



Translation and validation of the Italian version of the incivility in nursing education-revised scale

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ABSTRACT

Background: Incivility in nursing education is present worldwide and impacts all those involved and the teacher-student relationship. The revised Incivility in Nursing Education (INE-R) is a validated and reliable instrument to measure academic incivility, but it is not available in Italian language. The aim of the study was to translate and validate the INE-R tool with an Italian sample.

Methods: The INE-R was translated from English into Italian, culturally adapted and piloted for content and linguistic clarity. The questionnaire was administered online to Nursing Faculty (NF) and Nursing Students (NS) of Sapienza University of Rome to assess uncivil behaviors and their frequency of occurrence. The psychometric properties of the Italian version were investigated.

Results: 79 Italians participated, of which 63.3 % were NS. Four-factor models provided the best fit for NF and NS scales. The models explained 78.2 % (NF) and 73.2 % (NS) of the variance of the scales. The Root Mean Square Error of Approximation for both models was 0.07, indicating an acceptable fit. INE-R reliability for all 48 NF and NS incivility items was 0.962 and 0.954, respectively. Measuring the degree of incivility and establishing codes of conduct were recommended.

Conclusions: Incivility in nursing education negatively impacts the teaching-learning environment and could cause emotional or physical distress for those involved. Zero-tolerance policy regarding incivility, routine evaluation, and raising awareness among students and faculty could improve the quality of academic settings. The Italian INE-R is a valid and reliable tool that can be used to evaluate incivility in Italian nursing programs.

1. Introduction

Incivility is a growing issue that has been observed globally from elementary school to university. Incivility is defined as any rude speech, action, or behavior that can cause psychological and physiological distress for the individuals involved, which may result in momentary or permanent ailment and damage if incivility is neglected (Clark, 2013a; Clark, 2013b; Clark et al., 2015; Griffin & Clark, 2014). It is also defined as the violation of manners (e.g., yelling, name-calling, vulgar expressions) and deviance from social norms (e.g., threats to democracy and

individual rights) (Knepp, 2012). The importance of a positive environment has been identified in the literature and current studies indicate that uncivil behaviors from one or more parties can negatively impact the classroom environment (Carr et al., 2016; Clark, 2017; Natarajan et al., 2017). A safe teaching and learning environment is essential at all levels of education, as it allows students and teachers to learn and teach efficiently.

Incivility in nursing education is widely documented in research studies conducted in Europe (Hakojärvi et al., 2014; Vuolo, 2018), the United States (Clark, 2008; Clark, 2013b; Clark, 2017), Asia (Kim & Son,

Abbreviations: INE-R, Incivility in Nursing Education-Revised; NF, nursing faculty; NS, nursing students; EFA, Exploratory Factor Analysis; KMO, Kaiser-Meyer-Olkin; RMSEA, Root Mean Square Error of Approximation; MLE, Maximum Likelihood Estimation.

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2016; Natarajan et al., 2017), Africa (Ibrahim & Qalawa, 2016; Vink & Adejumo, 2015), and Australia (Andersen et al., 2019; Courtney-Pratt et al., 2018). Nursing students experience different types of incivility that could be verbal or non-verbal, apparent or difficult to prove. Faculty incivility toward nursing students included lack of professionalism (e.g., late arrival, cancelling classes without prior notice, coming into class unprepared), being unfair and disrespectful (e.g., humiliation, indifference toward the students) and, in the worst case, physical abuse and sexual harassment. The consequences of these behaviors include decreased or loss of motivation, productivity and performance, and physical symptoms (e.g., sleep disorders, fatigue, nervousness, cardiac and abdominal symptoms, overeating or food aversion). Faculty uncivil behavior also provokes retaliation in the students (Zhu et al., 2019). On the other hand, teachers are also concerned about the increased frequency of incivility among nursing students, such as disruptions in class, negative remarks, leaving early or arriving late, using cell phone, verbally discrediting and making threats toward faculty (Burke et al., 2014; Clark, 2008; Ibrahim & Qalawa, 2016; Rawlins, 2017). These behaviors negatively affect all those involved and the teacher-student relationship.

The revised Incivility in Nursing Education (INE-R) Survey is based on the original INE instrument developed in 2004. It has been translated and validated in non-English languages to measure incivility in nursing programs beyond the United States, such as Arabic (Al-Jubouri et al., 2019; Al-Jubouri et al., 2021), Korean (De Gagne et al., 2016), and Persian (Mohammadipour et al., 2018). The INE-R scale is not available in Italian language; therefore, the aim of the study was to translate and validate the INE-R survey instrument with an Italian sample of nursing faculty (NF) and nursing students (NS).

