# Does Racial Trauma Predict Moral Injury in Individuals with a Racial-Ethnic Minority Background?

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## Abstract

Moral injury (MI) concerns an emotion-based trauma-reaction following moral violations, and is a phenomenon widely studied in refugees and occupational groups where high-stress moral decisions must be taken (veterans, nurses, police officers). The present study aimed to widen the scope of MI by considering social groups who may be at risk for developing moral injury, the specific focus in this study being individuals from racial and ethnic minorities. A correlational analysis of racial trauma in individuals from racial-ethnic minority groups and moral injury was conducted, as well as a moderation analysis between racial trauma (X), MI (Y) and centrality of the event(s) of racial trauma (M). Participants ($N$=65) completed an online survey with six questionnaires pertaining to MI and racial trauma, the analysis of which showed no significant correlation or moderation between the constructs. In order to improve clinical treatment of trauma, further investigation is necessary to better understand racial trauma and MI as cases of traumatic stress that are not encompassed by the conventional PTSD diagnosis.

**Does Racial Trauma Predict Moral Injury in Individuals with a Racial-Ethnic Minority Background?**

Moral injury (MI) is a trauma-related phenomenon, initially studied with a focus on combat veterans (Litz et al., 2009), that offers an additional way of understanding trauma responses that are not strictly fear-based responses of the "classical" DSM-5 diagnosis Post-Traumatic Stress Disorder (PTSD). Initially a philosophical concept, MI is defined most commonly in research as "[…] the lasting psychological, biological, spiritual, behavioral, and social impact of perpetrating, failing to prevent, or bearing witness to acts that transgress deeply held moral beliefs and expectation" (Litz et al, 2009, p. 697). Over the past decade MI research has boomed, with particular focus on military samples and more recently refugee samples (Nickerson et al., 2015). Occupational fields where moral dilemmas may often be faced and moral boundaries crossed, such as in healthcare workers, first responders and journalists have also been studied (Williamson, Stevelink and Greenberg, 2018). While Williamson et al. (2021) suggest that MI is not strictly determined by occupation, thus far few studies have explored MI in vulnerable groups within the normal population, apart from refugee samples, such as individuals with a migrant background or racial-ethnic minorities. Investigating MI in racial-ethnic minorities is of importance to better understand the psychological effects of racism without medicalising what may be healthy responses in the face of injustice.

In MI literature, exposure to events that may cause moral injury or distress are termed *potentially morally injurious events* (PMIEs), and importantly these PMIEs are not directly predictive of experiencing moral injury or post-traumatic stress (Griffin et al., 2019). An event is a PMIE when it challenges fundamental conceptions that the individual holds about "how the world operates or how an individual or group should be treated" (Litz et al., 2009). This can vary

from killing, witnessing or engaging in violence in combat veterans (Litz et al., 2009) to being unable to take ethically correct decisions due to institutional policies in nurses (British Medical Association, 2021, p. 3). At the centre of PMIEs is the fracturing of trust which can be trust in oneself, an organisation, government or even society (Griffin et al., 2019). MI can thus be differentiated between an injury that results from one's own (in)actions compared to an injury from others' (in)actions (Hoffman et al., 2019). Zalta and Held (2020) contend that blaming oneself for a PMIE, rather than the external environment, can lead to increased feelings of shame.

One phenomenon that could represent a PMIE in a civilian population is racial trauma, defined as "dangerous experiences related to threats, prejudices, harm, shame, humiliation, and guilt associated with various types of racial discrimination" (Cénat, 2022). Racial trauma has been likened to the DSM-5 PTSD classification, although it is unique in the sense that racial trauma could pertain to a singular event but more often relates to "ongoing individual and collective injuries due to exposure and re-exposure to race-based stress" (Comaz-Díaz, Hall & Neville, 2019). There are many different types of discrimination that are classed as racial trauma including but not limited to: cultural, overt, covert, and institutional racism (Williams, Metzger, Leins, & DeLapp, 2018; refer to Appendix A).

