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From Cyber to E-Mail Incivility: A Psychometric Assessment and Measure Validation Study

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ABSTRACT

Conducting research on organizational communication, and on how e-mail is used and misused by employees, is an important question addressed by this research. Specifically, we assess and address the deficiency in the existing construct of cyber incivility. This research examines how the existing scale is lacking, explains why a new scale is needed, and then develops and tests a new measure of rude e-mail. In this study we perform a quantitative test of the quality of the existing cyber incivility scale. In addition, we develop and propose a new scale with improved psychometric properties and test its validity on a sample of Mechanical Turks (MTurks). Taken together, this research develops a much-needed construct and measure of rude e-mail that is empirically informed, validated, and more useful than the existing cyber incivility scale. Implications of these findings for theory and practice are discussed.

KEYWORDS

Incivility; rudeness; e-mail; measure; psychometric

E-mail is a crucial and ubiquitous form of workplace communication, especially in today's fast-paced international business climate. More than 108 billion business-related electronic messages are sent and received each day worldwide, and individual employees are estimated to get an average of 85 business e-mails per day at work (Radicati, 2014). The impact of e-mail is immense and growing. Employees report spending up to 6.3 hours of their day communicating via e-mail (Adobe Systems, Inc.) and 28% of their work week dealing with e-mail-related issues (McKinsey Global Institute). Yet both the number of e-mails and the amount of time employees spend managing their e-mail are on the rise (McMurthy, 2014). Some studies even suggest that e-mail is more widely utilized in organizations than phone or face-to-face communication (Tassabehji & Vakola, 2009). Given these consumption statistics, understanding how e-mail influences individuals in the workplace is undoubtedly crucial.

Despite growing interest and progress in the field of cyber incivility, one gap that is becoming increasingly problematic is our current measurement and conceptualization of the construct of cyber incivility via the cyber incivility scale. The existing measure of cyber incivility (Lim & Teo, 2009) is somewhat problematic in terms of validity, and has a number of limitations. This research aims to expose these shortcomings and fill this gap by developing an improved and validated measure. The objective is to enable both theoretical and empirical research in this area to progress by equipping researchers with a more valid and reliable instrument for measuring and assessing rude e-mail at work.

Workplace incivility

Incivility is defined as low-intensity deviant behavior with ambiguous intent to harm the target (Porath & Erez, 2007), which violates workplace norms of mutual respect within an organization and undermines individuals' sense of dignity (Andersson & Pearson, 1999, p. 457). Uncivil behaviors are "characteristically rude and discourteous, displaying a lack of regard for others." Specifically, this may include e-mail behavior such as "cc'ing" a co-worker 's boss when asking them to perform a job, forwarding a sensitive e-mail on to someone else, or using inflammatory language or a harsh tone. Drawing on work from a wide variety of fields, the current conceptualization of workplace incivility distinguished it from more serious forms of workplace mistreatment, such as violence and abusive supervision.

A growing field of interest within the domain of general workplace incivility is cyber incivility. Based on the concept of workplace incivility, Lim and Teo (2009) introduced cyber incivility, which extends the concept of general rude behavior to a specific context: electronic workplace media. Cyber incivility is defined as communicative behavior that is exhibited in computer-mediated interactions that violate norms of mutual respect at work

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(Lim & Teo, 2009). This construct is specific to rude workplace e-mail and incivility via other electronic workplace forms. The research presented here aims to first assess the psychometric properties of the existing cyber incivility scale, to determine how well it actually measures e-mail incivility. Subsequently, the next objective is to cultivate, refine, and validate a new scale for measuring rude e-mail behavior. Thus, this research examines how the existing scale intended to measure rude e-mail is deficient, explains why a new scale is needed, and then develops and tests a measure that is more psychometrically sound.