2. Materials and methods

2.1. Survey instrument

The INE-R tool is composed of 48-item, Likert-type questions consisting of 24 student behaviors and 24 faculty behaviors. Respondents were asked to rate the level of incivility of each behavior with a Likert 4 scale (1 = not uncivil, 2 = somewhat uncivil, 3 = moderately uncivil, and 4 = highly uncivil). Respondents were also asked to indicate with a 4-Likert scale (1 = never, 2 = rarely, 3 = sometimes, and 4 = often) how often each behavior occurred in the last 12 months. The tool also includes a question regarding the overall impact of incivility in participants' nursing program and the possible responses were: 1 = no problem at all; 2 = mild problem; 3 = moderate problem; and 4 = serious problem. Respondents were also asked to express their opinions if students or faculties were more likely to engage in uncivil behavior; possible responses were: 1 = faculty members are much more likely; 2 = faculty members are a little more likely; 3 = about equal; 4 = Students are a little more likely; and 5 = Students are much more likely. Furthermore, respondents were asked to rate the level of civility in their department or nursing program on a scale of 0–100, where 0 is the absence of civility and 100 is completely civil. In addition, they were asked to choose three strategies they considered most relevant, from a list of 10 strategies, to improve the level of civility in nursing education. They could also suggest additional approaches to enhance the level of civility. The INE-R tool also required three examples of uncivil behaviors that occurred in the presence of the respondent in the last 12 months. The last three questions were about the main reasons of incivility in nursing education, the most important consequences of uncivil acts, and the most effective way to promote civil behavior in academic settings. Socio-demographic data (age, sex, marital status, country of origin, country of living, educational level of students and faculty, years of teaching experience and the academic position of faculty staff) were also collected.

2.2. Translation process

The translation of the INE-R questionnaire from English into Italian language was performed after obtaining permission from the developers and following the recommendations of the Task Force for Translation and Cultural Adaptation of the International Society for Pharmacoeconomics and Outcomes Research (Wild et al., 2005). The translation process included nine steps reported below; the step entitled 'harmonizing the back-translation in different languages' was omitted given that only one language was considered in the study.

- 1) Preparation: obtaining authorization from the authors of the original questionnaire in English prior to the translation process;
- 2) Forward translation: translation of the survey instrument into Italian performed independently by two medical researchers (a native English speaker and a native Italian speaker);
- 3) Reconciliation: comparison and integration of the two forward translations into a single version by the members of the research team who are fluent in the two languages. Discrepancies were discussed and solved, and the first draft of the Italian version was established;
- 4) Back translation: translation of the first draft of the Italian version of the questionnaire into English by a native English speaker;
- 5) Review of the back translation: comparison of the back translated version of the instrument with the original to investigate and resolve discrepancies;
- 6) Cognitive debriefing: piloting the final Italian version of the questionnaire to check comprehensibility, interpretation, and cultural appropriateness of the translation; 27 participants from nursing courses were involved in this step;
- 7) Review of cognitive debriefing: analysis and utilization of the data collected from the cognitive debriefing to modify the questionnaire;
- 8) Proof reading: final review of the translation to correct any typographic, grammatical or any other errors;
- 9) Final report: the development of each version of the translation was documented.

2.3. Study population

The cross-sectional study addressed NF and NS at Sapienza University of Rome. The inclusion criteria were:

- i) NF were professors of nursing or other disciplines who held an academic position in nursing courses (i.e., full professor, associate professor, assistant professor) and had a master's (second degree) or doctorate degree in nursing, or an equivalent degree;
- ii) NS attending bachelor or master (first degree) courses, from first to last course year.

NF and NS who did not provide consent to participate in the study were excluded, as well as faculty without the required degrees and visiting or guest students. Considering the busy and tight nursing schedule, which includes internships at the university hospital, a convenience sample was suitable for data collection. Moreover, there are over 30 nursing courses at Sapienza University held in different locations and with different scheduling arrangements and some NS were also employed in health facilities, hence involving most participants could have been cumbersome. The aim was to obtain a large enough sample size ($n \geq 30$) to be able to use inferential statistics, that relies on the central limit theorem and the related law of large numbers (Mascha & Vetter, 2018).

An invitation letter, containing the link to the online survey, was sent to the contact emails of 90 NF and 227 NS from 6/34 nursing courses available at Sapienza University. The invitees were asked to forward the

invitation mail to their peers. The questionnaire was administered online through Google Forms from October 2019 to February 2020. The survey was interrupted during the Covid-19 pandemic as classes were held only online and the questionnaire evaluates faculty members' and students' behaviors that occurred during face-to-face classes. Data collection resumed in the period November 2021–May 2022.

2.4. Ethical considerations

The Institutional Review Board 'Lazio 1' of San Camillo Forlanini Hospital in Rome approved the study (Prot. N. 238/CE Lazio 1). The informed consent form was included in the invitation letter and administered as the online questionnaire's first page. The form gave information about the study's objective, procedure, confidentiality, and contact information of the research coordinators. Participants were informed that if they chose to participate, data anonymization would be applied to their responses to assure privacy. The participants indicated that they agreed to participate in the study by compiling and submitting the questionnaire.

