AMERICAN PSYCHOLOGICAL ASSOCIATION
GREEN CROSS Academy of Traumatology
Traumatology


ISSN: 1085-9373
https://doi.org/10.1037/trm0000409

# Validation of the Toronto Moral Injury Scale for Journalists

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Little has been written about moral injury in journalists notwithstanding emerging data suggesting that it is present and associated with work-related activities. One of the factors hindering research in the area is the lack of a self-report psychometric scale developed specifically for detecting moral injury in journalists. To address this, we set out to develop a self-report psychometric scale for detecting moral injury in journalists. Three focus groups were run with a total of 39 journalists from which qualitative and quantitative analyses generated 15 potentially morally injurious events (PMIEs). Thereafter, 159 journalists completed various psychometric scales including the Beck Anxiety Inventory (BAI), the Beck Depression Inventory-II (BDI-II), the PTSD Checklist for DSM-5 (PCL-5), and the 15 PMIEs items. Exploratory factor analysis (EFA) and confirmatory factor analysis were undertaken on the PMIEs items after they were first checked for between-item correlations and language redundancies. Based on the EFA, a three-factor confirmatory factor analysis model was fitted for the PMIEs items. Overall fit indices for the three-factor model indicated a good-to-excellent fit. The nine items retained from the EFA had an average of 18 observations per item, strong internal reliability (Cronbach's $\alpha = .86$), and good convergent validity, correlating significantly with the PCL-5: $r = .40$, BAI: $r = .31$, and BDI-II: $r = .36$ ($p < .001$ for all). Our study provides robust evidence for the conceptual soundness and psychometric validity of the Toronto Moral Injury Scale for Journalists.

*Keywords:* psychometric scale development, moral injury, journalism, trauma, potentially morally injurious experiences

*Supplemental materials:* https://doi.org/10.1037/trm0000409.supp



There is as yet no consensus on the definition of moral injury (Frankfurt & Frazier, 2016), but one widely cited approach by Litz et al. (2009) has been used as a starting point in the study presented here. This entails "perpetrating, failing to prevent, bearing witness to or learning about acts that transgress deeply held moral beliefs and expectations" (Litz et al., 2009, p. 697). The outcomes from these potentially morally injurious events (PMIEs) may be diverse, encompassing what has been termed the primary (guilt and shame) and secondary (anger, disgust, and contempt) emotions associated with moral injury (Farnsworth et al., 2017; Jinkerson, 2016), changes in behavior and attitudes that include, among others, cynicism (Kopacz et al., 2019), disillusionment (Meador & Nieuwsma, 2018), and self-handicapping responses (Litz et al., 2009), loss of religious faith (Evans et al., 2018), and the fraying of social relationships (Koenig et al., 2018; McCormack & Ell, 2017).

Moral injury is not considered a mental illness, but it is associated with conditions like posttraumatic stress disorder (PTSD; Held et al., 2018) and major depression (Jinkerson, 2016) adding to their morbidity (Jinkerson, 2016). Although the literature comes primarily from the military where it has frequently been studied in conjunction with trauma-related mental illnesses, there are clear indications that certain civilian populations are at an elevated risk for moral injury as well. Yet, only a handful of studies are devoted to civilian groups such as child protection workers (Haight, Sugrue, Calhoun, & Black, 2017), teachers (Currier, Holland, Rojas-Flores, et al., 2015), refugees (Nickerson et al., 2015), and journalists (Feinstein et al., 2018).

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No funding was provided for the study. Data not available due to ethical restrictions. The authors declare that there are no conflicts of interest. The authors would like to thank Jane Hawkes, Richard Sambrook, Diane Foley, Vaughan Smith, Michelle Shephard, Natalie Turvey, Elisabet Cantenys, Corinne Dufka, Santiago Lyon, Finbarr O'Reilly, Dean Yates, Emmanuel Serot, and Cliff Lonsdale for their organizational and recruiting efforts.

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Good journalism is one of the essential building blocks of civil society. In bringing us the news of the day, journalists are at the forefront of war, revolution, civil unrest, and man-made and natural disasters such as the COVID-19 pandemic. As a result, they are exposed to an array of significant stressors which explains the elevated rates of PTSD and depression in their profession (Osmann et al., 2020). As a recent study of the migration crisis in Europe shows, frontline journalists are also frequently called on to make potentially morally injurious decisions that can lead to feelings of shame, guilt, and anger (Feinstein et al., 2018). To give two examples: journalists felt they were often placed in situations where they had to choose between helping refugees in distress or taking photographs/recording the event. If they chose the former, they were at times criticized by their news organization for failing to fulfill their primary role as a journalist, particularly when a journalist from a rival organization, who decided differently, ended up with the front page photograph or leading article. This in turn led to journalists feeling shame and anger at the behavior of their editors. A second source of moral distress occurred when journalists felt compelled to reach out to assist migrants but were then inundated by requests for assistance that they could not meet, which left them feeling guilty (Feinstein & Storm, 2017).

