FACTOR STRUCTURE OF THE STRAIGHTFORWARD INCIVILITY SCALE IN AN ITALIAN SAMPLE

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Workplace incivility is defined as low-intensity deviant behavior with ambiguous intent to harm the target. In this sense, it involves a violation of workplace norms that could damage the quality of working relationships. The aim of this study is to evaluate the factor structure of the adaptation of Straightforward Incivility Scale (SIS; Leiter 2013) in an Italian sample. A sample of 404 healthcare workers completed the SIS. Exploratory and confirmatory factor analyses were conducted. In the first step of analysis, exploratory factor analysis and parallel analysis with 202 participants revealed three factors: supervisor, coworker, and instigated incivility. In the second step, a confirmatory factor analysis with 202 participants supported the 15-item three-factor model in the cross-validation sample. Results provide confirmation of the cross-cultural stability of the facet, factor, and global scale structure of the SIS.

Key words: Workplace incivility; Straightforward Incivility Scale; Measurement; Factor structure; Cross-validation.

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Workplace incivility is defined as “low-intensity deviant behavior with ambiguous intent to harm the target, in violation of workplace norms for mutual respect. Uncivil behaviors are characteristically rude, discourteous, displaying a lack of respect for others” (Andersson & Pearson, 1999, p. 457). The behavior involves a violation of workplace norms relating to mutual respect that could damage the quality of working relationships (Davenport, Schwartz, & Elliott, 2002). Examples include making condescending or demeaning comments, ignoring, insulting or yelling at someone, giving them the silent treatment, and addressing them in unprofessional terms (Cortina, Magley, Williams, & Langhout, 2001; Johnson & Indvik, 2001; Pearson, Andersson, & Porath, 2000). Workplace incivility is a growing organizational concern with the potential to create workplaces harmful to individuals’ wellbeing and increase occupational health risks (Pearson & Porath, 2005). Workplace incivility and its negative, accompanying effects on workers’ wellbeing are recognized by researchers, organizational scholars, and managers. Its prevalence has been extensively reported in literature (Andersson & Pearson, 1999; Cortina et al., 2001, 2002;

Farkas & Johnson, 2002; Laschinger, Leiter, Day, Gilin-Oore, 2009; Leiter, Nicholson, Patterson, Laschinger, 2012; Leiter, Price, & Laschinger, 2010; Lim, Cortina, & Magley, 2008; Pearson et al., 2000; Pearson & Porath, 2001, 2004; Putnam, 2000). Researchers have also identified various adverse psychological effects on those who have experienced workplace incivility, such as anxiety, confusion, depression, and even suicide (Cortina et al., 2001; Davenport et al., 2002; Pearson & Porath, 2005). Similarly, regarding workplace behavior, research reported that workplace incivility could lead to low job satisfaction, job stress, burnout, low self-esteem, withdrawal (Grandey, Kern, & Frone, 2007; Hauge, Skogstad, & Einarsen, 2010; Keashly, Hunter, & Harvey, 1997; Leiter, Laschinger, Day, & Gilin-Oore, 2011; Yamada, 2000).

In reaction to workplace incivility, Pearson et al. (2000) revealed that more than 50% of targeted employees lost time worrying about the incident and future contact with the perpetrator. More than 25% wasted time in an attempt to avoid the perpetrator, while some even considered quitting their jobs.

The first and most widely used instrument for measuring incivility is the Workplace Incivility Scale (WIS) developed by Cortina et al. (2001). This measure and its modifications (Caza & Cortina, 2007) is theoretically and empirically founded on evidence that supervisors and coworkers could display hostile interpersonal behavior (Cortina et al. 2001). The WIS requires employees to indicate how often they have been in situations wherein supervisors or coworkers performed a series of low-intensity hostile behaviors toward them. Another measure was developed by Blau and Andersson (2005). Based on studies conducted by Pearson and colleagues (Anderson & Pearson, 1999; Pearson et al., 2000; Pearson, Anderson, & Wegner, 2001), they examined the workplace incivility phenomenon as a factor related to social interaction and introduced the concept of instigated incivility. Given their earlier findings on experienced incivility and the theorized back-and-forth nature of the incivility spiral, these authors proposed and developed a measure of instigated incivility.