2.5. Statistical analysis

Descriptive statistics including frequencies, percentages, means, and standard deviations (SD) were used to analyze socio-demographic data, as well as faculty and students' perceptions of academic incivility. The Chi-square test was used to evaluate the differences between NS and NF perceptions of academic incivility. A p -value < 0.05 (two tailed) was deemed significant.

The reliability (i.e., the extent to which a measurement instrument yields consistent results after repeated trials) of the Italian version of the INE-R scale was assessed using Cronbach's alpha. A value of Cronbach's alpha higher than 0.80 was considered very good (Cronbach, 1951).

The construct validity of the tool (i.e., the degree to which a measurement method accurately assesses the intended construct or characteristic) was examined using Exploratory Factor Analysis (EFA), which is a statistical method used to identify underlying variables, or factors, that explain the pattern of correlations within a set of observed variables. To assess the suitability of the data for EFA, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity were used. KMO values ranging between 0.80 and 1.00 indicate sampling adequacy (Cerny & Kaiser, 1977), while significant results of the Bartlett's test ($p < 0.05$) indicate that variables in the correlation matrix are suitable for factor analysis (Bartlett, 1950). The optimal number of factors to retain in EFA was determined with the scree plot and the Root Mean Square Error of Approximation (RMSEA). The scree plot is a two-dimensional graph with factors on the x-axis and eigenvalues on the y-axis. The point at which the line graph begins to flatten indicates the number of factors to retain in an EFA. RMSEA estimates the discrepancy between the model Chi-square goodness-of-fit statistic and the degrees of freedom. Its formula is:

$$\sqrt{\frac{\chi^2 - df}{df(n-1)}}$$

where χ^2 = Chi-square, n = sample size, and df = degrees of freedom of the model. RMSEA values < 0.05 indicate good fit, from 0.05 to 0.08 acceptable fit, from 0.08 to 0.10 marginal fit, and values > 0.10 indicate poor fit (Browne & Cudeck, 1992).

The extraction method was Maximum Likelihood Estimation (MLE) with oblique Promax rotation that allows factors to be correlated; a cut off value of 0.40 was applied. Statistical analysis was performed with

SPSS version 28.0 for Windows (SPSS Inc. Chicago, Illinois, USA).

3. Results

3.1. Characteristics of the sample

The sample is composed of 79 Italian respondents, of which 29 (36.7 %) were NF with a mean age of 48.34 (SD = 13.25). The majority of NF were male (51.7 %), married (69 %), had a bachelor or master's degree (58.6 %) and 11–20 years of teaching experience (40 %). Regarding academic position, most NF were professors with PhD (57.9 %) and associate professors (31.6 %).

The nursing students (NS) were 50 (63.3 %), with a mean age of 29.92 (SD = 8.61). Most NS were female (72.0 %), single (74.0 %), and attended the second year of a bachelor degree (41.9 %) or master's degree course (32.3 %). The socio-demographic characteristics of the sample are presented in Supplementary Table 1.

3.2. Faculty uncivil behavior scale

Highly uncivil faculty behaviors according to the majority of NF or NS participants (≥ 51 %) are reported in Fig. 1. Most NF perceived the following faculty behaviors as highly uncivil: 'Being unprepared for class or other scheduled activities' ($p = 0.04$); 'Punishing the entire class for one student's misbehavior' ($p = 0.04$); 'Being unavailable outside of class (not returning calls or e-mails, not maintaining office hours)' ($p = 0.006$); 'Property damage' ($p = 0.02$); and 'Making threatening statements about weapons' ($p = 0.01$). Regarding the frequency of occurrence, NF uncivil behaviors rated as 'often' by at least 20 % of the participants were considered significant as most uncivil actions had a low incidence. The most frequent uncivil NF behaviors encountered in the last 12 months, especially by NS participants, were 'Cancelling class or other scheduled activities without warning' ($p < 0.001$); 'Arriving late for class or other scheduled activities' ($p = 0.06$); 'Ineffective or inefficient teaching method (deviating from course syllabus, changing assignment or test dates)' ($p = 0.03$); 'Leaving class or other scheduled activities early' ($p = 0.21$); and 'Using a computer, mobile telephone, or another media device in faculty meetings, committee meetings, or other work activities for unrelated purposes' ($p = 0.76$).

3.3. Student uncivil behavior scale

Students' behaviors rated as highly uncivil by the majority of the participants are depicted in Fig. 2. Statistically significant differences in participants responses were observed for 'Making rude gestures or nonverbal behaviors toward others (e.g., eye rolling, finger pointing)' ($p = 0.03$); 'Property damage' ($p = 0.04$); and 'Making threatening statements about weapons' ($p = 0.04$), which were considered highly uncivil mostly by NF. Although not among the top ranking uncivil behaviors, 'Leaving class or other scheduled activities early' was considered moderately uncivil mostly by NS (42 % vs 37.9 %) and highly uncivil mostly by NF (44.8 % vs 16 %) ($p = 0.02$). The incidence of most NS uncivil behavior was low. The most frequent uncivil behaviors encountered in the last 12 months by at least 20 % of NF or NS were 'Expressing disinterest, boredom, or apathy about course content or subject matter' ($p = 0.34$); 'Arriving late for class or other scheduled activities' ($p = 0.25$); and 'Holding side conversations that distract you or others' ($p = 0.01$).