To provide an example, the following quote from Wang & Santos (2022) illustrates the racism towards an Asian-American during the COVID-19 pandemic:

> "I had somebody yell at me, "you chink brought the virus" as the man started racing towards me. I was by myself at the time and essentially braced myself to be physically attacked. Thankfully, I was able to go into my hotel before he could reach me." (p.225)

In this instance, the individual experiences powerlessness by being at the receiving end of racially charged abuse as well as racist policies that contradict moral beliefs about a fair society. The example can be placed in the context of COVID-19, where institutional racism was just as prevalent in the form of anti-migration policies and politicians attacking racial groups for the spread of COVID-19 (Devakumar, Shannon, Bhopal, & Abubakar, 2020). In such events, the recipient of discrimination is not the only one who faces a moral dilemma; onlookers who conjunctly do not intervene or are unable to stop an aggressor's racist actions may also experience moral boundaries being crossed in terms of beliefs about how people should be treated.

An important way in which racial trauma is well-fitting to MI literature is that, just as PMIEs can be in MI, experiences of racial discrimination can also be said to shatter fundamental assumptions we all hold to be true: 'The world is benevolent', 'The world is meaningful' and 'The self is worthy', (Janoff-Bulman, 2010, p.6). When faced with the aftermath of a racially traumatic event or PMIE these beliefs can be shattered. Furthermore, the internalisation of blame, after these beliefs have been shattered, is a shared aspect between PMIEs and racially traumatic events (Comaz-Díaz, 2016) which leads us to be able to consider racial trauma a type of PMIE, under the MI framework.

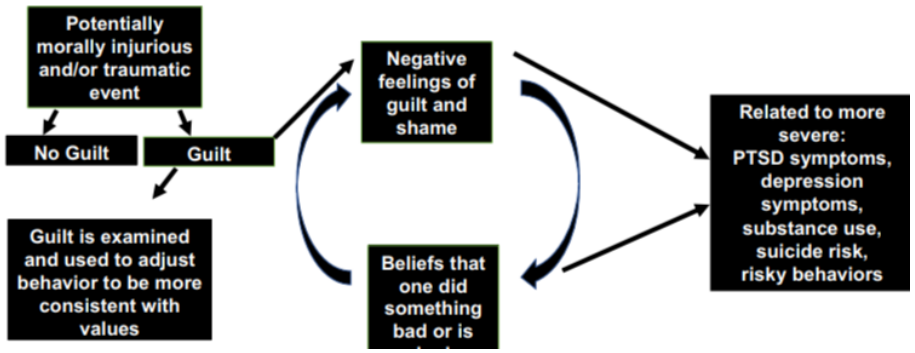
Both racial trauma and MI processes are considered similar, but not fully synonymous to PTSD. A correlational study of PTSD and racial trauma in Black Americans found symptoms of avoidance and hypervigilance to be less prevalent in racial trauma while intrusion, low mood, and low self-esteem to be most strongly correlated with racial trauma (Roberson & Carter, 2022). Just as a correlational study investigating MI and PTSD in US veterans found MI most strongly associated with cluster D (negative cognitions and mood) and least associated with cluster E

(hypervigilance; Koenig et al., 2020). The strongest correlated PTSD symptoms in both cases are emotion rather than fear-related, suggesting that racial trauma and MI both focus on a trauma presentation that the PTSD diagnosis does not fully encompass or intend to explain.

Norman's (2022) non-adaptive guilt and shame (NAGS) model can help make sense of these emotion-related trauma symptoms in common. The NAGS model explains two chain reactions to feeling guilt following a traumatic event. Guilt in this case encompasses the emotion, irrespective of whether the individual is guilty in terms of blame. Either one can use guilt to "assess what values were violated" and try rationalising the event in order to behave more in line with their beliefs in the future (Norman, 2022). Alternatively, guilt may cause one to feel shame as a result of condemning their behaviour as wrong or considering themselves to be inherently bad. This cycle is related to PTSD and depression among other symptoms. Higher levels of guilt and shame were found in samples of racial minorities who have experienced more racial discrimination experiences (Carter & Forsyth, 2010; Byrant & Ocampo, 2006). Guilt and shame are similarly central emotions in MI (Griffin et al., 2019) and according to Zalta & Held (2020), it is the transformation of shame-free guilt into a combination of guilt, shame and negative beliefs about the self that distinguishes moral distress from MI. Therefore, following these steps, guilt and shame turn PMIEs into MI and emotion-related PTSD symptoms. It is thus proposed that guilt and shame as a result of racial trauma can also turn (a) racially traumatic event(s) into MI and reflect emotion-related PTSD symptoms.