To date, the latter is the only study that directly focuses on moral injury in the profession, and the authors found that they were hampered in their research by not having a specific psychometric scale for detecting moral injury in journalists. To that end, they had to use a scale developed for military personnel, which meant excluding a number of items because the content was applicable to soldiers, not journalists. By the same token, this truncated scale fell short when it came to recording situations that were potentially morally injurious to journalists in their work on the migrant crisis. As the study illustrated, there were a number of ways moral injury arose. These included the journalists' own behaviors and responses to unfolding events, the behaviors of fellow journalists and editors, the approach of news organizations to their coverage of emotionally challenging stories, and indeed the behavior of the subjects of their stories (Feinstein et al., 2018).

One way to address the relative lack of empirical data pertaining to moral injury in journalists is to devise a profession-specific psychometric measure. While the core features of moral injury as encompassed in the definition of the condition transcend professions, there will be specific content items that are unique to each profession as we have highlighted earlier. Borrowing from Military Rating scales will therefore fall short, as recent research has identified. With this in mind, our aim has been to develop and validate a self-report scale for moral injury specifically in journalists.

## Method

There are two main parts to our methodology namely conducting and analyzing the content of focus groups to generate scale items and, based on the results of the focus groups, constructing the proposed scale using statistical methods. The parts are labeled "Generation of Proposed Scale Items" and "Scale Construction", respectively.

### Generation of Proposed Scale Items

Scale items were developed in a multistep process. Initial items were generated based on qualitative and quantitative data collected from freelance and staff journalists who participated in three focus groups in Toronto ($n$ = 12 and $n$ = 15) and Vancouver ($n$ = 12), Canada. Participants were affiliated with 12 different news organizations representing TV, radio, online, and print. Although participation was voluntary, only journalists whose portfolio included conflict and violence were approached by the news organization hosting the respective round table discussion. In total, 53 journalists were approached to participate in the focus groups resulting in a response rate of 74%.

In the qualitative part of the content development, journalists were introduced to the concept of moral injury and invited to discuss a number of preprepared statements and questions pertaining to it. The content of these statements was informed by the moral injury literature and covered PMIEs such as work-related moral dilemmas, professional versus personal roles, and personal versus organizational responsibilities, among other topics. Although the discussions at first focused on eliciting opinions as to what constituted a journalism-relevant PMIE, the second half of the 3-hr focus-groups shifted to a discussion of outcomes, encompassing the potential emotional, social, cultural, interpersonal, and spiritual consequences of PMIEs. The groups were guided by the primary investigators, but journalists were free to expand on the discussion items and to suggest additional topics relevant to moral injury. All participants consented to audio recordings of the sessions which were transcribed postsession without the inclusion of identifying information. Content analysis, including sentiment analysis, was then performed on the anonymized session transcripts using R's tidytext package (Silge & Robinson, 2016). Best practices for content analysis (Hsieh & Shannon, 2005; Kelle & Bird, 1995; Kuckartz, 2014a, 2014b) and topic modeling (Silge & Robinson, 2017) were followed in order to identify major themes related to moral injury that emerged across sessions.

For the quantitative part of the content development, participants were given a 60-item questionnaire at the end of each session that pertained to moral injury. The content of the questionnaire was informed by a review of the moral injury literature (Frankfurt & Frazier, 2016; Haight et al., 2016) and consensus agreement among the authors on item selection. Thirty of 39 (77%) questionnaires were returned and analyzed in R Version 3.6.3 (R Core Team, 2020).

In the final step, themes derived from the qualitative content analysis were cross-referenced with item mean scores from the questionnaire to select those item structures most likely to possess discriminant value. Items were then grouped into PMIEs and the potential outcomes from moral injurious events. Based on the overall analysis of the qualitative and quantitative results and consensus agreement among the authors, 15 PMIEs were selected for the proposed moral injury scale (see Table S1 in the online supplemental materials). The analysis also generated 26 potential outcomes (see Table S2 in the online supplemental materials).

### Scale Construction

#### *Participants*

With the assistance of three news organizations and three journalism associations, a list of contact details was compiled for 221 staff and freelance journalists representing TV, radio, and online. The 39 journalists who had previously participated in the pilot study were included in this sample. All journalists were approached in an initial contact email to participate in the study. Of those, five (3%) had to be removed due to invalid contact details, two (1%) withdrew their consent halfway, and 39 (25%) did not complete the

study for unknown reasons, leaving a total sample size of 159 (response rate: 72%).

### *Data Collection Methods*

A dedicated website compliant with digital data safety guidelines of the host institution was established for data collection. Access to the website was restricted with a username and password combination unique to each participant. All data were collected anonymously by detaching it from the participant's username and password combination before storing it in a dedicated, encrypted database. The database was hosted on a separate server at a restricted access site at the host institution. All traffic between the website and the database was encrypted and no cookies were stored on the devices of the participants. Once logged in, journalists were given a detailed description of the study and a consent form to read. Clicking the consent button at the bottom of the consent form signaled their agreement to participate and automatically redirected participants to the first questionnaire:

(i) Demographic and work-related information included age (in years), sex (male/female), marital status (single/in a relationship/married/separated/divorced), number of years worked as a journalist, level of education (none/high school/college or university), injured while working in a zone of conflict (yes/no), and death of a close colleague (yes/no).