A psychometric evaluation of the cyber incivility scale

The existing cyber incivility scale contains multiple limitations. First, it uses lengthy, double-barrelled, and awkwardly worded items that are unclear and ask multiple things at once, which can be confusing and frustrating to respondents. As recommended by DeVillis (2003, pp. 670–671), scale items that are excessively lengthy, increase complexity, and diminish clarity for respondents should be avoided. Also, double-barrelled items are problematic for survey respondents because they involve two parts that may or may not involve the same response (DeVillis, 2003). As an example, one awkward double-barrelled item on the cyber incivility scale is "My immediate supervisor paid little attention to a statement made by you through e-mail or showed little interest in your opinion." According to the recommendation by DeVillis, this item contains too much verbiage for respondents to consider, and also involves two separate questions that may not have the same answer. Other items on the scale are equally as confusing and unclear, such as "My immediate supervisor was not acknowledging that he/she received your e-mail even when you sent a 'request receipt' function," or "My immediate supervisor inserted sarcastic comments between paragraphs in e-mails." Both of these scale items are confusing and do not meet basic standards of adequacy for the type of scale development and use in rigorous academic research.

Adding to this deficiency, several items on the existing scale violate a key aspect of incivility, in that rudeness is, by definition, comprised of low-intensity acts. Instead, items on the existing scale arguably go beyond the more subtle nature of incivility (as being grounded in discourtesy and impoliteness) and progress toward higher intensity types of deviance such as abusive supervision, workplace aggression, and even bullying. For instance, items on the existing scale include "My immediate supervisor made demeaning or derogatory remarks about me…," "My immediate supervisor put me down or was condescending…," and " My immediate supervisor said something hurtful to me…." The type of actions described by these items, especially coming from a supervisor, may be more extreme than rudeness, and instead may fit better with the theoretical definition of abusive supervision (Tepper, 2000). Therefore, the existing scale does not stay within the theoretical limits of the content of the construct it intends to measure and, as a result, muddles construct boundaries.

Taken together, these deficiencies indicate a lack of content validity in the existing measure and represent a crucial flaw limiting its usefulness. Specifically, this restricts the ability of cyber incivility (Lim & Teo, 2009) to reflect important tenets that differentiate rudeness and incivility from other concepts within the workplace mistreatment domain. Also, because of the many nuanced differences between constructs, if researchers do not strictly adhere to the construct boundaries, conducting meaningful research will become more of a challenge as concepts and definitions begin to become jumbled. For instance, frustration has already been expressed by some that this domain is already "fragmented and poorly integrated" because studies have used imprecise terminology and measures. Tepper (2007, p. 262) points out that this problem "has the potential to undermine the development of knowledge in this very important area of research." Thus, instead of the existing scale facilitating research, we argue that it may represent an obstacle to the study of rude e-mail. For this reason, the creation of a new theoretically grounded and psychometrically sound scale that is empirically informed and validated is a primary objective of this research.

New scale development

The development of the new scale began by constructing a pilot version using keywords derived from the literature and interviews with managers. The specific procedure used here is adapted from a technique used by Gibson, Zellmer-Brugn, and Schwab (2003), which specifies an eight-stage process for deriving construct dimensions from qualitative information. For this study, the process involved using a qualitative data set built from the text of hour-long, semistructured interviews with managers discussing their experiences with rude e-mail. Interviewees were all employees in management positions with an average of 10 years of work experience in a variety of industries, including health care, oil and gas, marketing, and education. All of the interviewees reported that they used e-mail to

communicate at work on a daily basis and had, at one point or another, encountered rude e-mail at work. The dialogue from these interviews comprised a textual data set that was transcribed and then content analyzed for keywords about incivility that was informed by the literature. The construct items were then derived from the text surrounding the keyword search, consolidated and grouped into dimensions, coded, compiled, and finally revised. The current scale development paralleled this procedure to develop an a priori measure of e-mail incivility.