3.4. Overall considerations about academic incivility

Most participants (40.5 %) considered academic incivility a mild

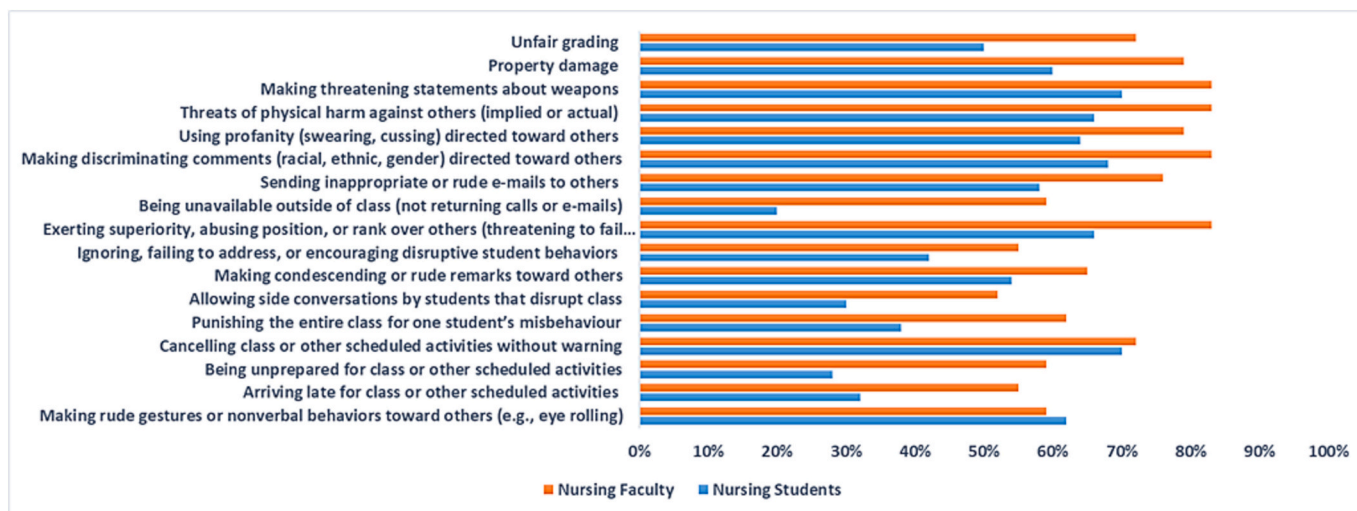


Fig. 1. Faculty behaviors perceived as highly uncivil by nursing faculty and students.

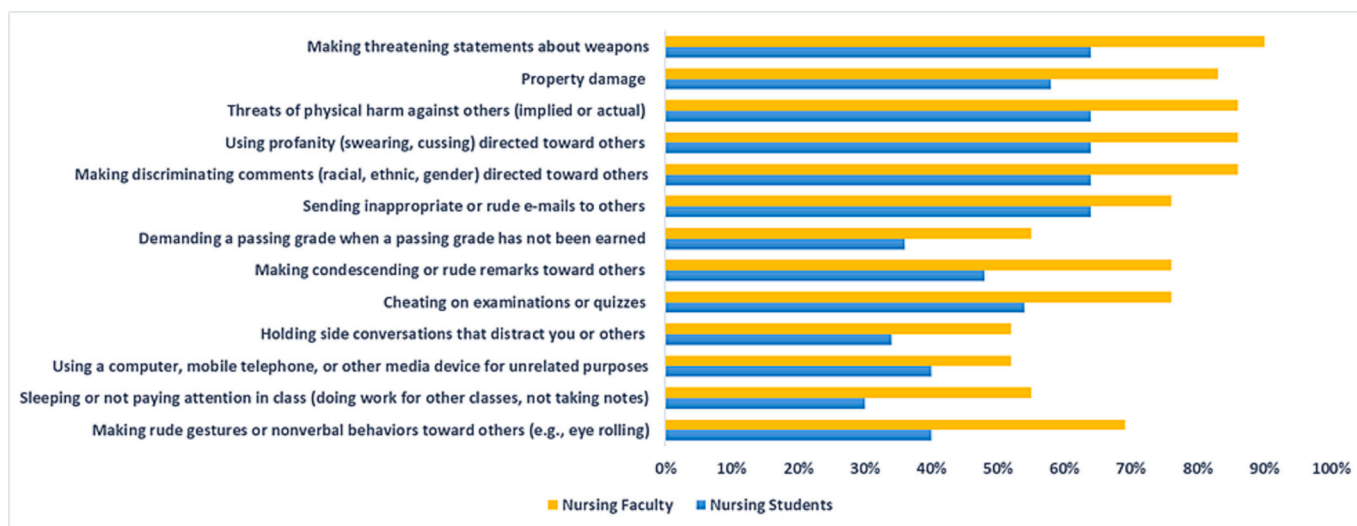


Fig. 2. Students' behaviors perceived as highly uncivil by nursing faculty and students.

problem in their department/nursing program and declared that both faculty and students were likely to engage in uncivil behaviors (54.4 %). The level of civility at their department/nursing program was rated on average 62.2 % (SD = 29.3).