(ii) The 15 PMIEs, each with a 5-point Likert scale scored 0 = *none*; 1 = *minimal*; 2 = *moderate*; 3 = *quite a lot*; 4 = *severe*, respectively (Cronbach's $\alpha$ = .92). A drop-down menu at the bottom of the scale allowed journalists to add, in order of frequency, the emotions most associated with the individual PMIEs.

(iii) The PTSD Checklist for DSM-5 (PCL-5; Weathers et al., 2013; Cronbach's $\alpha$ = .95). It assesses symptom categories on four subscales, namely, Intrusion, Avoidance, Negative Alterations in Cognitions and Mood, and Alterations in Arousal and Reactivity. Responses on the 20-item measure are scored on a 5-point Likert scale: 0 = *not at all*; 1 = *a little bit*; 2 = *moderately*; 3 = *quite a bit*; to 4 = *extremely*.

(iv) The Beck Anxiety Inventory (BAI; Beck et al., 1988; Cronbach's $\alpha$ = .94). The instrument consists of 21 questions that are scored on a 4-point Likert scale: 0 = *not at all*; 1 = *mildly, but it did not bother me much*; 2 = *moderately—it wasn't pleasant at times*; 3 = *severely—it bothered me a lot*.

(v) The Beck Depression Inventory–Revised (BDI-II; Beck et al., 1996; Cronbach's $\alpha$ = .91). It captures depressive symptomatology and consists of two subscales measuring cognitive and somatic-affective symptoms, respectively. The 21-question instrument uses a 4-point Likert scale scored 0 to 3.

Participants were also asked whether they had seen a mental health specialist in the past and the reasons for this (none/trauma-related/personal/both).

### *Statistical Analysis*

All statistical analyses were performed in R Version 3.6.3 (2020). Normality of data distribution was checked with Shapiro–Wilk tests and where appropriate nonparametric statistics were used. The PMIEs we generated from the focus group analysis were entered into the second phase of our analysis to determine the final moral injury scale. Sample adequacy was established with Bartlett's test of sphericity (Bartlett, 1951) and the Kaiser–Meyer–Olkin criterion (Kaiser, 1974) as well as precedents from the literature for the recommended range of observations for factor analysis. A parallel analysis was conducted as a preliminary step to determine the number of factors to extract from the exploratory factor analysis (EFA) of the PMIEs (Horn, 1965). Parallel analysis is a simulation-based method that compares the observed eigenvalues from the collected data to the eigenvalues from randomly generated data sets. Factors with observed eigenvalues larger than those extracted from corresponding factors based on the simulated, random data are retained as an indication of the number of factors that need to be entered into the EFA.

EFA was used to reduce our collected data to a smaller set of summary variables and to explore the underlying theoretical structure of the phenomena. R's psych package Version 1.8.12 (Revelle, 2018) was used to perform EFA on the complete sample of 159 journalists. To avoid item redundancy by entering similar, overlapping questions into the EFA, we constructed a correlation matrix of the 15 PMIEs. When two items were strongly correlated, defined as $r > .7$ (Moore et al., 2021), we adopted an approach used by others (Rek et al., 2021) in removing questions where the language overlapped closely with an item already retained.

Confirmatory factor analysis (CFA) was undertaken to verify the factor structure of the observed variables, that is, it allowed us to test our hypothesis that a relationship exists between the observed variables and their underlying latent constructs that emerged from the EFA. CFA was performed on the 159 journalists using R's lavaan package Version 0.6–5 (Rosseel, 2012).

Internal consistency of the final scale was measured using Cronbach's $\alpha$. Correlation coefficients for the moral injury scale and behavioral measures were computed to establish convergent and discriminant validity.

### *Ethics and Consent*

Ethical approval for this study was obtained through the research ethics board at Sunnybrook Health Sciences Center fully affiliated with the University of Toronto (approval ID: 364–2018). Informed consent was obtained from all participants.