The keyword list informed by the literature contained 10 words that had been used in prior definitions of the construct or were related to its features. It consisted of the words *rude, insensitive, disrespectful, impolite, offend, insult, unkind, lack of regard, uncivil*, and *violate* (as well as all derivatives of these words; i.e., offend, offensive, offended, etc.). Step two was then to search for these keywords and visually scan the portion of the transcript that surrounded the highlighted word to determine where the discussion relating to that term started and stopped. It was also important to ensure that the topic of that portion of the conversation was e-mail. The relevant portion of the text was then copied and pasted into a new document, which contained all segments of text in which any mention of the term was made. This process was repeated for all keywords. A new document containing interview excerpts for each of the individual interviewees was then created.

Table 1 summarizes the 30 unique items obtained from this procedure.

Next, an informed coder grouped the items together into dimensions. The goal was to obtain parsimony, or the least number of dimensions possible, without losing any uniqueness of the items. Subsequently, stage five required that two independent coders categorize each item derived from the interviews into one of the dimensions. The interrater reliability was then computed, based on the similarity between the coders' classification of each item, and was determined to be adequate($\kappa = .79, p < .05$). Following the coding of the items, stage six involved assessing the frequency with which each dimension was mentioned across the interviewees and collapsing the dimensions that did not occur frequently into others that could be generalized. The resulting eight dimensions included negative tone, impolite, insensitive, careless, accusatory, passive-aggressive, demanding, and structure and function. Table 2 shows the e-mail incivility dimensions and items.

Stages seven and eight involved the revision and modification of the initial list of items drawn from the interview excerpts to ready them for inclusion on a survey instrument. Thus, taken together, these eight stages in combination were used to derive the theoretical dimensions of e-mail incivility and to create a measure of experienced e-mail incivility. By grounding the new scale in actual statements from employees about their own experiences and perceptions of rude e-mail, the aim was to increase the likelihood that the resulting e-mail incivility scale closely matched its intended theoretical counterpart.

Table 1. Items derived from interviews.

1. It is rude when people send me an e-mail requesting something from me and copy my boss on it
2. Copying a lot of people on an e-mail is rude because it can make people look bad
3. Rude e-mail makes demands without saying please and thank you
4. Rude e-mail catches me off guard and is disrespectful
5. It is rude to send e-mail without thinking about how it will be received
6. Rude e-mail is accusatory
7. It is rude when I send someone a detailed e-mail and it is obvious that they did not read it carefully
8. Rude e-mail is passive-aggressive
9. It is rude to not use pleasantries in e-mail
10. It is rude when someone doesn't respond to my e-mail
11. E-mail with a harsh tone can be interpreted as rude
12. E-mail that is excessively short or too formal is rude
13. Rude e-mail tends to have a negative tone
14. It is rude to send frequent condescending e-mails requesting that I do something
15. Rude e-mail uses inflammatory language
16. It is rude when someone cc''s my boss because they don't like the answer I gave them
17. A demanding tone makes an e-mail rude
18. A rude e-mail feels like a personal attack
19. A rude e-mail is written by someone who is frustrated
20. It is rude when someone replies to my e-mail without carefully reading the original message first
21. Rude e-mail tends to be often passive-aggressive
22. Rude e-mail is brisk in tone
23. Rude e-mail is written by someone when they are mad or upset
24. Rude e-mail demands something from me instead of using pleasantries
25. It is rude when someone demands something instead of requests it
26. Rude e-mail is brisk and to the point
27. Rude e-mail demands my immediate action
28. It is rude when I send someone a detailed e-mail and it is obvious that they did not read it carefully
29. Rude e-mail is insensitive
30. Rude e-mail blames me for something

Method

Participants

The sample consisted of 112 professional employees who use e-mail at work on a daily basis. These individuals worked as Mechanical Turks (MTurks) in the United States only. We chose to restrict MTurk respondents to only those from the United States because we thought it prudent to try to mitigate the risk of cultural differences introducing confounds in terms of the ways in which employees perceive incivility at work, given that cultural norms are a likely influence. Specifically, MTurks are individuals voluntarily enrolled in

Table 2. E-mail incivility dimensions derived from items.