However, recently developed measures of the construct have considered incivility as multifactorial. For instance, Leiter (2013) developed a new measure of workplace incivility, the Straightforward Incivility Scale (SIS), a self-report measure aimed at reflecting the multifactorial nature of incivility. The measure differentiates sources of incivility: coworkers, supervisors, and self. The measure leaves the definition of incivility to the respondent. Rather than asking respondents to rate the frequency of specific behaviors, the measure asks the frequency of people speaking rudely or behaving rudely. This quality of the measure eases its portability across cultures. Within a single organization, work units may differ greatly in the ways in which employees express camaraderie and how they show disrespect. The potential variation across national cultures would be greater. Another limitation of listing uncivil behaviors is that the list is necessarily incomplete. People have many and ever changing ways of showing disrespect toward others. By asking directly about the frequency of rude words or behaviors, the measure leaves respondents to be the arbiter of what constitutes rudeness. Respondents use this capacity when evaluating both received social behavior as well as their own instigated behavior.

This measure comprises 15 items rated on a 7-point scale ranging from 0 (never) to 6 (daily), organized under three main incivility factors: supervisor incivility, coworkers’ incivility, and instigated incivility. Confirmatory factor analysis showed that a three-factor structure of the scale yields a better fit than a one-factor structure.
AIMS

The above measures were developed in English, and to date, no validated Italian version is available. Our main aim in the present research was to explore aspects of reliability and validity of the Italian version of the SIS, for which psychometric data are not yet available. In line with what has been found in the original measure, we expected to replicate in Italian results indicating good psychometric properties of the SIS. In order to analyze discriminant validity, we expected that correlations between the three main incivility factors would be low.

METHOD

Participants

Data were obtained from 404 healthcare professionals (nurses and oss) working in public hospitals across Italy; they were recruited on a voluntary basis. Of the participants 71.8% were female and 33.4% of the sample’s age ranged between 40 and 46 years old, 45.8% were nurses and 48.5% of participants’ job tenure in the actual position was up to 10 years. The instructions asked participants to fill in the questionnaire individually and to seal it in the attached envelope. They were informed that the study was voluntary and anonymous.

Procedure

The Italian version of the SIS (see the Appendix) was developed with a back-translation procedure (Brislin, 1970). The instrument was translated from English into Italian by the first two authors of the present study. A back-translation was then performed by two native English speaking authors, and no differences were found between them. Considering the health care context, the term “supervisor” has been changed to “caposala.” In fact, a “caposala” is the head nurse and is more commonly used than the word “supervisor.”

Measures

The SIS is a 15-item self-report questionnaire (Leiter, 2013) composed of three factors: supervisor, coworker, and instigated incivility. Respondents were asked to indicate the frequency of uncivil encounters in the past month. Items are rated on a 7-point Likert scale ranging from 0 (never) to 6 (daily).

Data Analyses

SPSS version 19.0 was used for all analyses other than the confirmatory factor analyses, which used MPLUS version 6.1. The full sample (N = 404) was first randomly split into two subsamples to conduct exploratory factor analysis (EFA) and confirmatory factor analysis (CFA)
separately. The first step was to use EFA to identify the best fitting model and most interpretable solution based on the first subsample \((n = 202)\); the fit of this model was then examined in the second subsample \((n = 202)\) using CFA.