The top three strategies that could improve the level of academic civility, according to all respondents are:

- i) use of empirical tools (e.g., surveys) to measure the degree of incivility/civility and address strengths/weaknesses (31.6 %);
- ii) establish codes of conduct that define acceptable and unacceptable behaviors (32.9 %);
- iii) provide models/examples of professionalism and civility (22.8 %).

No responses by participant status were statistically significant.

The main reasons or causes of academic incivility stated by the respondents were lack of culture, education or disciplinary training; NF and NS disinterest; NF unpreparedness, inexperience, work overload and sense of superiority. The participants also declared that the consequences of such behaviors are students' poor performance, low self-esteem and sense of helplessness. Participants were aware that incivility affects the quality of the teaching course, as well as the NF and NS relationship.

3.5. Validity

The KMO measure of sampling adequacy for faculty behavior was 0.939, and the Bartlett's test of sphericity was $\chi^2 = 2692.198$ ($p < 0.001$), indicating that EFA could be performed. MLE with Promax rotation gave a four-factor model explaining 78.2 % of the variance. The RMSEA for the four-factor model resulted in 0.07, suggesting an acceptable fit. Factor 1 (Table 1) comprised 6 items (factor loading range: 0.913–0.989), which explained 62.8 % of the variance; Factor 2 included 8 items (factor loading range: 0.439–0.801), explaining 10.4 % of the variance; Factor 3 included 4 items (factor loading range: 0.602–0.931), describing 3.4 % of the variance; and Factor 4 comprised 6 items (factor loading range: 0.415–0.507), explaining 1.5 % of the variance. Item 11a cross-loaded to factors 2 (0.439) and 4 (0.415).

A four-factor model was also obtained for students' behaviors (Table 2), which explained 73.2 % of the variance. The KMO measure of sampling adequacy resulted in 0.908 while the Bartlett's test of sphericity was $\chi^2 = 2186.152$ ($p < 0.001$). The RMSEA value of 0.07 indicated an acceptable fit. As shown in Table 2, Factor 1 included 7 items (factor loading range: 0.421–1.123), describing 47.6 % of the variance. Factor 2 comprised 12 items (factor loading range: 0.434–0.966), which explained 19.2 % of the variance. Two items loaded in Factor 3 with

Table 1

Factor loadings for the four-factor model of the Italian version of the INE-R survey for faculty behaviors.

Item	Faculty uncivil behavior	Factor 1	Factor 2	Factor 3	Factor 4
1a	Expressing disinterest, boredom, or apathy about course content or subject matter				
2a	Making rude gestures or nonverbal behaviors toward others (e.g., eye rolling, finger pointing)				0.488
3a	Ineffective or inefficient teaching method (deviating from course syllabus, changing assignment or test dates)			0.756	
4a	Refusing or reluctant to answer direct questions		0.464		
5a	Using a computer, mobile telephone, or another media device in faculty meetings, committee meetings, or other work activities for unrelated purposes				0.422
6a	Arriving late for class or other scheduled activities		0.754		
7a	Leaving class or other scheduled activities early		0.726		
8a	Being unprepared for class or other scheduled activities		0.801		
9a	Cancelling class or other scheduled activities without warning			0.7	
10a	Being distant and cold toward others (unapproachable, rejecting student's opinions)		0.786		
11a	Punishing the entire class for one student's misbehavior		0.439		0.415
12a	Allowing side conversations by students that disrupt class		0.694		
13a	Unfair grading			0.931	
14a	Making condescending or rude remarks toward others				0.507
15a	Refusing to discuss make-up examinations, extensions, or grade changes				0.448
16a	Ignoring, failing to address, or encouraging disruptive student behaviors				0.451
17a	Exerting superiority, abusing position, or rank over others (e.g., arbitrarily threatening to fail students)			0.602	
18a	Being unavailable outside of class (not returning calls or e-mails, not maintaining office hours)		0.602		
19a	Sending inappropriate or rude e-mails to others	0.918			
20a	Making discriminating comments (racial, ethnic, gender) directed toward others	0.913			
21a	Using profanity (swearing, cussing) directed toward others	0.962			
22a	Threats of physical harm against others (implied or actual)	0.989			
23a	Property damage	0.977			
24a	Making threatening statements about weapons	0.964			

factor loadings of 0.569 and 0.708, describing 3.7 % of the variance. Factor 4 also comprised 2 items, with factor loadings of 0.886 and 0.637, describing 2.6 % of the variance.