Dimension	Corresponding Item
Negative tone	11. E-mail with a harsh tone can be interpreted as rude
	13. Rude e-mail tends to have a negative tone
	22. Rude e-mail is brisk in tone
	26. Rude e-mail is brisk and to the point
Impolite	9. It is rude to not use pleasantries in e-mail
	24. Rude e-mail demands something from me instead of using pleasantries
	10. It is rude when someone doesn't respond to my e-mail
	14. It is rude to send frequent condescending e-mails to me requesting that I do something
Insensitive	5. It is rude to send e-mail without thinking about how it will be received
	29. Rude e-mail is insensitive
	4. Rude e-mail catches me off guard and is disrespectful
	15. Rude e-mail uses inflammatory language
Careless	20. It is rude when someone replies to my e-mail without carefully reading the original message first
	7. It is rude when I send someone a detailed e-mail and it is obvious that they did not read it carefully
	28. It is rude when I send someone a detailed e-mail and it is obvious that they did not read it carefully
Accusatory	30. Rude e-mail blames me for something
	6. Rude e-mail is accusatory
	18. A rude e-mail feels like a personal attack
	19. A rude e-mail is written by someone who is frustrated
	23. Rude e-mail is written by someone when they are mad or upset
Function and structure	1. It is rude when people send me an e-mail requesting something from me and copy my boss on it
	2. Copying a lot of people on an e-mail is rude because it makes people look bad
	12. E-mail that is excessively short or too formal is rude
Passive-aggressive	8. Rude e-mail is passive-aggressive
	16. It is rude when someone cc's my boss because they don't like the answer I gave them
	21. Rude e-mail tends to be often passive-aggressive
Demanding	17. A demanding tone makes an e-mail rude
	3. Rude e-mail makes demands without saying please and thank you
	25. It is rude when someone demands something

Amazon's Mechanical Turk crowd-sourcing Internet marketplace. They receive a nominal wage for completing online questionnaires. Overall, the U.S. MTurk population is predominantly female and white and is somewhat younger and more educated than the U.S. population overall. For this study, the respondents received 50 cents for completing the survey and were blind to the purpose of the research.

Procedure and data analysis

The procedure involved creating a human intelligence task or HIT, which described the task to be completed and posting it on the MTurk website where it can be previewed by the MTurks. The HIT created for this study involved completing a questionnaire containing the new measure of e-mail incivility as well as several competing measures. The questionnaire consisted of approximately 50 items (see Table 4, shown later), including the newly developed e-mail incivility scale, along with the competing scales of cyber incivility (Lim & Teo, 2009), and workplace incivility (Blau & Andersson, 2005), as well as the attitudinal outcomes of job satisfaction (Luthans, Avolio, Avey, & Norman, 2007) and intent to leave (Meyer, Allen, & Smith, 1993). The results from this questionnaire were used to assess the quality of the preliminary scale items, the correlation of e-mail incivility with other independent measures (Hinkin, 1995), its reliability, and the convergent and discriminant validity of the e-mail incivility scale itself.

Results

Convergent and discriminant validity

First, to determine whether the new e-mail incivility construct was distinct from competing scales, principal component analysis (PCA) with oblique rotation was performed on the original group of 24 e-mail incivility items, and the items from cyber incivility (Lim & Teo, 2009), job satisfaction (Luthans et al., 2007), and intent to leave (Meyer et al., 1993). Nineteen of the e-mail incivility items initially loaded cleanly onto one factor, using the parameter that each item should load at more than .4 on the desired factor and more than .10 greater on that component than any others (Hinkin, 1995).

