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Assessing Measurement Quality of Multidimensional Classroom Incivility Scale in Higher Education

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This study examined the reliability and validity of a measure of classroom incivility within an Indonesian context. Data were collected from 334 participants through two stages of online questionnaire distribution. The measurement quality was evaluated through seven stages of partial least squares confirmatory composite analysis (PLS-CCA). Our findings confirm the multidimensionality of classroom incivility (class disruption, disrespectful communication, integrity violation, and use of the cell phone). In addition, all sub-scales of classroom incivility were negatively related to civility and prosocial behavior, and no significant difference was found between male and female students. Higher education institutions in Indonesia can use this instrument as a supplementary tool to evaluate the level of classroom incivility. We also discuss its practical implications in educational settings in general and offer suggestions for future research on classroom incivility in non-Western countries.

Keywords: classroom incivility, higher education, scale development, Indonesia, PLS-CCA

INTRODUCTION

Over the last two decades, there has been increasing attention to the global issue of incivility in people's lives. Porath and Pearson (2013) report that 98% of employees in the United States experience disrespectful behavior, with half of the respondents saying the experience occurs every week. As opposed to civility, uncivil behavior is "characteristically rude and discourteous, displaying a lack of regard for others" (Andersson and Pearson, 1999, p. 475). In line with the work environment, the education sector also experiences such problems (Feldmann, 2001; Alexander-Snow, 2004). Recently, faculty have seen an increase in inappropriate behavior by students, including coming to class late or leaving early, sleeping, using cell phones during class, and speaking discourteously in class (Knepp, 2012; Cahyadi et al., 2021).

The education sector's attention to uncivil behavior has dramatically increased over the last ten years. Incivility in the educational environment is believed to cause bad experiences for both individuals and groups (Welbourne et al., 2020; Cahyadi et al., 2021; Spadafora and Volk, 2021). In the short term, the experience of uncivil behavior can reduce learning engagement (Cahyadi et al., 2021); and increased emotional exhaustion and burnout (Bai et al., 2020; Welbourne et al., 2020; Al-Jubouri et al., 2021). However, the long-term effects can reduce academic achievement (Al-Jubouri et al., 2021). Therefore, researchers try to understand the nature of incivility in some depth to facilitate preventing adverse effects on a harmonious learning environment for students and teachers (Feldmann, 2001; Marini, 2009; Spadafora et al., 2016).

Previous research has emphasized understanding the forms and types of incivility in the educational environment, including the classroom. However, the most challenging problem for this research field is the cultural bias in behaviors and attitudes considered civil or uncivil. Many researchers across countries provide different conclusions on uncivil behavior (Bjorklund and Rehling, 2009; Marini, 2009; Farrell et al., 2015; Al-Jubouri et al., 2021; Cahyadi et al., 2021); as a consequence, researchers have used various instruments to assess classroom incivility that ranges from unidimensional (Bjorklund and Rehling, 2009; Weger, 2018) to multidimensional (Marini, 2009; Farrell et al., 2015; Spadafora et al., 2016; Chory and Offstein, 2017; Turnipseed and Landay, 2018; Cahyadi et al., 2021; Spadafora and Volk, 2021). In reviewing these scales, we found that many of which “local” properties were individuals’ backgrounds, including culture, community, region, and family (Eka and Chambers, 2019; Al-Jubouri et al., 2021), personality, and social value (Turnipseed and Landay, 2018; Cahyadi et al., 2021) determine whether behavior can be locally declared “uncivil” or “civil.” Thus, some recent studies’ measurement of uncivil behavior does not have a general agreement and can be constructed from different test structures and components.