## Results

### Demographics

The demographic, work-related, and psychometric data appear in Table 1. The average age of the journalists was 44.72 (*SD* = 12.08%) years with an average of 20.54 (*SD* = 11.7%) years of work experience. The majority of journalists was university educated (92%) with 52% being men. Most journalists had previously been in contact with a therapist (75%). Out of 131 journalists, only

**Table 1**
*Demographic Data*

| Variable | *n* | Percentage | Mean | *SD* |
|---|---|---|---|---|
| Age | | | 44.72 | 12.08 |
| Sex | | | | |
| Male | 83 | 52 | | |
| Female | 75 | 47 | | |
| Marital status | | | | |
| Single | 26 | 16 | | |
| In a relationship | 35 | 22 | | |
| Married | 83 | 52 | | |
| Separated | 5 | 3 | | |
| Divorced | 9 | 6 | | |
| Years of experience | | | 20.54 | 11.7 |
| Education | | | | |
| None | 0 | 0 | | |
| High school | 11 | 7 | | |
| College/university | 147 | 92 | | |
| Psychiatric history | | | | |
| None | 39 | 25 | | |
| Trauma related | 25 | 16 | | |
| Personal | 55 | 35 | | |
| Both | 39 | 25 | | |
| Injured | | | | |
| Yes | 44 | 34 | | |
| No | 87 | 66 | | |
| Colleagues killed | | | | |
| Yes | 75 | 57 | | |
| No | 56 | 43 | | |

*Note*. The total sample size of the demographic data is $n = 158$ due to one journalist not completing the demographic data questionnaire for unknown reasons. The total sample size for *injured* and *colleagues killed* is 131 due to 28 missing values.

a minority had been injured while reporting (34%) but more than half had a close colleague who was killed on assignment (57%).

## Sample Adequacy

There was a mean of 15.9 observations per PMIE, which is firmly within the recommended range of observations per item for factor analysis (Grimm & Yarnold, 1995; Osborne & Costello, 2004; Pett et al., 2003; Tabachnick et al., 2007) and for which precedent can be found in the moral injury literature (Currier, Holland, Drescher, et al., 2015). Bartlett's test of sphericity (Bartlett, 1951) was significant, ($\chi^2(105) = 1749.08$, $p < .001$), indicating good item correlations (Hair et al., 1998). A measure of sampling adequacy value of .88 for the Kaiser–Meyer–Olkin test furthermore demonstrated good sampling adequacy (Kaiser, 1974).

## Parallel Analysis

The non-normal distribution of the data meant that separate parallel analyses were conducted, estimating eigenvalues with either principal axis factoring or minimum residual as factoring methods. The number of randomly simulated data sets for all parallel analyses was set to 1000. All parallel analyses revealed a three-factor solution for the PMIE scale. This was also supported by the accompanying scree plots. Based on item content, Factors 1 to 3 were labeled *Organizational/Management*, *Individuals/Nonmanagement*, and *Online*, respectively. *Organizational/Management* refers to decisions taken by a journalist's editors or news organization in general that are considered morally compromised. *Individuals/Nonmanagement* pertains to the actions of the journalists themselves, individual subjects and colleagues which are to be considered morally compromised and *Online* refers to morally troubling interactions or harassment experienced by journalists online.

## Exploratory Factor Analysis

The final number of items included in the EFA model was 10. Items were discarded from the EFA if they had low factor loadings ($\lambda \leqq .5$), similarly high-factor loadings on more than one factor, weak communalities ($h^2 \leqq .5$), or high uniqueness ($u^2 \geqq .5$) in accordance with best practices in scale development (Worthington & Whittaker, 2006). Based on the results of the factor extraction analysis, a three-factor EFA model was constructed. Despite its comparatively low-factor loading of .34, the question "In my work as a journalist, I regretted acting in ways I considered morally wrong" was retained based on theoretical considerations and its contribution to an overall more robust model fit. The final, revised EFA model retained a total of nine items with factor loadings considered strong ($>.7$).

Details of factor loadings and communalities for the final PMIEs EFA model are presented in Table 2. The cumulative variance explained by the final three-factor solution was 67.06% with 32.92%, 16.44%, and 17.69% explained by Factors 1, 2, and 3, respectively. The root mean square of residuals was .04 which indicates a close fit ($<.05$) and the Tucker–Lewis Index was .998 indicating an excellent fit ($\geqq .95$).

## Confirmatory Factor Analysis

Based on the results from the EFA, a three-factor CFA model was fitted for the PMIE scale. Structural equation modeling does not assume normality, but the maximum likelihood estimator does. A maximum likelihood estimation with robust standard errors and a scaled test statistic was therefore chosen for all models to offset the bias introduced by non-normal distributions (Brosseau-Liard & Savalei, 2014; Brosseau-Liard et al., 2012). Robust estimators are widely considered to be the best option available when assumptions of normality are violated (West et al., 1995). The nine items retained from the EFA resulted in an average of 18 observations per item. Overall fit indices for the three-factor model indicated a good-to-excellent fit (Table 3) depending on the cutoff recommendations used (Hooper et al., 2008; Hu & Bentler, 1999; Kline, 2005). Figure 1 illustrates the factor structure including parameter estimates. The final version of the moral injury scale with a randomized order of items appears in Table 4. The emotions most frequently associated with the PMIEs on the final nine-item scale were anger (31.3%), guilt (26.5%), shame (14.3%), disgust (12.2%), contempt (10.2%), and other (5.4%; e.g., sadness, helplessness, betrayal, and feeling powerless). We collected this information to assess the degree to which the emotions associated with moral injury in journalists are similar or different to those in other professions, most notably the military.