**Figure 1**

*The Non-adaptive guilt and shame (NAGS) model*

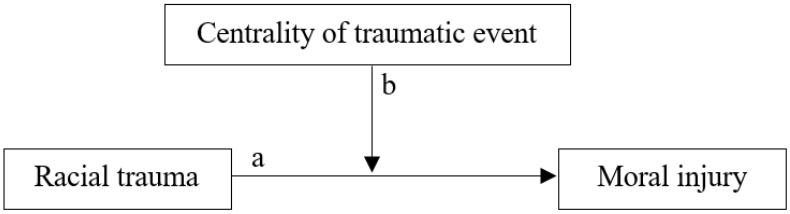



*Note.* Taken from Norman (2022)

Carter (2007) and Comaz-Díaz (2016) both state that there are some individuals, who when faced with racial discrimination can use this injustice to fuel their drive for transformative activism and change, while others may experience racial trauma. It is therefore important to distinguish that MI is proposed to have a relationship with racial trauma in individuals who do not cope "adaptively" in the face of these injustices. Given that traumatic events central to one's life have been found to positively correlate to shame and emotional reactions to index trauma in PTSD diagnosis (Gehrt, Berntsen, Hoyle & Rubin, 2018), the degree to which racial trauma(s) have impacted one's perception of their own identity will be investigated as a moderator that impacts whether the individual will have developed MI or not (Figure 2).

**Figure 2**

*The moderating effect of centrality of traumatic event (M) on the relationship between racial trauma (X) and moral injury (Y)*




The present study will investigate the extent to which racial trauma is associated to MI in individuals from a minority racial-ethnic[1] background and whether a high or low centrality of the trauma affects this relationship. Given the positive correlations of racial trauma and MI to emotion-related PTSD symptoms and the emphasis of the cycle of guilt and shame exacerbating traumatic symptoms, the primary hypothesis follows that higher scores on racial trauma, using the Racial Trauma Scale, will correlate with higher scores on moral injury, using the Moral Injury Appraisals Scale. Using the Centrality of Events Scale for the moderator of centrality of trauma, the secondary hypothesis follows that for those who view their racial trauma as central to their identity compared to those who do not, moral injury scores will be higher.

## Method

### Participants

Data of 65 individuals who self-identified as being from a minority racial-ethnic background were collected. The sample was recruited through social media posts seeking interested participants. The survey was hosted online on Qualtrics and administered in English. Participation was voluntary, with no research credits or monetary prize offered in return. Given

[1] As race is a largely avoided term in a European context (Goldberg, 2006), for the sake of this study the term 'racial-ethnic minorities' will be used to encompasses respondents from both countries where race is seen as most prevalent and countries where ethnicity is considered more important to race.

the sensitive nature of the topic, if participants were affected by any of the questions, they were referred to contact the head researcher.

## Procedure

This study was part of a larger survey project investigating the concept of moral injury carried out in collaboration by ARQ National Psycho-trauma Centre and Utrecht University. Five questionnaires were administered and the survey in its entirety took an average 23.5 minutes to complete. Participants were informed upon start that they retained the right to stop whenever they pleased. Upon completion, participants were debriefed on the purpose of the research and were given contact details of the researchers in case of any questions.

## Measures

***Demographics.*** Participants were asked to indicate demographic variables including age, gender, occupation and nationality. As moral injury is traditionally researched in regard to occupation, participants were also asked to answer questions about their job conditions and satisfaction.

***Racial Trauma Scale Nine-Item Short Form Research Version (RTS-9).*** The RTS-9 (Williams et al., 2022) contains nine items measuring trauma due to race-based discrimination (Appendix B). A sample item is *"Feeling society is unfair to me"*, to which respondents answer on a Likert scale of 1-4 (1 = 'not at all', 4 = 'extremely'). Higher cumulative scores indicate greater severity of racial trauma. The RTS-9 has strong convergent validity with significant positive correlations ($r$ between 0.66 - 0.85) with related scales measuring PTSD and race-based trauma, $p < .001$. Similarly, the original RTS also has strong construct validity as scores are significantly different between White and BIPOC participants. In terms of criterion validity, the

RTS-9 is acceptable, *AUC* = .87, with a clinical cut-off of 15 to distinguish individuals with racial trauma from individuals without.