The current study aimed to validate a measure of classroom incivility behavior in a sample of undergraduate students in Indonesia. Thus, we contribute to research on incivility in the Asian educational environment. First, the majority of the existing classroom incivility scales are based on western cultures (Marini, 2009; Farrell et al., 2015; Spadafora et al., 2016; Chory and Offstein, 2017; Turnipseed and Landay, 2018; Spadafora and Volk, 2021). Since uncivil behavior has a cultural bias, it is possible that actions that are considered uncivilized in a Western class may not be considered uncivilized in an Eastern class and vice versa (Spadafora and Volk, 2021). For example, using the left hand for various activities (e.g., eating, giving something to another person, shaking hands) is considered disrespectful in Indonesian culture and may be considered normal behavior in western countries. Another difference that needs to be addressed is that some items developed by previous researchers do not seem relevant to Indonesian culture. For example, Farrell et al. (2015) and Spadafora and Volk (2021) identify “calling classmate names” as intentionally uncivil behavior, but in Indonesian culture first names are expected to be used as common nicknames. Thus, our study contributes to identifying uncivil behavior in the context of eastern culture, especially in Indonesia.

Second, we were interested in re-examining the four-dimensional model of classroom incivility captured by a previous study (Cahyadi et al., 2021). The current study aims to address the weaknesses of that study, which only focused on the validity of the structure without considering the related issue of validity by comparing the developed scale with a related scale. For this purpose, we expected to establish predictive validity by correlating the emerging subscales of classroom incivility with the workgroup climate for civility and prosocial behavior (Goodman-Delahunty, 1999; Walsh et al., 2012).

Third, a time-lag approach in data collection and a partial least squares confirmatory composite analysis (PLS-CCA) were applied to test the quality of the measurement models

(Hair et al., 2020). PLS-CCA has the advantage of developing and validating measures after the initial study stage within a nomological network (Hair et al., 2020, p. 101). As it is a new method initiated by Hair et al. (2020), PLS-CCA has only been applied in a few studies to test the quality of measurement models in PLS-SEM. Hence, our study conducts new empirical research applying PLS-CCA as an alternative to confirmatory factor analysis (CFA) methods.

PREVIOUS MEASURES OF CLASSROOM INCIVILITY

Uncivil behavior in education environment it is generally defined as “disregard and insolence for others, causing an atmosphere of disrespect, conflict, and stress” (Clark, 2008). More broadly, classroom incivility includes various forms of behavior (e.g., speech or action) that have the potential of disrupting harmonious learning environments (Feldmann, 2001). More specifically, Feldmann conceptualized uncivil classroom behaviors as comprising four types, including annoyances (e.g., allowing a cell phone to ring, talking or text-messaging, reading anything outside of the school required reading materials, doing homework for other subjects), classroom “terrorism” (intolerance of others’ opinions, monopolizing class time by raising irrelevant topics), intimidation (e.g., complaining about an instructor to a department head or dean, writing unwarranted negative feedback on an instructor’s teaching evaluation), and enacted or threatened violence toward others.

Several instruments have been used to assess classroom incivility, ranging from unidimensional (Bjorklund and Rehling, 2009) to multidimensional (Connelly, 2009; Marini, 2009; Farrell et al., 2015; Chory and Offstein, 2017; Turnipseed and Landay, 2018). Global uncivil behavior from The Survey of Academic Incivility developed by Indiana University is widely used tool to assess college students’ perception of incivility (Bjorklund and Rehling, 2009; Nordstrom et al., 2009; McKinne and Martin, 2010; Weger, 2018). This scale included 25 student behaviors in class categorized as uncivil behavior, such as allowing cell phones to ring, eating, sleeping, sarcastic remarks, and not paying attention in class.

The second type of scale is continuous and two-dimensional. For example, Farrell et al. (2015) developed 10 uncivil behaviors into two dimensions (intentional and unintentional). This scale was later expanded by Spadafora and Volk (2021) to 11 items. In the same vein, Connelly (2009) divides two groups of uncivil behavior into “more serious and less serious behaviors.”

Other measures consist of more than two dimensions (e.g., Chory and Offstein, 2017; Turnipseed and Landay, 2018; Eka and Chambers, 2019; Cahyadi et al., 2021). Chory and Offstein (2017) measured 17 items grouped into four components of uncivil behavior: “disregard for the instructor, offensive communication, aggressive communication, and illicit behavior.” Turnipseed and Landay (2018) divided the 20 class impoliteness items into six components: “low class engagement, poor class presence, student retaliation, cheating, class disruption, and attempted domination”. In a study conducted in Asia,

Eka and Chamber (2020) focus on five issues on incivility, namely communication, interaction, education, professionalism issues, and misuse of technology.