Of the 19 items, three were dropped due to redundancy and overlap (i.e., "Someone sends me an e-mail that is brisk and to the point" and "Someone sends me an e-mail that is brisk," or "Someone catches me off guard with an e-mail that is disrespectful," and "I am caught off guard by a disrespectful e-mail"). In these examples, one item from each redundant pair was dropped and one was kept, leaving 16 e-mail incivility items. The original scale also included three items that pertained to rude e-mail replies (i.e., "Someone replies to my e-mail without carefully reading the original message first," and "I send someone a detailed e-mail and it is obvious that they did not read it carefully"), which reduced the reliability of the scale, so those items were dropped. Therefore, the e-mail incivility scale was reduced to a leaner 13 items with a satisfactory reliability ($\alpha = .94$).

In comparison, the cyber incivility scale did not remain intact during principal component analysis, and instead of displaying convergent validity, six of the cyber incivility items cross-loaded with both job satisfaction and e-mail incivility (see Table 3). This indicated that the cyber incivility scale most likely does not measure one latent variable, but more likely multiple, which seriously limits its validity and

Table 3. Means, standard deviations, and correlations among study variables.

Variables	Mean	*SD*	1	2	3	4	5
1. Experienced e-mail incivility	2.00	.74	(.94)				
2. Cyber incivility	1.91	.72	.69	(.93)			
3. Workplace incivility	1.72	.73	.48	.60	(.91)		
4. Job satisfaction	3.42	.85	−.25	−.35	−.27	(.85)	
5. Intent to leave	2.86	1.24	.20	.32	.24	−.55	(.95)

Note. $N = 112$. Reliabilities are on the diagonal in parentheses. Correlations greater than .24 are significant at $p < .01$. Correlations above .17 are significant at $p < .05$.

usefulness. As shown in Table 3, all items from the e-mail incivility scale loaded cleanly, meaning they were positively correlated with each other and did not cross-load onto the factor of another competing construct.

To assess the convergent validity of the newly created e-mail incivility scale, consistent with the recommendation of Campbell and Fiske (1959) for scale validation, its association with two competing constructs and two organizational outcomes was assessed. As shown in Table 4, construct validity was demonstrated in that the e-mail incivility scale possessed the expected significant positive association with intent to leave ($r = .20$, $p < .05$), as well as the expected significant negative association with job satisfaction ($r = -.25$, $p < .01$). E-mail incivility was also correlated with scales used to measure similar outcomes. For instance, e-mail incivility had a significant positive association with both cyber incivility ($r = .69$, $p < .01$) and workplace incivility ($r = .48$, $p < .01$), which provided further evidence of construct validity. Means, standard deviations, and correlations are presented in Table 4.

Construct validity

In terms of construct validity, the newly created e-mail incivility scale possessed strong positive correlations