***Moral Injury Appraisals Scale (MIAS).*** The MIAS (Hoffman, Lidell, Bryant & Nickerson, 2019) is a nine-item scale measuring moral violation. The MIAS consists of five questions related to the subscale of moral violations committed by others and four items related to moral violations committed by self, with a sample item of the former subscale being *"I am troubled by morally wrong things done by other people"*. Answers are given on a self-report Likert scale ranging from 1-4 (1 = 'not at all', 4 = 'very much'), with higher scores indicating higher moral injury appraisals. The MIAS was originally developed for a refugee population and has thus far only been validated in these samples, with good internal consistency having been found for the two subscales (Hoffman et al., 2019).

***Centrality of Events Scale Revised (CES-R).*** The CES-R (Berntsen & Rubin, 2006) is a 20-item scale that measures the importance of a certain (traumatic) event to the person's life story and to what extent it forms an integral part of their identity going forwards. *"This event has become a reference point for the way I look upon my future"* is an example of an item on the CES-R. The statements can be answered on a 5-point Likert scale between 1-5 (1 = 'totally disagree', 5 = 'totally agree'), with higher scores indicating higher centrality of the given event(s) to the person's life and identity. The CES-R has been found to have high internal consistency with strong correlations to PTSD measures and high internal reliability, Cronbach's $\alpha$=0.94 (Berntsen & Rubin, 2006).

***Post-Traumatic Stress Disorder Checklist for DSM-5 (PCL-5).*** The PCL-5 (Blevins et al., 2015) is a 20-item scale measuring the extent to which an individual has been disturbed by PTSD symptoms in the past month. An example item includes *"Feeling distant or alienated*

*from other people"*, to which one responds on a 5-point Likert scale between 1-5 (1 = 'not at all', 5 = 'extremely'). Higher overall scores indicate greater self-reported PTSD symptoms and cut-off scores indicating severe PTSD range from 30-60 depending on the population characteristics. The PCL-5 has shown strong convergent and discriminant validity, as well as test-retest reliability (Blevins et al., 2015).

***Memory Recall of Moral Injury (MR-MI).*** The MR-MI (Mooren, de la Rie & Boelen, 2019) is a 24-item scale that measures the level of recall one has of one's morally injurious experience, understanding of one's identity after the morally injurious event, moral emotions and practical circumstances surrounding the event (e.g., time elapsed). It consists of three qualitative questions about the nature of the moral injury and 21 items measuring moral injury. *"I felt horror during the event"* is a sample item to which respondents answer on a 7-point Likert scale (1 = 'strongly disagree', 7 = 'strongly agree'). Higher scores on the 22 scale items, indicated greater moral injury and distress. In the present study, the internal consistency of the MR-MI was low, Cronbach's $\alpha$=0.38.

**Statistical Analyses**

Raw data was cleaned to remove results from respondents who left the survey unfinished or took longer than a week to complete the survey. Questionnaires pertaining to moral injury were prefaced by having participants think about an event that caused them (potential) moral injury. For all questionnaires involved, item scores for each respective scale were added together to form the total score. Higher scores on the RTS and MIAS reflected higher experienced racial trauma and higher experienced moral injury respectively. Responses on the CES-R scale were originally continuous (0-100) however since the variable would be used as a moderator, it was converted into a categorical variable of low and high centrality of events (0-60 = low, 61-100 =

high. The categories were divided based on the median of participant total CES-R scores given that the scale's manual did not specify a cut-off score.

Moderation and correlation analyses were conducted using IBM SPSS 28. The moderation analysis was done with Hayes' PROCESS for SPSS macro which runs bootstrapped multiple regression analyses. Total scores for all four measures were plotted visually and found to meet assumptions of linearity and homoscedasticity. All the measures were normally distributed, although the eventual sample that was analysed was rather small (less than 50) due to which a bootstrapped moderation and non-parametric correlation tests were conducted. Lastly, the assumption of no multicollinearity was also met as $VIF < 3$ for all three measures used in the moderation.