Recently, Cahyadi et al. (2021) identified 22 classroom incivility behaviors divided into four components, including “disregard for instructors/annoyances, disrespect for others (verbal and non-verbal), misconduct and integrity violation, and use of cell phones.” However, the current study relabels two dimensions, namely “disregard for instructors/annoyances” to “class disruption” and “respect for others” to “disrespectful communication,” while the other two labels, namely “misconduct and integrity violation” and “use of cell phones,” are used unchanged in this study.

METHODOLOGY

Participants and Procedures

We adopted a time-lagged study to validate the classroom incivility scale. Data collection was carried out in two phases: The first phase of the study involved pre-testing and determining the number of factors through exploratory factor analysis. Phase 1, conducted between April and June 2020, recruited 511 undergraduate students from nine colleges and universities in seven provinces in Indonesia via an online questionnaire. Phase 1 successfully validated 22 classroom incivility behaviors used as initial studies for our current research (see Cahyadi et al., 2021 for review).

The current study aims to develop and validate previous studies using a PLS-CCA approach (Hair et al., 2020). We recalled the respondents in Phase 1 via email, and they were asked to complete two other scales, on workgroup climate for civility and classroom prosocial behavior. We also added open-ended questions to obtain qualitative responses from respondents. Data were collected in April–June 2021, with a total of 334 matching participants. The sample size of 334 met the criteria of sufficient sample size for scale development (>300, Comrey, 1988; Henson and Roberts, 2006; Worthington and Whittaker, 2006; Clark and Watson, 2016; Carpenter, 2018).

All respondents were students in years 3 and 4 with an average age of 26 years ($SD = 5.95$). The self-report scores of incivility using an independent *t*-test and analysis of variance (ANOVA) yielded $sig > 0.05$, indicating no significant difference in the frequency scores based on gender, primary/faculty, ethics, and employment status. However, there was a difference in the scores reported by respondents based on the type of university (private–public), where a higher score was found for students from private universities ($sig < 0.05$). Thus, it can be seen that students from private universities have higher incivility experience than public universities, which may have stricter regulations on the learning process in the classroom (see Table 1).

Measurement Classroom Incivility

The current study continues the initial identification by Cahyadi et al. (2021) on the classroom incivility scale. A total of 22 items were successfully validated and divided into four factors:

disregard for instructors/annoyances (7 items), disrespect for others (7 items), misconduct and integrity violation (5 items), and use of cell phones (3 items). The questions started, “During your past studies, have you been in a situation in class where any of your teachers or friends made.....?”. The respondents were asked to rate each item on a five-point scale from never (1) to most of the time/always (5).

Workgroup Climate for Civility

Participants completed a modified four-item version of the Workgroup Norms for Civility Questionnaire ($\alpha = 0.78$; Walsh et al., 2012), which asked them to check the box that best described their opinions for each statement. A sample item includes, “Rude behavior is not accepted in your class.” Items were rated on a 5-point scale level of concern (1 = not at all concerned to 5 = extremely concerned).

Classroom Prosocial Behavior

Participants completed a modified five-item version of the Prosocial Behavior subscale of the Strengths and Difficulties Questionnaire (Goodman, 1998, retested by Farrell et al., 2015). A sample item includes, “Colleagues in this class are generally kind and caring to others’ feeling.” Respondents can choose answer options based on their opinion about the classroom in general on a 5-point scale as above.

Data Analysis

After the pilot testing in the previous study (Cahyadi et al., 2021) confirmed a structure of items on the classroom incivility scale, a PLS-CCA was applied as a follow-up analysis (Hair et al., 2020). The CCA is technically different from the confirmatory factor analysis (CFA) technique, but the principle is similar, aimed at confirming measurement models (Hair et al., 2020). Furthermore, PLS-CCA can also predict endogenous constructs; thus, its function is to develop and validate measures within a nomological network (Hair et al., 2020, p. 101). Furthermore, PLS-CCA is useful for developing new measures and can function for exploratory and confirmatory measurement models (Hair et al., 2020), making it appropriate for this study.