Table 2

Factor loadings for the four-factor model of the Italian version of the INE-R survey for student behaviors.

Item	Student uncivil behavior	Factor 1	Factor 2	Factor 3	Factor 4
a1	Expressing disinterest, boredom, or apathy about course content or subject matter		0.553		
a2	Making rude gestures or nonverbal behaviors toward others (e.g., eye rolling, finger pointing)		0.455		
a3	Sleeping or not paying attention in class (doing work for other classes, not taking notes)		0.813		
a4	Refusing or reluctant to answer direct questions				
a5	Using a computer, mobile telephone, or other media device in a class, meeting, or activity for unrelated purposes		0.966		
a6	Arriving late for class or other scheduled activities		0.833		
a7	Leaving class or other scheduled activities early		0.701		
a8	Being unprepared for class or other scheduled activities			0.569	
a9	Skipping class or other scheduled activities			0.708	
a10	Being distant and cold toward others (unapproachable, rejecting faculty or other student's opinions)				0.886
a11	Creating tension by dominating class discussion				0.637
a12	Holding side conversations that distract you or others		0.698		
a13	Cheating on examinations or quizzes		0.806		
a14	Making condescending or rude remarks toward others	0.421			
a15	Demanding make-up examinations, extensions, or other special favours		0.434		
a16	Ignoring, failing to address, or encouraging disruptive behaviors by classmates		0.532		
a17	Demanding a passing grade when a passing grade has not been earned		0.698		
a18	Being unresponsive to e-mails or other communications				
a19	Sending inappropriate or rude e-mails to others	0.627	0.444		
a20	Making discriminating comments (racial, ethnic, gender) directed toward others	0.95			
a21	Using profanity (swearing, cussing) directed toward others	1.067			
a22	Threats of physical harm against others (implied or actual)	1.078			
a23	Property damage	0.999			
a24	Making threatening statements about weapons	1.123			

3.6. Reliability

Reliability of the Italian version of the INE-R was tested with Cronbach's alpha. The rating scale related to the perception of NF uncivil behaviors achieved a Cronbach's alpha of 0.980, and it would not be <0.978 if any item was removed. The rating scale related to the frequency of NF uncivil behaviors that have occurred over the past 12 months presented a Cronbach's alpha of 0.959; the value would not drop

Table 3
Cronbach's alpha for items related to nursing faculty behaviors and their frequency of occurrence.

Item-total statistics									
Faculty behavior	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Cronbach's alpha if item deleted	Frequency of occurrence	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Cronbach's alpha if item deleted
1a	72.43	412.485	0.641	0.980	1b	43.34	245.561	0.652	0.958
2a	71.79	406.614	0.792	0.979	2b	43.70	244.804	0.640	0.958
3a	71.95	409.576	0.764	0.979	3b	43.09	244.518	0.588	0.959
4a	72.13	405.667	0.791	0.979	4b	43.75	244.063	0.774	0.957
5a	72.09	413.215	0.646	0.980	5b	43.29	239.901	0.735	0.957
6a	71.92	415.783	0.706	0.980	6b	42.87	241.650	0.716	0.957
7a	72.47	416.963	0.551	0.980	7b	43.18	239.327	0.741	0.957
8a	72.22	402.016	0.822	0.979	8b	43.66	242.125	0.748	0.957
9a	71.57	410.643	0.812	0.979	9b	43.11	238.025	0.697	0.957
10a	72.25	405.215	0.796	0.979	10b	43.59	241.321	0.724	0.957
11a	72.1	402.91	0.800	0.979	11b	43.86	237.557	0.784	0.956
12a	72.09	406.321	0.811	0.979	12b	43.54	241.251	0.655	0.958
13a	71.75	411.162	0.734	0.979	13b	43.28	238.793	0.760	0.957
14a	71.81	403.133	0.895	0.978	14b	43.73	239.275	0.810	0.956
15a	72.01	406.46	0.846	0.979	15b	43.70	240.676	0.751	0.957
16a	71.96	402.485	0.893	0.978	16b	43.84	242.703	0.743	0.957
17a	71.62	403.501	0.901	0.978	17b	43.73	240.249	0.715	0.957
18a	72.16	408.37	0.756	0.979	18b	43.57	240.633	0.708	0.957
19a	71.88	394.684	0.916	0.978	19b	44.30	251.548	0.606	0.958
20a	71.73	398.359	0.892	0.978	20b	44.06	245.932	0.679	0.957
21a	71.79	395.904	0.909	0.978	21b	44.23	248.537	0.673	0.958
22a	71.79	394.193	0.912	0.978	22b	44.32	250.681	0.615	0.958
23a	71.82	396.23	0.906	0.978	23b	44.30	253.727	0.485	0.959
24a	71.75	395.557	0.912	0.978	24b	44.34	250.997	0.576	0.958

Table 4
Cronbach's alpha for items related to nursing student behaviors and their frequency of occurrence.