## Results

Of the initially recruited 65 participants, 14 were automatically omitted from the final data analysis as 13 answered 'no' to having ever experienced a traumatic or stressful event, a necessary condition for answering latter questions, and one participant did not consent to the study. A further 10 participants' results were also left out due to incomplete responses, ranging from 8%-82% completion. Descriptive statistics of the remaining participants are presented in the table below. Many respondents were students, and an overwhelming amount were female (82.9%).

**Table 1**

*Participant Demographics*

| | Subcategories | M (SD) | n (%) |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **Age** | | 24.76 (5.3) | |
| **Sex** | Female | | 34 (82.9) |
| | Male | | 7 (17.1) |
| **Educational Level** | High School | | 11 (26.8) |
| | Bachelor | | 22 (53.7) |
| | Master | | 6 (14.6) |
| | Post Doctorate | | 2 (4.9) |
| **Students** | | | 36 (87.8) |
| **Religious** | | | 24 (58.5) |

*Confirmatory Analyses*

The results of a Spearman correlation analysis found no evidence for the primary hypothesis that the RTS scale would be positively correlated with the MIAS scale. The correlation, $r(39) = 0.25$, $p > .05$, was not significant and thus shows no support for the primary hypothesis of a relationship between the RTS and MIAS. The correlations between the rest of the measured variables, as well as the means for each scale, are presented in Table 2 below. There were no significant correlations between any of the variables measured.

Particularly surprising was the lack of correlation between the PCL-5, a measure of PTSD symptoms, and the MIAS and the RTS, respectively, as both scales had been found to be positively correlated to PTSD scales in prior research. Nonetheless it is interesting that the average score of participants on the PCL-5 was 41.5, seeing as a score above 33 indicates PTSD symptoms severe enough to indicate further assessment and potential diagnosis (US Veterans Association, 2022). The lack of correlation between the RTS and the MIAS, the X and Y variables for the following moderation analysis, suggest that moderation is also unlikely although results may differ due to the bootstrapping that occurs in PROCESS.

**Table 2**

*Spearman correlations (ρ), means and standard deviations of measured variables*

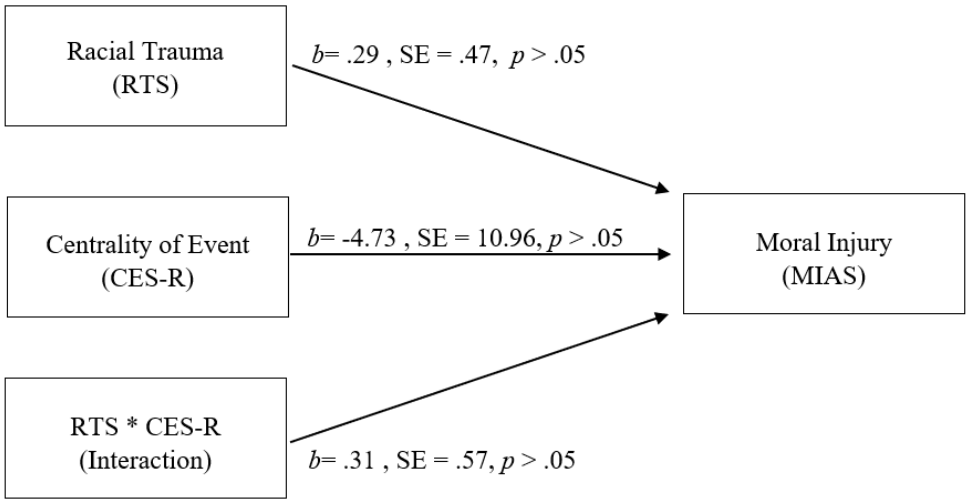
| | (1) | (2) | (3) | (4) | M (SD) |
|---|---|---|---|---|---|
| **(1) RTS-9** | 1.00 | - | - | - | 18.6 (4.2) |
| **(2) MIAS** | .25 | 1.00 | - | - | 23.2 (7.3) |
| **(3) CES-R** | .10 | .07 | 1.00 | - | 61.9 (15.8) |
| **(4) PCL-5** | .18 | -.04 | .32 | 1.00 | 41.5 (17.6) |

Abbreviations. RTS-9, Racial Trauma Scale 9-Item Research Version; MIAS, Moral Injury Appraisals Scale; CES-R, Centrality of Events Revised, PCL-5, Post-Traumatic Stress Disorder Checklist for DSM-5.