We followed the seven steps of the PLS-CCA analysis procedure based on the recommendations of Hair et al. (2020, p. 104): (1) estimation of loadings and significance; (2) indicator reliability (items); (3) composite reliability (construct); (4) average variance extracted (AVE); (5) discriminant validity (HTMT); (6) nomological validity; and (7) predictive validity. Specifically, for nomological validity, we tested the correlation of classroom incivility with different scales (workgroup climate for civility and prosocial behavior). Predictive validity was evaluated using the measurement invariance of composite models (MICOM) procedures (Henseler et al., 2016).

RESULTS

Initial data screening showed that two items had two missing data points and one item each had one, three, six, and nine missing data points, respectively. We used expectation-maximization

(EM) estimated statistics, which revealed that the data may not be missing completely at random ($\chi^2 = 160.958, df = 179, p = 0.829$). Because $p > 0.05$, we can say that the missing data are truly random; thus, the missing data were replaced.

To minimize the common method variance (CMV), we implemented several strategies: First, the data were collected at two different times. Second, we used a different type of scale on the answer choices of the three constructs used (Chang et al., 2010; Podsakoff et al., 2012). Third, respondents were guaranteed data confidentiality and their anonymity was maintained to reduce their concerns about their answers being seen by others, which might cause them to moderate their answers to be more socially desirable. Finally, we tested CMV using a collinearity assessment approach (Kock, 2017; Kock et al., 2021) using PLS-SEM. As shown in Table 2, there is no variance inflation factor (VIF) value that exceeds 3.3, so it can be stated that these data do not have serious problems with CMV (Kock, 2017).

The CCA using the PLS-SEM procedure was used to assess measurement quality, and a CCA with reflective measurement models was executed as follows:

Step 1–2: Assessing the indicator loadings and reliability. The outer loadings in the analysis show a range of 0.64–0.89 (see Table 2). One item (DCM 6) had a loading factor of less than 0.708 (Hair et al., 2020); however, we retained this item based on the consideration that this item has an acceptable *t*-statistic based on bootstrapping testing (t -value = 13.01 > 1.96).

Step 3 Construct reliability is evaluated based on Cronbach's alpha (α /CA) and composite reliability (CR) values. The results of the analysis show that the α value ranges from 0.82 to 0.91 which is higher than the cut-off value of 0.70 (Hair et al., 2020). Consistent with CA, the CR values were also reported to range from 0.84 to 0.92 and met the composite reliability ($CR > 0.70$) (see Table 3).

TABLE 1 | Respondent characteristics.

	Frequency	Percent	Mean of incivility	t-test/ANOVA
Gender				
Female	217	64.97	2.11	Sig 0.24 (t-test)
Male	117	35.03	2.19	
Major/Faculty				
Education	151	45.21	2.20	Sig 0.12 (ANOVA)
Accounting	43	12.87	2.03	
Management	110	32.93	2.14	
Islamic Economics	30	8.98	1.98	
Type of University				
State University	209	62.57	2.07	Sig 0.00 (t-test)
Private University	125	37.43	2.26	
Campus location				
Java	116	34.73	2.11	Sig 0.14 (ANOVA)
Sumatera	57	17.07	2.04	
Sulawesi	66	19.76	2.27	
Kalimantan	95	28.44	2.14	
Employment Status				
Non-Employee	198	59.28	2.15	Sig 0.72 (t-test)
Employee	136	40.72	2.13	

TABLE 2 | The indicator loadings and construct reliability.