## Reliability

Cronbach's $\alpha$ measures of internal consistency for the moral injury scale were good for the total scale score and ranged from

**Table 2**
*Factor Loadings, Communalities, and Uniquenesses for EFA Model and Standardized Factor Loadings for CFA Model*

| Final items | EFA | | | | | CFA | | |
|---|---|---|---|---|---|---|---|---|
| | F1 | F2 | F3 | $h^2$ | $u^2$ | F1 | F2 | F3 |
| Organizational/Management | | | | | | | | |
| 2) My failure to respond to editors who acted in ways that I considered morally wrong troubled me | .83 | −.03 | −.04 | .64 | .36 | .77 | — | — |
| 5) The morally compromised decisions of editors upset me | .91 | −.10 | .07 | .76 | .24 | .80 | — | — |
| 8) I regretted not speaking out against what I saw as the morally compro mised culture of my news organization | .84 | .07 | −.01 | .77 | .23 | .90 | — | — |
| 3) I was troubled by the culture of my news organization which might be considered morally compromised at times | .76 | .20 | −.01 | .79 | .21 | .91 | — | — |
| Individuals/Nonmanagement | | | | | | | | |
| 9) I felt upset when I witnessed colleagues behaving in ways that I consid ered morally wrong | .16 | .76 | −.05 | .74 | .26 | — | .89 | — |
| 4) It unsettled me when I learned about subjects who acted in ways that I considered morally wrong | −.08 | .84 | .07 | .66 | .34 | — | .75 | — |
| 6) In my work as a journalist, I regretted acting in ways I considered morally wrong | .15 | .34 | .12 | .24 | .76 | — | .48 | — |
| Online | | | | | | | | |
| 7) I was troubled by online, morally compromised responses to my work | .02 | .02 | .79 | .64 | .36 | — | — | .87 |
| 1) I was troubled by my interaction with an online audience | .00 | .00 | .90 | .80 | .20 | — | — | .87 |

*Note*. EFA = Exploratory Factor Analysis; CFA = Confirmatory Factor Analysis; F1 = Organizational/Management; F2 = Individuals/Nonmanagement; F3 = Online; $h^2$ = communalities; $u^2$ = uniquenesses. Items numbered according to their final scale order.



good to excellent for the three subscales (Frías-Navarro, 2019; Nunnally & Bernstein, 1994). Detailed scores for internal consistency are presented in Table 5.

## Convergent and Discriminant Validity

Due to the nonparametric nature of the moral injury data, correlation coefficients for the moral injury scale and behavioral measures were computed using Spearman rank-order correlations. Symptoms of PTSD, anxiety, and depression, which we hypothesized would be associated with moral injury, correlated significantly with higher total scores on the moral injury scale (PCL-5: $r = .40$; BAI: $r = .31$; BDI-II: $r = .36$; $p < .001$ for all), suggesting convergence validity. Discriminant validity, on the other hand, was indicated by negligible correlations (Mukaka, 2012) between the scale and marital status ($r = -.09$, $p = .28$) and level of education ($r = -.12$, $p = .15$), variables we considered "neutral." Means and standard deviations for the psychiatric scales can be found in Table 6.

## Discussion

We sought to develop the first psychometric instrument conceptualized specifically to assess moral injury in journalists. The resulting nine-item scale pertains to core moral injury concepts and yielded three underlying latent factors labeled *Organizational/Management*, *Individuals/Nonmanagement*, and *Online*, containing four, three, and two items, respectively. Model fit as well as internal consistency ranged from good to excellent and we found strong support for convergent and discriminant validity. Overall results suggest a methodologically sound and conceptually valid instrument.

Given that our scale is the first of its kind for journalists, it is helpful to see how it both overlaps and differs from those developed for military, where there is a large literature devoted to the subject. To begin with, our scale contains questions that speak to perpetrator and victim-based items and acts of commission and omission, as do the military scales (Koenig et al., 2018; Nash et al., 2013). In addition, the three-factor component to our scale captures how journalists' moral injury can arise from their own behavior, or that of their colleagues, or the subjects who they report on, or from organizational factors, such as the behavior/decisions of editors and the approach taken by their news organization to particular topics. Here, we see overlaps with the Military moral injury scales where references to the behavior of fellow soldiers, the civilian population, commanding officers, and the military as a whole, match the categories given for journalists.