**Exploratory Factor Analysis**

We first conducted an EFA with principal axis factor (PAF) analysis, with promax rotation \((K = 4)\). To determine the proper number of components to extract more reliably, we used the following criteria: (1) a Kaiser-Meyer-Olkin (KMO)’s eigenvalue greater than 1, (2) Cattell’s scree test, and (3) the results of parallel analysis (O’Connor, 2000). A KMO of .50 or lower is considered barely acceptable, a value between .50-.70 is mediocre, between .70-.80 is good, between .80-.90 is great, and a KMO ≥ .90 is considered superb (Field, 2009). Parallel analysis (PA) is a statistical procedure that extracts eigenvalues from randomly generated data sets that parallel the parameters of the research data. The mean eigenvalues and those that correspond to the 95th percentile of the distribution of random data eigenvalues are then compared to those from the research data. Components are retained when the eigenvalue from the research data is greater than the randomly generated values. Item and factor retention rules to ensure a coherent and pure factor structure included pattern coefficient cut-offs of .40, retention of factors containing at least three items, and internal consistency of .70 or greater per factor. Internal consistency reliability was assessed via Cronbach’s alpha coefficients.

**Confirmatory Factor Analysis**

Based on the results obtained in the EFA procedures outlined above, CFA was conducted using Mplus version 6.12 (Muthén & Muthén, 1998-2010) on the second half of the data-set. As our data expressed multivariate non-normality (Mardia’s test of multivariate kurtosis \(b_{2,d} = 653.95, p < .0001\); Small’s test of multivariate kurtosis \(Q_1 = 319.78, p < .001\)), model fit was investigated with robust maximum likelihood (MLM) estimation which has been shown to perform well under conditions of non-normal data (Brown, 2006). The MLM estimator adjusts for the non-normality of the data. To obtain model fit the robust Satorra-Bentler scaled test \(\chi^2\) (S-B \(\chi^2\); Satorra & Bentler, 1994) was used. Calculations were performed on Pearson’s correlations matrix.

Comparison of fit for the three-factor, two-factor, and one-factor solutions was based on the following goodness of fit indices: (a) the root mean square error of approximation (RMSEA), which should be less than .06 for an adequate model; (b) the comparative fit index (CFI); (c) the goodness-of-fit index (GFI), with values > .95 required for a well-fitting model for both CFI and GFI (Bentler & Bonett, 1980; Hu & Bentler, 1999); and (d) the standardized root mean square residual (SRMR) close to .08 or below (Brown, 2006). To test nested models, \(\chi^2\) difference tests were conducted using the Satorra-Bentler scaled difference (Satorra & Bentler, 2001).

While evaluating model fit, we examined modification indices (MIs), which identify parameters, if allowed to be freely estimated, that would result in a significant reduction of chi-square. Because MIs are based solely on statistical improvements to model fit with no consideration of theoretical meaningfulness/interpretability, the only parameters that we freed and estimated based on modification indices were those that were both substantively meaningful and
theoretically plausible. Finally, recent Monte Carlo simulations have shown that the indexes of fit in structural equation modeling (SEM) are stable with ratios of participants to indicators as low as 5:1, with both normal and non-normal distributions (Nevitt & Hancock, 2004). In the current data set, the ratio of participants to indicators is 6.5:1 for both samples.

RESULTS

Exploratory Factor Analysis

We used Subsample 1 (n = 202) for the exploratory analysis. We first examined model assumptions. The KMO measure of sampling adequacy was great, .87, and Bartlett’s test of sphericity was significant, p < .001 (3076.1, df = 105). Taken together, this suggests that factor analysis is appropriate for these data. Following the procedures described by O’Connor (2000), results of the parallel analysis with 1,000 parallel data sets using 95th percentile random eigenvalue identified six latent factors for retention. The eigenvalues for the first three factors generated by the PAF (6.86, 3.06, and 1.20) exceeded those generated by the random data sets (.70, .54, and .44), as did the eigenvalues of several factors that were judged to be trivial. In fact, as the six-factor solution was examined, a number of problems emerged. Firstly, these three trivial factors did not meet the commonly accepted minimum requirement of three-factor loadings per factor (Tabachnick & Fidell, 2007). Second, two 2-item-factors and a 1-item-factor also emerged, with items that cross-loaded on multiple factors at the .30 level. Collectively, these likely represent the problem of overfactoring (see Fabrigar, Wegener, MacCallum, & Strahan, 1999). Given the problems inherent in the six-factor model, according to the original version of the scale (Leiter, 2013), a three-factor solution was examined.