Indicator	Loading factor	Mean	t-value	VIF	CA	CR	AVE
Class disruption (CDS)					0.88	0.91	0.59
CDS1	0.74	2.36	28.02	1.73			
CDS2	0.79	2.12	28.44	1.99			
CDS3	0.83	2.15	38.47	2.20			
CDS4	0.73	2.57	26.69	2.27			
CDS5	0.77	1.89	30.87	2.56			
CDS6	0.76	2.34	29.44	2.83			
CDS7	0.74	2.32	26.54	1.73			
Disrespect communication (DCM)					0.88	0.91	0.58
DCM1	0.78	1.80	27.56	1.84			
DCM2	0.82	1.76	35.45	1.89			
DCM3	0.74	1.28	20.20	2.56			
DCM4	0.76	1.63	24.96	1.91			
DCM5	0.80	1.65	39.96	2.14			
DCM6	0.64	1.57	13.01	1.74			
DCM7	0.76	1.49	21.14	1.92			
Integrity violation (INT)					0.87	0.90	0.65
INT1	0.73	1.26	11.64	3.04			
INT2	0.84	1.39	25.12	3.26			
INT3	0.85	1.46	31.83	3.38			
INT4	0.80	1.78	30.51	3.51			
INT5	0.79	2.12	38.22	1.88			
Use the cell phone (CPN)					0.82	0.89	0.72
CPN1	0.82	1.88	30.24	2.14			
CPN2	0.89	2.35	62.16	1.89			
CPN3	0.84	1.65	34.47	2.09			
Workgroup climate for civility (CIV)					0.84	0.89	0.67
CIV1	0.78	3.50	26.04	1.58			
CIV2	0.85	3.56	40.51	2.14			
CIV3	0.81	3.80	31.94	1.75			
CIV4	0.83	3.68	35.26	1.99			
Classroom prosocial (PRO)					0.91	0.93	0.72
PRO1	0.89	4.16	58.33	2.85			
PRO2	0.88	4.06	48.84	2.83			
PRO3	0.84	3.98	36.96	2.37			
PRO4	0.78	3.76	27.13	1.85			
PRO5	0.84	3.98	34.10	2.30			

CDS, class disruption; DCM, disrespectful communication; CPN, use of cell phone; INT, integrity violation; CIV, workgroup climate for civility; PRO, classroom prosocial.

TABLE 3 | Heterotrait-Monotrait Ratio (HTMT) between sub-scale classroom incivility with civility and prosocial scale.

No	Sub scale	1	2	3	4	5
1	CDS	–				
2	DCM	0.65	–			
3	CPN	0.41	0.42	–		
4	INT	0.50	0.36	0.21	–	
5	CIV	0.37	0.24	0.22	0.25	–
6	PRO	0.24	0.21	0.18	0.22	0.29

CDS, class disruption; DCM, disrespectful communication; CPN, use of cell phone; INT, integrity violation; CIV, workgroup climate for civility; PRO, classroom prosocial.

Step 4: Convergent validity is evaluated by the AVE value. The analysis showed that all subscales ranged from 0.58 to 0.70, which is greater than the cut-off value of 0.50 (Hair et al., 2020).

TABLE 4 | Fornell–Larcker criterion.

No	Sub scale	1	2	3	4	5	6
1	CDS	0.77					
2	DCM	0.59	0.76				
3	CPN	0.40	0.38	0.80			
4	INT	0.47	0.33	0.21	0.85		
5	CIV	−0.32	−0.21	−0.20	−0.22	0.82	
6	PRO	−0.22	−0.19	−0.16	−0.19	0.25	0.85

CDS, class disruption; DCM, disrespectful communication; CPN, use of cell phone; INT, integrity violation; CIV, workgroup climate for civility; PRO, classroom prosocial. Bold = Root of AVEs values.

Step 5: Discriminant validity is evaluated using the heterotrait-monotrait ratio of correlations (HTMT) (Henseler et al., 2015). The analysis results show no HTMT value that is close to 1 or close to cutoff scores such as 0.85–0.90, as recommended by Hair et al. (2020). Another parameter used was the Fornell–Larcker criterion. **Table 4** shows that the square root of each AVE construct (bold italics) is greater than the correlation between latent variables. Therefore, the discriminant was validated successfully.