Table 4. Factor loadings among study variables*

Items	Experienced e-mail incivility	Cyber incivility	Intent to leave	Job satisfaction
Experienced e-mail incivility				
Someone sends me an e-mail that uses inflammatory language	**.71**	.31	−.09	−.07
Someone sends me an e-mail that does not use pleasantries	**.73**	.14	.04	−.12
Someone cc's my boss because they don't like the answer I gave them	**.72**	.18	−.15	−.06
Someone sends me an e-mail that is brisk in tone	**.78**	.07	.10	−.05
I am caught off guard by a rude e-mail	**.71**	.23	−.06	−.13
Someone sends me a passive-aggressive e-mail	**.71**	.27	.24	−.10
Someone sends me an e-mail with a harsh tone	**.79**	.27	.01	−.07
Someone sends me an e-mail when they are mad or upset	**.75**	.13	.17	−.01
Someone sends me an e-mail that is condescending	**.76**	.27	.04	−.12
Someone makes a demand of me by e-mail without saying please or thank you	**.77**	.26	.12	−.01
Someone sends me an e-mail that has an accusatory tone	**.71**	.35	.02	−.08
Someone sends me an e-mail that demands something instead of requests it	**.63**	.14	.26	.03
Someone sends me an e-mail without thinking about how it will be received	**.80**	.01	.24	.06
Cyber incivility				
Said something hurtful to you through e-mail	.39	**.78**	.19	−.07
Used e-mails to say negative things about you that he/she would not say to you face-to-face	.37	**.78**	.12	−.09
Made demeaning or derogatory remarks about you through e-mail	.13	**.85**	−.05	−.13
Inserted sarcastic or mean comments between paragraphs in e-mails	.12	**.76**	.01	−.02
Put you down or was condescending to you in some way through e-mail	.21	**.84**	.03	−.20
Sent you e-mails using a rude and discourteous tone	.24	**.80**	.18	−.21
Used CAPS to shout at you through e-mail	.23	**.76**	−.09	−.08
Not replying to your e-mail at all	.37	.47	.40	.06
Ignored a request (e.g., schedule a meeting) that you made through e-mail	.45	.48	.29	.01
Replied to your e-mails but did not answer your queries	.43	.42	.41	−.03
Used e-mails for time-sensitive messages (e.g., canceling or scheduling a meeting on short notice)	.47	.44	.49	.02
Paid little attention to a statement made by you through e-mail or showed little interest in your opinion	.49	.28	.38	−.11
Not acknowledging that he/she has received your e-mail even when you sent a "request receipt" function	.41	.55	.40	.01
Job satisfaction				
I am generally very satisfied with my job	−.18	−.19	−.37	**.70**
I am generally satisfied with the kind of work I do in this job	−.04	−.22	−.14	**.74**
I seldom think of quitting my job	.01	−.13	−.55	**.63**
Very few people who do this job feel the work is useless or trivial	−.04	−.01	−.12	**.78**
Most people who do this job are very satisfied	−.12	−.07	−.10	**.85**
Intent to leave				
I will probably leave this organization within the next 2 years	−.02	−.01	**.82**	−.29
I will probably look for a new job in the next year	.07	.03	**.84**	−.27
I will actively look for a new job in the next year	.04	.01	**.85**	−.29

*Extraction method: principal component; varimax–Kaiser normalization; converged in six iterations.
**Boxed items indicate cross-loadings of cyber incivility scale.

with workplace incivility (an existing incivility measure) and intent to leave, as well as a strong negative correlation with job satisfaction, all of which indicated that e-mail incivility behaved as was expected within the nomological network and is evidence of construct validity. In comparison, the construct validity of the cyber incivility scale could not even be evaluated because of its severe cross-loading during the prior analysis. If convergent and discriminant validity cannot be established, then the interpretation of correlations between that scale and other variables is erroneous (DeVellis, 2003) because the scale is not distinct and separate (Hinkin, 1997). Taken together, the results suggested that the new e-mail incivility scale represents a measure with improved validity and psychometric soundness.

Content validity

The content validity of the newly derived e-mail incivility scale was established using a combination of procedures. Specifically, by employing an approach recommended by Hinkin and Tracey (1999), the initial keyword list used to analyze the data was derived from the literature, and the definition of incivility was used as the foundation for the new scale. This step ensured that the theoretical dimensions (i.e., impolite, negative tone, demanding, etc.) accurately represented components of rude behavior. Next, by using qualitative information from managers' discussions about rude e-mail to cross-reference with the keyword list, the scale was informed by the perceptions and experiences of real employees. Further, by using an informed coder to group the items into dimensions, the content validity of the scale was protected, and by carefully following the steps proposed by Gibson et al. (2003), we gain increased confidence that the new e-mail incivility scale does in fact measure the intended construct.