We then conducted a principle axis factor analysis with promax rotation (K = 4) on the 15 items (Table 1). After rotation, the factors were interpreted as supervisor, coworker, and instigated incivility. The three factors collectively explained 78.41% of the variance in the three facets. Every factor comprised five items, and all facets were well represented with an average communality of .73. The three-factor solution scores produced internal consistency estimates of .94 for the Supervisor subscale, .94 for the Coworker subscale, .89 for the Instigated incivility subscale and .91 for the 15-item SIS total score.

Confirmatory Factor Analysis

Based on the results from the EFA, we tested three models (Table 2). The first examined the fit of a one-factor model, the second the fit of a three-factor model, followed by a test of a three-factor model with adjustments made according to error theory.

Fit indices for the unidimensional model, $SB_{\chi^2}(df = 90) = 777.56; CFI = .46; TLI = .38; RMSEA = .194; SRMR = .181$, suggested that the model did not provide a good fit to the data. We next considered the three-factor model as theorized by Leiter (2013). Fit indices suggested a poor fit to the data, $SB_{\chi^2}(df = 87) = 270.55; CFI = .86; TLI = .83; RMSEA = .116; SRMR = .070$. Then, MIs were inspected to identify potential sources of model misfit. Inspection of the MIs pointed to three residual correlations within the three subscales.
TABLE 1
Factor pattern matrix for the 15 SIS facets

<table>
<thead>
<tr>
<th>Supervisor</th>
<th>Coworker</th>
<th>Instigated</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS5 SIS</td>
<td>.947</td>
<td></td>
</tr>
<tr>
<td>SS3 SIS</td>
<td>.937</td>
<td></td>
</tr>
<tr>
<td>SS4 SIS</td>
<td>.921</td>
<td></td>
</tr>
<tr>
<td>SS1 SIS</td>
<td>.778</td>
<td></td>
</tr>
<tr>
<td>SS2 SIS</td>
<td>.765</td>
<td></td>
</tr>
<tr>
<td>SC1 SIS</td>
<td>.976</td>
<td></td>
</tr>
<tr>
<td>SC2 SIS</td>
<td>.897</td>
<td></td>
</tr>
<tr>
<td>SC4 SIS</td>
<td>.888</td>
<td></td>
</tr>
<tr>
<td>SC5 SIS</td>
<td>.820</td>
<td></td>
</tr>
<tr>
<td>SC3 SIS</td>
<td>.791</td>
<td></td>
</tr>
<tr>
<td>SO4 SIS</td>
<td>.975</td>
<td></td>
</tr>
<tr>
<td>SO3 SIS</td>
<td>.883</td>
<td></td>
</tr>
<tr>
<td>SO5 SIS</td>
<td>.686</td>
<td></td>
</tr>
<tr>
<td>SO2 SIS</td>
<td>.524</td>
<td></td>
</tr>
<tr>
<td>SO1 SIS</td>
<td>.497</td>
<td></td>
</tr>
</tbody>
</table>

Note. Items are reported in the Appendix. N = 202. Loading below |.35 have been suppressed. SS = supervisor incivility; SC = coworker incivility; SO = instigated incivility; SIS = Straightforward Incivility Scale.