Step 6: Nomological validity is tested by calculating the correlation of the tested scale with the external scale for comparison (see **Table 4**). The correlations between all classroom incivility sub-scales and workgroup climate for civility and classroom prosocial are negative. These results indicate that the four sub-scales of classroom incivility that are theoretically different constructs supported discriminant validity in Step 5. Therefore, the nomological validity was successfully confirmed, and we also performed a correlation analysis on all sub-scales formed with the two outer scales (civility and prosocial). **Table 4** shows general low-to-moderate positive intercorrelations between the classroom incivility sub-scale. Furthermore, a negative correlation was found between the classroom incivility sub-scale and workgroup climate for civility (Walsh et al., 2012) and prosocial behavior (Farrell et al., 2015). These results also support nomological validity.

Step 7. Predictive validity. In general, Hair et al. (2020) explained that there is no method to test predictive validity, but the PLS-SEM measurement model can use the measurement invariance of composite models (MICOM procedure; Henseler et al., 2016). To test for measurement invariance, we used a cohort database of gender and compared the results between the two groups in stage 1 of the MICOM test. Step 2: Compositional invariance is tested by comparing the original correlation with the 5% quartile, where if it is equal to or greater than the 5% quartile, then composition invariance is established. As shown in **Table 5** (Step 2), all of the original correlations are >5% quartile, so we can state that composition invariance is met.

Step 8. Next, we tested composite equality by comparing the mean original difference between the 2.5 and 97.5% boundaries (Step 3a), and the original difference fell between the 2.5 and 97.5% boundaries (Step 3b). **Table 5**, Step 3a shows the original mean difference of all sub-scale of classroom incivility, civility, and prosocial within the 95% confidence interval of the lower

(2.5%) and upper (97.5%) boundaries. The same results from the original difference variance comparison in Step 3b show that all are between 2.5 and 97.5% boundaries, indicating no significant difference between the two groups (female and male) on all latent variables. Furthermore, **Table 5** (Step 3b) also shows all “Permutation *p*-value,” higher than 0.05 for all variables, so full measurement invariance was supported.

3 DISCUSSION

The purpose of the present study was to revalidate a scale of classroom incivility from previous study (Cahyadi et al., 2021). In particular, our goal was to validate a four-factor model of classroom incivility in the context of higher education in Indonesia. The research sample comprised undergraduate students from nine universities, including three public and six private universities. Since the research sample consisted of working students, our results support the validity of this scale for both regular and older employee students.

The first factor of class disruption (CDS) is similar to the “disregard for instructor” factor (Chory and Offstein, 2017) and the “annoyances” dimension (Feldmann, 2001). Class disruption refers to student behavior in class that can interfere with the learning process, including arriving late or leaving early, eating and drinking during the class, getting

TABLE 5 | MICOM analysis.

Step 2	Original correlation	5.00%	Permutation <i>p</i> -values	
CDS	1.00	1.00	0.72	
DCM	1.00	1.00	0.52	
INT	1.00	0.99	0.83	
CPN	1.00	0.99	0.80	
CIV	1.00	0.99	0.40	
PRO	1.00	0.99	0.85	
Step 3A	Mean – Original Difference (Female – Male)	2.50%	97.50%	Permutation <i>p</i> -values
CDS	−0.07	−0.18	0.18	0.47
DCM	0.04	−0.19	0.20	0.69
INT	0.08	−0.20	0.22	0.47
CPN	0.01	−0.19	0.20	0.91
CIV	−0.08	−0.21	0.20	0.40
PRO	0.03	−0.20	0.18	0.80
Step 3b	Variance – Original Difference (Female – Male)	2.50%	97.50%	Permutation <i>p</i> -values
CDS	0.12	−0.26	0.25	0.36
DCM	−0.06	−0.49	0.41	0.81
INT	0.08	−0.54	0.50	0.80
CPN	−0.02	−0.36	0.32	0.92
CIV	0.14	−0.27	0.24	0.33
PRO	0.01	−0.26	0.21	0.96

CDS, class disruption; DCM, disrespectful communication; CPN, use of cell phone; INT, integrity violation; CIV, workgroup climate for civility; PRO, classroom prosocial.

up during class, leaving and returning, not paying attention in class, and packing up books before the class is over. All items are included in the list of items from Indiana University regarding students' perceptions of incivility (Bjorklund and Rehling, 2009; McKinne and Martin, 2010) and are a mixture of less and "more serious" based on the categorization of Connelly (2009).