Practical implications

Although the purpose of this study was primarily to introduce a new scale for the measurement of e-mail incivility by researchers, practical implications of this work do exist. First, workplace incivility is a rampant problem in most organizations and one that plagues many employees. It can lead to decreased organizational commitment (Pearson, Andersson, & Porath, 2005) and decreased job satisfaction (Lim & Cortina, 2005), and is even a contributing factor in burnout (Pearson et al., 2005). A new and better measure of workplace e-mail incivility should help to more accurately detect this form of rudeness in the workplace, which will likely help in two ways. First, it will make it easier for researchers to study and learn about the damage caused by incivility at work and to bring awareness to the prevalence with which it is so widely experienced. Second, a new and improved measure of e-mail incivility should potentially have a positive impact on the research effort focused on mitigating its harmful consequences. Thus, the new scale developed and validated in this study likely has important scholarly as well as practical implications.

Limitations

Despite an attempt to employ rigorous research practices in the collection and analysis of study data, this research is not without limitations. The use of MTurks as study participants and the snowball sampling approach used to select interviewees are two potential limitations that need to be discussed. First, snowball sampling is a nonprobability sampling technique, meaning that unlike random sampling, it does not mitigate individual differences among subjects. In other words, the findings from a sample drawn from this method cannot be generalized to a population. In this study, however, we are not drawing inferences about a population or seeking to make conclusions about a behavior. Instead, we are simply validating a new measure, which means that we do not need respondents of the questionnaire to be a sample drawn from a specific population. Therefore, the general purpose of the study should help to mitigate much of the potential concern of using a snowball sample.

In terms of using MTurks as survey respondents, as explained in the preceding, they are employed by Amazon specifically to respond to customers' surveys and do various routine tasks such as transcription and data entry. This pool of participants is growing in popularity for use in social science research, and several recent studies support the subject pool as a high-quality source of data (Hauser & Schwarz, 2016; Paolacci & Chandler, 2014; Shapiro & Chandler, 2013). However, concerns do exist about using MTurks as study participants. Primarily, the main issue lies in the generalizability of the conclusions of a study when MTurks are used as the subjects. The specific question of concern is whether MTurks are substantially different from "normal employees" in ways that would matter for drawing conclusions about study results. A secondary issue is the extent to which they are properly vetted and represent themselves accurately. This can be problematic because most of these vetting procedures are based on self-reported classifications (i.e., work experience, age, rank, etc.) We argue, however, that in this research, the specific differences between an MTurk sample and any

other sample of employees should not matter for scale validation. The reason for this has to do with the study purpose. In this study, the purpose is not to draw conclusions about the population's behavior, but instead it is to make conclusions about the scale itself. We have set out to create a scale that is valid, reliable, and psychometrically sound. These characteristics of the scale are based on aspects of the questionnaire itself, such as the wording of the items and whether they "hang together" to measure a single latent construct. These scale features should not vary substantially from one sample to another, and thus the use of MTurks in this study should not present a major concern in terms of validity or generalizability.

Conclusion

This study assessed the psychometric properties of the existing cyber incivility scale (Lim & Teo, 2009) and found multiple deficiencies. To overcome these flaws, which presented a significant obstacle for the measurement of the construct and the progress of research in this area, a new and improved scale was developed. The pilot test of the new e-mail incivility scale indicates support for its construct, convergent, and discriminant validity. For instance, the e-mail incivility scale demonstrated convergent and discriminant validity in that all 13 items loaded cleanly onto one factor with no loadings above .4 on any other components. In comparison, 6 of the 13 cyber incivility items cross-loaded onto two other measures, so much so that the scale was unfactorable and neither convergent nor discriminant validity of the cyber incivility scale could be established. Further, the reliability of the new e-mail incivility scale was much above adequate (α =.94), indicating that these 13 items consistently measure one latent variable. Thus, the results underscore the theoretical and empirical deficiencies of the existing scale and highlight the improvements made by the newly created e-mail incivility scale, which equips researchers with a more valid and reliable instrument for measuring and assessing rude e-mail at work in order to support the ever-present and growing concerns about organizational and societal interpersonal civility.

Disclosure statement

No potential conflict of interest was reported by the authors.

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