TABLE 2
Fit indices of the SIS from the CFA

<table>
<thead>
<tr>
<th>Model</th>
<th>S-Bχ²</th>
<th>df</th>
<th>∆S-Bχ²</th>
<th>∆df</th>
<th>p</th>
<th>CFI</th>
<th>TLI</th>
<th>RMSEA</th>
<th>SRMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-factor model</td>
<td>777.56</td>
<td>90</td>
<td></td>
<td></td>
<td>.46</td>
<td>.38</td>
<td>.194</td>
<td>.181</td>
<td></td>
</tr>
<tr>
<td>Three-factor model theorized by Leiter (2013)</td>
<td>270.55</td>
<td>87</td>
<td></td>
<td></td>
<td>.86</td>
<td>.83</td>
<td>.116</td>
<td>.070</td>
<td></td>
</tr>
<tr>
<td>Three-factor model nested (MIs inspection)</td>
<td>116.06</td>
<td>84</td>
<td>305.36</td>
<td>3</td>
<td>.01</td>
<td>.98</td>
<td>.97</td>
<td>.043</td>
<td>.074</td>
</tr>
</tbody>
</table>

Note. N = 202. S-Bχ² = Satorra-Bentler scaled χ²; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual.

Specifically, the model could be improved by freeing the covariance between errors of items SS1 (“Supervisor ignored you”) and SS2 (“Supervisor excluded you”), residual correlation r = .39; SC1 (“Coworker ignored you”) and SC2 (“Coworker excluded you”), residual correlation r = .24; and SO1 (“You ignored someone”) and SO2 (“You excluded someone”), residual correlation r = .25. Apparently, these correlated residuals are not because of conceptual reasons — misspecification of the model — but because of an overlap in meaning of these items. In fact, the verbs “to ignore” and “to exclude” have the general meanings of “to behave without consideration for you/someone.” Thus, we included these residual correlations in the model. Allowing the...
error terms of items to covary, results of the revised model indicated that the revised model fit the data well, $\chi^2(df = 84) = 116.06; \text{CFI} = .98; \text{TLI} = .97; \text{RMSEA} = .043; \text{SRMR} = .074$. The covariance between the error terms of Items 5 and 8 was .23. The $\chi^2$ difference test was significant, $\Delta\chi^2(df = 3) = 305.36, p < .01$.

The standardized factor loadings for revised Model 2 were all statistically significant ($p < .001$) and ranged from .64 (SO5) to .99 (SC4). Correlations between the three latent incivility factors were as follows: .41 between supervisor and coworkers, .36 between supervisor and instigated, and .52 between coworker and instigated. Overall these results support that straightforward incivility as measured by the SIS may be conceptualized in terms of the three correlated factors of supervisor, coworker, and instigated. Those correlations provided indication of good discriminant validity.

**DISCUSSION**

The study of workplace incivility is imperative to foster wellbeing at work and reduce psychosocial factor risks for employee health. The aim of this study was to develop an Italian version of the SIS, and to examine its factor structure in an Italian sample.

Results from the present study provide evidence for the reliability and validity of the Italian version of the SIS. In line with what has been found for the original English version of the scale (Leiter, 2013), the Italian version of the SIS shows an excellent internal consistency reliability, well above the suggested threshold of .80 (Nunnally & Bernstein, 1994). EFA and CFA were used to examine the factor structure of the SIS and these analyses confirmed that the three-factor structure proposed by Leiter (2013) had the best fit to the data.

Comprehensive data analyses confirmed the superiority of the three-factor CFA solution over the one-factor solution. The internal consistency of the three subscales was also satisfactory. The SIS and all of its subscales had Cronbach’s alphas of over .80, indicating high internal consistency among the items. The pattern of correlations between the SIS (and its three subscales) corresponded to what was expected theoretically. These positive psychometric findings indicate that both the overall score and the constituent factors can be used in research and practice in Italy.

With a view to optimizing model fit, after an initial CFA, we freed residual correlations of Items 1 and 2 of each subscale. Despite the fact that the translation of the items into Italian was carried out following strict back-translation criteria, it may be possible that some cultural bias has influenced the meaning these items have for the participants in our study. Specifically, “to ignore you/someone” and “to exclude you/someone” may have substantial overlap in meaning for Italian culture. It should be interesting to cross-validate the SIS in other languages to understand the relationship between these items.