The second factor is disrespect communication (DCM), which refers to verbal and non-verbal communication in the classroom, making disparaging remarks, non-verbally showing disrespect for others, ignoring other opinions in discussion sessions, conversing loudly with others, and fidgeting that distracts others, swearing, and spreading rumors/gossip. The items listed in this dimension are in line with the behavior of "more serious" (Connelly, 2009), "communication and interaction issues" (Eka and Chambers, 2019), "class disruption" dimension (Turnipseed and Landay, 2018), and as intentional dimension (Farrell et al., 2015; Spadafora and Volk, 2021). One respondent commented on some of these forms of behavior:

"The most annoying thing is when we are doing a presentation, and some people try to interrupt the presentation by interrupting the conversation. I also often hear rumors/gossips among students about lecturers' private lives, which I do not think should be discussed in class."

The third factor is integrity violation (INT), which refers to discipline/integrity violations such as plagiarism, cheating on exams, and coming to class under the influence of alcohol or drugs. This dimension is in line with "illicit behaviors" (Chory and Offstein, 2017). It is the item with the lowest frequency in the study by Bjorklund and Rehling (2009). As one lecturers commented:

"The first two behaviors, namely plagiarism, and cheating, are classic problems and continue to occur until now. However, some firm actions have been taken by the university to minimize this fraudulent act, such as assigning supervisors (not lecturers) in exams, and students found to have cheated are automatically disqualified."

The last factor, use of the cell phone" (CPN), refers to behaviors including allowing the cell phone to ring, texting, and receiving calls in class. Items included in this dimension have similarities with the list of "less serious" behaviors (Connelly, 2009) and the "annoyances" dimension (Feldmann, 2001). As one student argued:

"Sometimes, students' impolite behavior, such as using cell phones in class, arriving late, and eating/drinking depend on the lecturer himself. For example, some lecturers strictly prohibit the use of cell phones in class, but some lecturers are less concerned about this."

Theoretical Implications

Theoretically, our results hold several implications: First, the results of this study positing four different factors of classroom incivility were acceptable and supported the use of multidimensional forms (e.g., Chory and Offstein, 2017; Turnipseed and Landay, 2018; Eka and Chambers, 2019). Therefore, we believe that the multidimensional concept of

classroom incivility should continue to be examined, and its causes and consequences for student learning behavior be determined more precisely. Our findings also revealed that students from private universities reported a higher frequency of incivility experiences than public university students. This finding indicates that public universities seem to enforce stricter rules in classroom learning arrangements than private universities. Meanwhile, incivility scores were not significantly different by gender, employment status, major/faculty, and location/island. This finding also strengthens our belief that although ethically and regionally different, their norms of decency are relatively similar.

Second, the seven stages of PLS-CCA not only provide an evaluation of the measurement model, but also support the predictive validity of the scale. The intercorrelations between the sub-scales of classroom incivility ranging from 0.21 to 0.59 (see Table 4) indicate that the strength of the relationships between sub-scales ranges from low to moderate. The intercorrelations between these sub-scales are smaller than reported for the intentional-unintentional incivility continuum model (Spadafora and Volk, 2021), for which they are in a range around 0.60. However, we argue that this lower correlation is due to the different content of the resulting sub-scales. For example, the intercorrelation between use of the cell phone (CPN) and integrity violation (INT) was 0.21, indicating that these two sub-scales have different characteristics, where CPN includes the characteristic of "less serious behaviors" (Connelly (2009) or "annoyances" (Feldmann, 2001), while integrity violation (e.g., plagiarism, cheating on exams) includes severe violations in the academic field.