The moderation analysis included the RTS-9 (X), the MIAS (Y), and the CES-R (W) and its results can be seen in Figure 3. There was no significant main effect found of the RTS scores on the MIAS scores nor of the CES-R scores on the MIAS scores. The interaction effect between the RTS-9 and the moderator CES-R also returned nonsignificant, $b$=.31, $SE$= .57, $p > .05$. Thus, using CES-R as a moderator, the overall model was nonsignificant. However, its effect size, $R^2$ = .11, is a medium effect size which suggests that although there was no significant effect, this is not due to chance but moderately accurately depicts the relationship between the variables.

**Figure 3**

*Regression coefficients for the relationship between RTS and MIAS moderated by CES-R*




*Post-hoc Analyses*

Conducting the main correlation and moderation analyses showed no effect of the RTS on the MIAS, and no effect of the moderation model with the CES-R. Two routes of further investigation into the relationship between the RTS and the MIAS were conducted post-hoc to better understand the nonsignificant findings.

Firstly, part of the theory used to build the hypothesis of an expected relationship between the RTS and the MIAS was the NAGS model from Norman (2022). Despite the prior results showing a lack of relationship between racial trauma and MI, the proposition in this model of guilt and shame being the propagators of the proposed relationship is still interesting to investigate as secondary analyses. Of the questionnaires administered, the MR-MI included two items of interest that measured 'Guilt' and 'Shame' respectively. A correlation analysis was run on the scores on these items with the total scores of the RTS and the MIAS. Outcomes of the Spearman correlation tests, in Table 3, show significant positive correlations of the items MR-MI 'Shame' and MR-MI 'Guilt' with both the RTS-9 and the MIAS. This suggests that the RTS as a

predictor and the MIAS as an outcome are both related to the cycle of guilt and shame proposed by the NAGS model. However, the results of the current study do not seem to find a relationship between the predictor and the outcome themselves.

Secondly, the MIAS scale was used in the primary analysis to encompass moral injury as a whole, however the scale can be divided into two subscales MI-Other (items 1-4) and MI-Self (items 5-9). This division serves to demonstrate that moral injury as a result of others' actions can present differently to moral injury as a result of one's own (in)actions (Hoffman et al., 2019), a nuance that is of particular importance when exploring racial trauma. Another secondary analysis was thus conducted by running a correlation with the, now divided MIAS scales, MI-Other and MI-Self with the RTS. The results, similarly displayed in Table 3, show that MI-Other had a nonsignificant relationship to the RTS while MI-Self was significantly, positively correlated to the RTS, $r(39) = 0.31$, $p > .05$.

**Table 3**

*Spearman correlations (ρ), means and standard deviations of measured variables*

| | **(1)** | **(2)** | **(3)** | **(4)** | **(5)** | **(6)** | **M (SD)** |
|---|---|---|---|---|---|---|---|
| **(1) MI Guilt** | 1.00 | - | - | - | - | - | 18.6 (4.2) |
| **(2) MI Shame** | .55** | 1.00 | - | - | - | - | 23.2 (7.3) |
| **(3) RTS-9** | .36* | .43** | 1.00 | - | - | - | 61.9 (15.8) |
| **(4) MIAS** | .49** | .37* | .25 | 1.00 | - | - | 23.2 (7.3) |
| **(5) MI-Other** | .42** | -.38* | .20 | - | 1.00 | - | 10.9 (3.5) |
| **(6) MI-Self** | .51** | .35* | .31* | - | -.57** | 1.00 | 12.7 (4.7) |

Abbreviations: MI Guilt, Memory Recall Moral Injury Guilt Subscale; MI Shame, Memory Recall Moral Injury Shame Subscale, RTS-9, Racial Trauma Scale 9-Item Research Version; MIAS, Moral Injury Appraisals Scale; MI-Other, Moral Injury Appraisals Scale Other Subscale; MI-Self, Moral Injury Appraisals Scale Self Subscale.