There was, however, one factor in our scale development that seems particularly germane to journalists and which has not appeared in the military moral injury psychometric scales. This relates to the online harassment of the profession. The content analysis of our round table data revealed that journalists

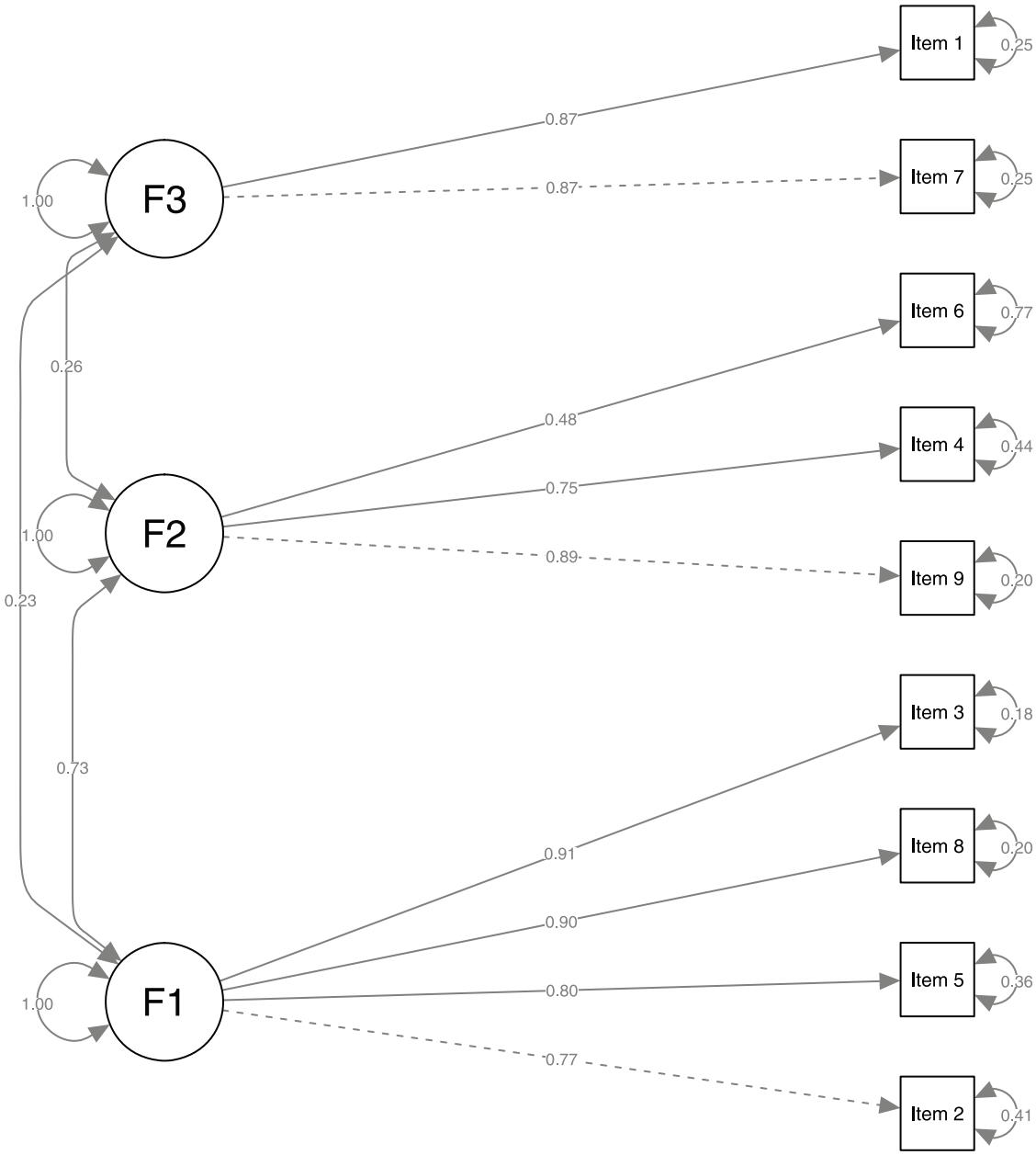
**Table 3**
*Fit Indices for CFA*

| Model | $\chi^2$ | *df* | CFI | TLI | RMSEA | RMSEA [90% CI] | SRMR |
|---|---|---|---|---|---|---|---|
| Three-Factors Moral Injury scale | 48.821** | 24.000 | .96 | .94 | .09 | [.05, .13] | .04 |

*Note*. $\chi^2$ = Model Chi-Square; CFI = Comparative Fit Index; TLI = Tucker–Lewis Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual.
** $p < .01$.

**Figure 1**

*Factor Structure of the Toronto Moral Injury Scale for Journalists (F1: Organizational/Management; F2: Individuals/Nonmanagement; F3: Online)*






specifically referred to morally troubling events when discussing online interactions, suggesting that their responses were linked to moral injury rather than more general reactions to online harassment, such as defiance or compliance, as described by Post and Kepplinger (2019). Although this observation overlaps with numerous media reports of journalists being harassed, intimidated, and threatened online (Löfgren Nilsson & Örnebring, 2016; Reporters Without Borders, 2018; Slaughter & Newman, 2020) including wider reaching concerns for their physical safety too (Reporters Committee for Freedom of the Press, 2021), there is as yet no empirical, psychiatric literature that addresses this problem. Given the increasing shift away from print to digital news platforms (Tremblay, 2015) and the fact that the work of journalists, and by association their identities, are in the public domain, the potential for this type of egregious behavior to lead to moral injury and symptoms of emotional distress deserves attention. The fact that our round table finding survived the EFA and CFA to emerge as two of the nine questions in our scale, confirms the importance of this topic. It suggests that what journalists perceive to be the morally egregious online response from members of the public to their work, and how they in turn respond to this behavior, is applicable to the genesis of moral injury.