Item-total statistics									
Student behavior	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Cronbach's alpha if item deleted	Frequency of occurrence	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Cronbach's alpha if item deleted
a1	70.58	294.772	0.673	0.965	b1	43.38	168.444	0.643	0.944
a2	70.23	286.313	0.841	0.964	b2	44.19	172.156	0.552	0.945
a3	70.30	291.765	0.774	0.964	b3	43.63	165.338	0.749	0.942
a4	70.69	291.586	0.729	0.965	b4	44.11	167.692	0.714	0.943
a5	70.25	293.294	0.718	0.965	b5	43.42	168.451	0.619	0.944
a6	70.43	295.038	0.697	0.965	b6	43.28	165.537	0.739	0.942
a7	70.55	295.172	0.649	0.966	b7	43.39	166.344	0.775	0.942
a8	70.82	293.282	0.671	0.965	b8	43.66	169.818	0.601	0.944
a9	70.79	299.351	0.510	0.967	b9	43.38	169.674	0.634	0.944
a10	70.77	292.839	0.634	0.966	b10	44.09	169.313	0.614	0.944
a11	70.35	289.441	0.773	0.964	b11	44.33	168.608	0.691	0.943
a12	70.27	292.043	0.782	0.964	b12	43.63	162.799	0.749	0.942
a13	70.01	290.987	0.756	0.965	b13	44.13	171.471	0.527	0.945
a14	70.03	289.973	0.828	0.964	b14	44.38	166.598	0.795	0.942
a15	71.17	303.958	0.328	0.968	b15	43.84	174.549	0.395	0.947
a16	70.30	288.028	0.798	0.964	b16	44.16	168.037	0.626	0.944
a17	70.34	290.911	0.695	0.965	b17	44.27	168.864	0.692	0.943
a18	70.44	289.092	0.789	0.964	b18	44.27	169.659	0.667	0.943
a19	70.04	285.801	0.819	0.964	b19	44.65	174.539	0.515	0.945
a20	69.95	288.234	0.815	0.964	b20	44.57	169.633	0.646	0.944
a21	69.99	286.250	0.822	0.964	b21	44.67	172.044	0.662	0.944
a22	69.97	286.868	0.803	0.964	b22	44.77	176.306	0.520	0.945
a23	70.03	288.289	0.765	0.965	b23	44.76	175.647	0.516	0.945
a24	69.97	287.920	0.762	0.965	b24	44.76	174.698	0.538	0.945

<0.957 if any item was deleted (Table 3). The overall Cronbach's alpha for all 48 items, both NF rating scales, was 0.962, and would not be <0.961 if any item was removed.

When the two NS scales were presented separately, the behavior scale achieved a Cronbach's alpha of 0.966 (0.964 if any item was removed), which was higher than the alpha value of 0.946 for the frequency scale (0.942 if any item was deleted) (Table 4). The total rating scale for NS uncivil behaviors and their frequency of occurrence resulted in an alpha of 0.954, and would not drop <0.952 if any item was

deleted.

The reliability of the scale concerning NF socio-demographic characteristics presented a Cronbach's alpha of 0.600 on six items (sex, age, marital status, educational level, academic position, and years of teaching experience). The scale related to NS socio-demographic characteristics achieved the highest alpha value of 0.671 on three items (sex, age, and marital status).

4. Discussion

The English version of the INE-R is a reliable and valid scale for the assessment of incivility in nursing education. However, it is not available for all non-English speakers, and this could limit its applicability. Therefore, the current study assessed the validity and reliability of the Italian version of the INE-R. Considering that values of Cronbach's alpha between 0.50 and 0.70 are acceptable (Nunnally, 1978) and values over 0.80 are considered very good (Cronbach, 1951), the current findings indicate that the Italian version of the INE-R is a reliable tool that can be used to assess incivility among NF and NS in Italy. This is possible regardless of their demographics such as sex, age, marital status, or NF educational level, academic position, and years of teaching experience. The Cronbach's alpha of the Italian version is comparable to the English (Clark et al., 2015), Korean (De Gagne et al., 2016), Arabic (Al-Jubouri et al., 2019; Al-Jubouri et al., 2021), and Persian (Mohammadipour et al., 2018) versions.

The construct validity of the survey tool was assessed with EFA, rendering a four factor-model, which described over 70 % of the variance in the NF and NS behavior scales. The KMO indices and the p-value of the Bartlett's test of sphericity of the current study are comparable to those reported for the Arabic (Al-Jubouri et al., 2019; Al-Jubouri et al., 2021) and Korean versions (De Gagne et al., 2016), supporting the use of EFA. A four-factor model was also identified for faculty items in the Arabic version (Al-Jubouri et al., 2021), while a five-factor model described student items (Al-Jubouri et al., 2019). Compared to the Italian version, both Arabic models explained to a lesser extent the variance of the rating scales: 65 % and 53 %, respectively. Likewise, the Korean four-factor model for student items and the two-factor model for faculty items described about 65 % of the variance of each rating scale (De Gagne et al., 2016). These findings support the use of the tool in different languages among nursing faculty and students. However, the construct validity of the Persian version was not reported (Mohammadipour et al., 2018).

