sprunk E. Nursing academic administrators' lived experiences with incivility and bullying from faculty: consequences and outcomes demanding action. *Nurs Educ*. 2016;41:120–124.
13. Abedini Z, Parvizy S. The effects of group discussion and self-learning on nursing students' civility. *Iran J Nurs Midwifery Res*. 2019;24:268–273.
14. Del Prato D. Students' voices: the lived experience of faculty incivility as a barrier to professional formation in associate degree nursing education. *Nurse Educ Today*. 2013;33:286–290.
15. Koshy B. *Nursing Students' Perceptions and Lived Experiences with Student to Student Incivility*. Phoenix, AZ: ProQuest Dissertations Publishing, University of Phoenix; 2019.
16. Adams GL. *Evidence-Based Interventions to Address Workplace Violence in the Emergency Department*. Boiling Springs, NC: Gardner-Webb University; 2018.
17. Clark CM, Barbosa-Leiker C, Gill LM, Nguyen D. Revision and psychometric testing of the incivility in nursing education (INE) survey: introducing the INE-R. *J Nurs Educ*. 2015;54:306–315.
18. De Gagne JC, Kang HS, Hyun MS. Psychometric properties of the Korean version of the incivility in nursing education-revised (INE-R) survey. *Nurs Health Sci*. 2016;18:425–434.
19. Al-Jubouri MB, Samson-Akpan P, Jaafar SA. Validity and reliability of the Arabic version of the incivility in nursing education-revised scale. *Int J Nurs Educ Scholarsh*. 2019;16:0074.
20. Masoumpoor A, Abbaszadeh A, Rassouli M, Alavimajd H. Critical review of scales of incivility behaviors in nursing education. *Med Ethics J*. 2017;11:93–102.
21. Kellar SP, Kelvin EA. *Munro's Statistical Methods for Health Care Research*. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins; 2013.
22. Lawshe CH. A quantitative approach to content validity. *Person Psychol* 1975;28:563–575.
23. Soleimani MA, Sharif SP, Allen KA, Yaghoobzadeh A, Nia HS, Gorgulu O. Psychometric properties of the Persian version of spiritual well-being scale in patients with acute myocardial infarction. *J Relig Health*. 2017;56:1981–1997.
24. Javali SB, Gudaganavar NV, Raj SM. Effect of varying sample size in estimation of coefficients of internal consistency. *WebmedCentral BIOSTATISTICS*. 2011;2:WMC001649.