**Table 4**
*Toronto Moral Injury Scale for Journalists*

**Please read this carefully:** During your career as a journalist you may have experienced or witnessed events that were morally troubling. They may have affected you in a number of ways. Please rate your responses to these events according to the options below. It is important that you answer all questions.

| | None | Minimal | Moderate | Quite a lot | Severe |
|---|---|---|---|---|---|
| 1) I was troubled by my interaction with an online audience | | | | | |
| 2) My failure to respond to editors who acted in ways that I considered morally wrong troubled me | | | | | |
| 3) I was troubled by the culture of my news organization which might be considered morally compromised at times | | | | | |
| 4) It unsettled me when I learned about subjects who acted in ways that I considered morally wrong | | | | | |
| 5) The morally compromised decisions of editors upset me | | | | | |
| 6) In my work as a journalist, I regretted acting in ways I considered morally wrong | | | | | |
| 7) I was troubled by online, morally compromised responses to my work | | | | | |
| 8) I regretted not speaking out against what I saw as the morally compromised culture of my news organization | | | | | |
| 9) I felt upset when I witnessed colleagues behaving in ways that I considered morally wrong | | | | | |



Our finding that the PMIEs were associated with anger, guilt, and shame fits with findings from the general moral injury literature (Drescher et al., 2011; Jinkerson, 2016; Nazarov et al., 2015; Nickerson et al., 2015). Most notably, however, the predominant emotion in our group was anger, which military data show is more closely linked to betrayal-based events (Frankfurt et al., 2017; Jordan et al., 2017). Our findings support this for five of the nine items in our scale were associated with betrayal. In addition, another two items contained both perpetrator and betrayal-based items. For example; "My failure to respond to editors who acted in ways that I considered morally wrong troubled me" indicates distress not only at the perceived morally compromised behavior of others (i.e., victim-based), but also perceptions of personal (i.e., perpetrator-based) moral failure by doing nothing in response, an act of omission. In addition to replicating these findings, we also found that scores on our moral injury scale correlated with symptoms of PTSD, depression, and anxiety, a finding again in accord with the general moral injury literature (Currier, Holland, & Malott, 2015; Currier, Holland, Drescher, et al., 2015; Gaudet et al., 2016; Koenig et al., 2018; Nash et al., 2013; Nickerson et al., 2015).

The 26 outcome items that emerged from our initial round table discussion and questionnaire analysis indicate the diverse effects of PMIEs, including relationship challenges (Koenig et al., 2018; McCormack & Ell, 2017), alienation from one's profession (Gibbons et al., 2013; Haight, Sugrue, Calhoun, & Black, 2017), religious doubt (Evans et al., 2018), self-injurious behaviors such as problem drinking (Battles et al., 2018), loss of trust (McCormack & Ell, 2017), altered empathic feelings, and self-doubt (McCormack & Ell, 2017; McCormack & Joseph, 2014). Given that the primary aim of our study was to derive the core PMIEs for inclusion in the journalism-related moral injury scale, we did not subject these outcome items to further analysis. What their content does confirm, however, are many shared outcomes associated with PMIEs that transcend professions (Currier, Holland, Rojas-Flores, et al., 2015; Gibbons et al., 2013; Haight, Sugrue, & Calhoun, 2017; Haight, Sugrue, Calhoun, & Black 2017; McCormack & Ell, 2017; Nickerson et al., 2015).

There are various ways in which our moral injury scale can be used. It can evaluate the perceived intensity of the effect of morally injurious events taking into account the specific stressors associated with the journalistic experience. It can be used to assess single or multiple events and to detect and track changes over time, which makes it suitable for use in both cross-sectional and longitudinal research. It can also serve as a tool in clinical settings where it can guide the therapeutic process in meaningful ways by making clinicians aware of the possible role of morally injurious stressors. Moral injury and the effects of exposure to morally injurious events have, for example, been associated with poorer recovery from PTSD (Ferrajão & Aragão Oliveira, 2016; McCormack & Riley, 2016). Screening for moral injury early on in the therapeutic process for journalists who are at an elevated risk for PTSD may therefore improve treatment effectiveness. New insights derived from this could in turn help to differentiate moral injury

**Table 5**
*Internal Consistency*

| Factors | *M* (*SD*) | Response range | *SE* | Mean inter-total correlations | Mean inter-item correlations | Cronbach's α |
|---|---|---|---|---|---|---|
| Organizational/Management | 1.54 (1.32) | 0–4 | .10 | .79 | .89 | .91 |
| Individuals/Nonmanagement | 1.18 (1.19) | 0–4 | .09 | .66 | .80 | .74 |
| Online | 1.68 (1.27) | 0–4 | .10 | .87 | .92 | .86 |
| Total | 1.50 (1.27) | 0–4 | .10 | .46 | .67 | .86 |