The study has a number of limitations. First, the convenient sampling method used in the present study affords only minimal confidence in generalizing the results of the study. Consequently, the results of the current study should be regarded as initial evidence warranting replication and extension in different population groups. The sample was predominantly from a healthcare population and the validation of the structure of the SIS from other professions would be desirable. Second, the use of modification indices to improve the overall model fit to the data is somewhat controversial and should be taken with caution. Specifically, correlating error terms
means that there is some other issue that is not specified within the model that is causing covariance. In this study, authors freed and estimated parameters based on modification indices that were both substantively meaningful and theoretically plausible. However, it will be fundamental for future research also to inspect the structure of the SIS scale with different data. Third, testing the equivalence of research instruments across cultural groups is imperative when testing the cross-cultural applicability of theories and models. Although its main purpose was to examine the tenets of SIS and the application of the SIS in an Italian context, the current study did not provide cross-cultural evidence for the equivalence of the SIS. Future research is encouraged to cross-culturally examine the equivalence of the SIS between Italian and other languages (e.g., English, French, Dutch), based on which the cross-cultural comparison and application of SIS could be further achieved.

In conclusion, the current paper presents evidence in support of the psychometric robustness of the SIS. It also provides further confirmation of the cross-cultural stability of the facet, factor, and global scale structure of workplace incivility. It is hoped that the successful adaptation of the SIS into Italian will allow for a more diverse and international series of cross-cultural investigations on the important construct of workplace incivility.

REFERENCES


## APPENDIX

### Straightforward Incivility Scale (Leiter, 2012) — Italian Version

Nell’ultimo mese quante volte è capitato che: [In the last month, how many times has the following happened:]

Scala di risposta [Response scale]: 0 = *Mai* [Never]; 1 = *Sporadicamente* [Sporadically]; 2 = *Una volta al mese o meno* [Once a month or less]; 3 = *Regularmente* [Regularly] (Alcune volte al mese, A few times a month); 4 = *Frequentemente* [Often] (Una volta alla settimana, Once a week); 5 = *Molto frequentemente* [Very often] (Alcune volte alla settimana, A few times a week); 6 = *Quotidianamente* [Daily]

### Supervisor incivility

SS1. Il caposala ti ha ignorato [Supervisor ignored you]
- 0 1 2 3 4 5 6

SS2. Il caposala ti ha escluso [Supervisor excluded you]
- 0 1 2 3 4 5 6

SS3. Il caposala ti ha parlato in modo sgarbato [Supervisor spoke rudely to you]
- 0 1 2 3 4 5 6

SS4. Il caposala si è comportato sgarbatamente nei tuoi confronti [Supervisor behaved rudely to you]
- 0 1 2 3 4 5 6

SS5. Il caposala ha agito senza rispetto nei tuoi confronti [Supervisor behaved without consideration for you]
- 0 1 2 3 4 5 6

### Coworker incivility

SC1. I colleghi ti hanno ignorato [Coworker ignored you]
- 0 1 2 3 4 5 6

SC2. I colleghi ti hanno escluso [Coworker excluded you]
- 0 1 2 3 4 5 6

SC3. I colleghi ti hanno parlato in maniera sgarbata [Coworker spoke rudely to you]
- 0 1 2 3 4 5 6

SC4. I colleghi si sono comportati sgarbatamente nei tuoi confronti [Coworker behaved rudely to you]
- 0 1 2 3 4 5 6

SC5. I colleghi si sono comportati senza rispetto nei tuoi confronti [Coworker behaved without consideration for you]
- 0 1 2 3 4 5 6

### Instigated incivility

SO1. Hai ignorato qualcuno [You ignored someone]
- 0 1 2 3 4 5 6
SO2. Hai escluso qualcuno [You excluded someone]

SO3. Hai parlato sgarbatamente a qualcuno [You spoke rudely to someone]

SO4. Ti sei comportato sgarbatamente nei confronti di qualcuno [You behaved rudely to someone]

SO5. Ti sei comportato senza rispetto nei confronti di qualcuno [You behaved without consideration for someone]