Next, we found a negative correlation across all sub-scales of classroom incivility with civility climate and prosocial behavior for predictive validity. For civility, the correlations with class disruption, disrespectful communication, cell phone use, and integrity violation were -0.32 , -0.21 , -0.20 , and -0.22 , respectively, while the correlations with class disruption, disrespectful communication, cell phone use, and integrity violation for prosocial behaviors were -0.22 , -0.19 , -0.16 , and -0.19 , respectively. Corroborating the theory, we also found a positive correlation between civility and prosocial of 0.25, indicating that these two constructs have a unidirectional relationship. Moreover, the MICOM procedure also found that there was no difference in the measurement model by gender, thus providing strong support for predictive validity in this measure. Finally, the study results are one of the few pieces of empirical evidence from applying the PLS-CCA to evaluate the newly developed scale. As a new method developed by Hair et al. (2020), we provide an example of a seven-step application of PLS-CCA for future researchers.

Practical Implications

Our results have important practical implications. First, the four sub-scales of classroom incivility produced by this study can provide an alternative for incivility researchers in education, especially in Indonesia. Higher education institutions in Indonesia can use this instrument as a supplementary tool to

evaluate the level of classroom incivility. Second, as shown in **Table 2**, our findings highlight some issues related to the resulting average score. The five behaviors with the highest frequency are in the class disruption (CDS) dimension, especially “arriving late or leaving early,” “eating and drinking during the class,” “getting up during class, leaving and returning,” “not paying attention in class,” and “packing up books before the class is over.” However, this behavior is still incivility in the category of “disregard for an instructor” (Chory and Offstein, 2017) or along the “annoyances” dimension (Feldmann, 2001) and is relatively “less serious” (Connolly, 2009); efforts to minimize further increasing uncivil behavior in a more serious. We suggest that the administrator specify the order all teaching staff should consistently enforce agreed policies and take immediate action when violations occur. The third implication is that administrators need to introduce a code of academic ethics as early as possible, especially for first-year students (Connolly, 2009), reflecting the culture and values of the institution where they study.

Limitations

While these findings are promising, this study has several limitations. First, although we used a time-lag approach in data collection because the data came from the same source (self-rated by students), there were still significant concerns about common method bias (Podsakoff et al., 2012). We suggest that future studies consider taking data from various sources (e.g., staff, students, lecturers) to understand **uncivil behavior in the classroom from** multiple perspectives. Second, we used PLS-CCA as an alternative to confirming measurement models (Hair et al., 2020) using partial least squares structural equation modeling (PLS-SEM). We recognize that PLS-CCA is a relatively new technique introduced to assess composite models, so it is still necessary for further development and verification. Hubona et al. (2021) proposed two terms for this technique, namely, confirming measurement quality (MCMQ) or PLS-CCA. We invite further studies to use PLS-CCA as an alternative method to a popular multitrait-multimethod approaches (MMTM) to determine the adequacy of scales' psychometric properties.

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CONCLUSION

This study provides promising support for the validity and reliability of classroom incivility measures **in the context of higher education** in Indonesia. The results reveal that classroom incivility is composed of four factors: class disruption (seven items), disrespectful communication (seven items), integrity violation (five items), and cell phone utility (three items). In addition, the current study, which is a follow-up to a previous studies (Cahyadi et al., 2021), has also shown the scale to have predictive validity. School management must make every effort to be aware of all forms of uncivil behavior in order to create a harmonious learning environment between teachers and students.

DATA AVAILABILITY STATEMENT

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

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Dr. Hairul Hudaya, Vice Dean of Academic Affairs, Tarbiyah and Teacher Training Faculty, Universitas Islam Negeri Antasari. Written informed consent for participation was not required for this study in accordance with the national legislation and the institutional requirements.

AUTHOR CONTRIBUTIONS

AA and AC: conceptualization. AA, AC, and HH: methodology. HH: formal analysis. AA, AC, and SH: data curation. AA and HH: writing original draft preparation. AC and SH: writing–review and editing. All authors read and approved the final manuscript.

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