The strength of the Italian tool is the evaluation of both faculty and student incivility items by NF and NS samples in the same study, as performed in the original English version (Clark et al., 2015). The Korean (De Gagne et al., 2016) and the Persian (Mohammadipour et al., 2018) versions used only a student sample; the first assessed both faculty and student uncivil behaviors while the latter assessed only faculty uncivil behaviors. The Arabic INE-R was evaluated in two studies for NS items using a student sample (Al-Jubouri et al., 2019) and for NF items with a faculty sample (Al-Jubouri et al., 2021). Therefore, NF and NS uncivil behaviors were assessed only by their respective peers.

In terms of implications for practice and future research, the strength of the present study is the provision of a validated tool for the evaluation of incivility in nursing education, which is still little studied in Italy. In particular, it could be studied in relation to the widespread and worrying phenomenon of students dropping out of nursing degree courses and the consequent professional shortage.

The Italian participants indicated several NF and NS highly uncivil behaviors that could lead to unprepared and unmotivated health professionals. Faculty and students had in common eight actions considered as the most highly uncivil, regardless of the status of the perpetrator: 'Making rude gestures or nonverbal behaviors toward others (e.g., eye rolling, finger pointing); Allowing/holding side conversations by students that disrupt class; Making condescending or rude remarks toward others; Making discriminating comments (racial, ethnic, gender) directed toward others; Using profanity (swearing, cussing) directed toward others; Threats of physical harm against others (implied or actual); Property damage'; and 'Making threatening statements about weapons'. These actions have also been classified by American respondents as higher-level of incivility (Clark et al., 2015). Similar observations have been reported in the Arabic (Al-Jubouri et al., 2019; Al-Jubouri et al., 2021) and Korean studies (De Gagne et al., 2016), indicating that high-level academic incivility can be encountered worldwide and could be perpetrated by

faculty members or students. Incivility in higher education needs to be addressed swiftly with specific strategies, such as integrating Ethics and Civic courses in nursing programs; establishing codes of conducts; providing role models of professionalism and civility; routine evaluation of the degree of incivility/civility and rewarding virtuous behaviors.

4.1. Limitations of the study

This study presents some limitations that need to be stressed. First, the convenience sample used in the study is not fully representative of the Italian nursing population. However, considering that the nursing population is frequently engaged outside the campus for practical training, different scheduling arrangements of the courses held at multiple locations and their employment status, a convenience sampling method was deemed appropriate for this study. In addition, convenience sampling is commonly used in validation studies (Al-Jubouri et al., 2019; Al-Jubouri et al., 2021; Clark et al., 2015; De Gagne et al., 2016). Second, the small sample size may have affected the survey findings. This is related to the Covid-19 pandemic that caused the interruption of face-to-face classes; hence, the survey had to be discontinued for almost two years. Most classes were still held online when data collection resumed in late 2021, affecting participation in the survey. Since this is the validation study of the INE-R tool in Italian, and not a prevalence study, this limitation has less impact on the results of the study. Third, the sample was composed of only Italian participants; hence, the perceptions of non-Italian students and faculty about academic incivility were not captured. A more diverse sample is recommended to compare perceptions of uncivil behaviors in an Italian setting according to ethnicity. Future studies using the Italian INE-R tool should be based on a larger sample of nursing faculty and students from different Italian Universities and Regions. This would enable comparison of findings across the country and the identification of regional/cultural factors associated with perceptions of incivility in Italian nursing programs.

5. Conclusion

This study provides evidence of validity and reliability of the Italian INE-R instrument among nursing faculty and students. Implementing this instrument across Italian nursing schools would highlight uncivil behaviors that could be approached successfully, contributing to a healthy working and learning environment. As stated by a study participant:

'Polite behavior is important to the success of any profession, but in the field of nursing it becomes the dominant characteristic. Without civil behavior it is - in fact - impossible to help a person in difficulty, which should be the nurse's primary mission'.

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Informed consent

Informed consent was obtained from all individuals included in the study.

CRedit authorship contribution statement

Brigid Unim: Conceptualization, Methodology, Project administration, Formal analysis, Writing - Original Draft, Writing - Review & Editing;

Marco Santini: Conceptualization, Methodology, Data Curation, Writing - Review & Editing;

Roberto Latina: Investigation, Validation, Visualization, Writing - Review & Editing;

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Marzia Nicoli: Investigation, Writing - Review & Editing;

Maria Sofia Cattaruzza: Conceptualization, Methodology, Supervision, Writing - Original Draft, Writing - Review & Editing.

We confirm that the manuscript has been read and approved by all named authors and that there are no other persons who satisfied the criteria for authorship.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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