**Table 6**
*Psychiatric Data*

| Psychiatric instrument | Mean | *SD* |
|---|---|---|
| PTSD Checklist for *DSM–5* | 21.05 | 17.76 |
| Beck Anxiety Inventory | 13.37 | 12 |
| Beck Depression Inventory–Revised | 14.26 | 10.06 |

*Note*. PTSD = Posttraumatic Stress Disorder; *DSM–5* = Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition.

more clearly from PTSD and untangle further the complex manifestations of emotional trauma in general and the specifics of moral injury in particular.

At the same time, news organizations could add the scale to their organizational support toolkits and administer it to their employees for screening purposes. This point is particularly relevant in light of recent data showing how the culture of a newsroom encompassing perceived support, received support, and received recognition can mitigate the effects of trauma, and in certain instances promote posttraumatic growth (Idås et al., 2019). The converse is also true in that organizational factors such as the pressure to make decisions in ethically ambiguous situations under duress with limited time and information, create conditions that give rise to PMIEs (Brenner et al., 2015). In keeping with these observations, the use of our scale in newsrooms could heighten awareness of moral injury and the potential adverse consequences of being exposed to work-related morally injurious events. Research conducted with the scale could furthermore provide editors and management with the empirical data needed to initiate effective changes to their organization's mental health policies.

The degree to which moral injury is linked to factors associated with journalism work, and the alleviating role that one's news organization can play in that, take on added relevance in the current climate. Working alone, an increased workload, a lack of organizational support, poor control of resources needed to report the story, and stepping outside roles as a journalist to assist the subjects of their stories were factors found to be associated with moral injury (Feinstein et al., 2018). All of which may be amplified by the stresses to journalists that have come with the COVID-19 pandemic (Osmann et al., 2021).

Our study is not without limitations. The majority of the journalists enrolled had considerable exposure to conflict which may have influenced their responses on this particular scale. Journalists with such experience were sought out intentionally with the assumption being that they were more likely to have been exposed to potentially morally injurious events. Our study also did not factor in measurement invariance that could potentially arise from differences between research subjects, such as varying cultural backgrounds. This approach is similar to that adopted by others (Nash et al., 2013). In addition, Factor 3 of our scale labeled *Online* consists of only two items which is below the suggested minimum of three items per factor (Hair et al., 2010). Although we acknowledge this potential limitation, there is precedent in the scale development literature that supports the methodological validity of a two-item factor (Gosling et al., 2003; Yoo & Donthu, 2001). More recent evidence also suggests that even a single-item measure may suffice in cases where the scope of the construct that is being assessed is narrowly defined, as in our description of moral injury (Bergkvist & Rossiter, 2007; Drolet & Morrison, 2001; Wanous et al., 1997). Additional support for our approach comes from Yong and Pearce (2013) who consider a factor with two variables reliable when the variables are highly correlated with each other ($r > .7$) but not well correlated with other variables as is the case for the two items in Factor 3. This is confirmed by the respective $h^2$ and $u^2$ values of the two items in Factor 3 as shown in Table 2. Together with the theoretical considerations listed here, we believe that our interpretation of Factor 3 in the *Discussion* is meaningful in a way that provides sufficient reason for retaining it in the scale (Worthington & Whittaker, 2006). Finally, although there is precedent in the literature pertaining to the development of a moral injury scale for using the same sample for the EFA and the CFA (Currier, Holland, & Malott, 2015), this approach requires additional scrutiny. We therefore took considerable care to confirm the statistical robustness of our results. This is reflected in our analysis which included tests of sample adequacy as well as parallel analysis. We also paid close attention to parameter estimates, their standard errors, and $p$ values when evaluating the results of the CFA. We are therefore confident that the measures we took allowed us to avoid common pit falls such as overfitting as described by Fokkema and Greiff (2017). Lastly, we could not derive causal statements from our data due to the study's cross-sectional research design. Longitudinal studies are needed to allow for temporal inferences and to establish test–retest reliability values for the scale.

## Conclusion

The Toronto Moral Injury Scale for Journalists provides researchers, clinicians, and news organizations with a conceptually valid and psychometrically sound instrument to directly assess the effects of exposure to potentially morally injurious experiences in journalists. It eliminates the need to borrow and modify existing self-report scales from other professions while capturing the unique complexities inherent to journalism. Research conducted with the scale could furthermore provide management with the empirical data needed to initiate effective changes to their organization's mental health policies. The degree to which moral injury is linked to factors associated with journalism and the mitigating role that news organizations can play in that are of particular relevance in the current climate of fake news and online hate directed at media personnel.

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Received December 22, 2021
Revision received June 14, 2022
Accepted June 18, 2022 ■