** = p<.05, ** =p<.001*.

The outcomes of the ‘Guilt’ and ‘Shame’ correlations suggest that racial trauma, measured by the RTS here, is potentially a more complex concept that cannot be measured in the nine-item questionnaire used here. A more sensitive and researched measure is required before more substantive claims, especially in terms of moderation, can be drawn about its relationship to moral injury, as measured by the MIAS. Additionally, the outcomes of the correlations of the RTS with the subdivided scales of the MIAS, MI-Other and MI-Self, raises questions about our understanding of racial trauma to encompass a moral injury that presents as self-focused rather than other-focused.

## Discussion

The present study sought to investigate a determinant of MI that was unrelated to one’s occupation, namely racial trauma. Statistical analyses found no relationship between racial trauma and MI and no moderating effect of the centrality of the trauma between the two phenomena. Post-hoc analyses indicated positive relationships between MI-related emotions of guilt and shame, and racial trauma and MI, respectively. These findings are in line with Norman's NAGS model (2022) which purports shame and guilt to be responsible for perpetuating MI and trauma symptoms. Lastly, the outcome that racial trauma is more in line with self-focused MI and not in line with other-focused MI highlights the need for further investigation into the construct. This discovery goes against the assumption that in cases of racism, as per MI theory, those facing moral violations at the hands of another would experience more other-focused moral distress than self-focused (Hoffman et al., 2019).

The conclusions that can be drawn based on this study are that racial trauma cannot be considered a determinant for MI, and that this likely reflects reality as this nonsignificant result given the moderate effect size. Correlations between both racial trauma and MI with the measures of guilt and shame do suggest that these phenomena are somehow similar. Yet, it is possible that this is because both concepts are similar to PTSD but do not fit a full diagnosis, which explains the shared trauma-related emotions of shame and guilt. The implication being that there is nothing further in common.

These conclusions are drawn based on the results solely, however the sensitivity of the tools used to measure both primary phenomena, the RTS-9 and the MIAS, should be considered. Although not the primary focus of the study, it was surprising to see a lack of relationship with both racial trauma and MI, respectively, with PTSD symptomatology as both correlations were found in prior research (Roberson & Carter, 2022; Koenig et al., 2020). This non-significance indicates that PTSD is simply unrelated to racial trauma and MI in this sample, although this seems unlikely given that both correlations have been found to be replicable in meta-analyses (McEwen, Alisic, & Jobson, 2021; Paradies et al., 2015).

Although MI is quite a young field of study, racial trauma is even less researched within the field of psychology. Despite the RTS-9 being a recent and validated measure of racial trauma in research, it may still fall short of capturing the full spectrum of what racial trauma can entail. Further, the RTS-9 was validated within a sample of BIPOC individuals from the US (Williams et al., 2022) and the present study contained responses from participants of many nationalities, residing in Europe or the US. Due to the recency of the measure, it may lack validation in non-American samples. Additional quantitative research into racial trauma as a phenomenon may

offer a more comprehensive scale for measuring racial trauma which may lend itself to be a more robust test of the hypotheses set out in this study.

Likewise, the scale for the moderator of centrality of event(s), the CES-R, while well validated lacks detail when it comes to measuring the repetitive nature of racial trauma as it focuses on the influence of one particular event on a person's life story. When considering racial trauma in future, it would be wise to have a scale that measures the influence of repetitive events or use the CES-R with additional questions pertaining to the frequency, intensity and duration of the (racially) traumatic events that the respondent has in mind.

While such criticism is one pertaining to the validity of the tools used, which can in turn influence the non-significance of the relationship between racial trauma and MI in this study, just as relevant is the survey structure employed in this research. Although all questionnaires were ordered in a coherent manner, in retrospect the block introductions to particularly the racial trauma and MI recall measures could have been improved to better serve the purpose of this study. The racial trauma block was preceded with an instruction to think about instances one has experienced racial discrimination and how bothered they have felt by this. What one individual considers racism may of course differ from another, this instruction would have benefited from being accompanied with types of racial discrimination (cultural, overt, covert and institutional; Cénat, 2022) or vignettes to elaborate on these types. In terms of the MI recall measure, which was also the first introduction to the concept of MI, this was preceded by examples of types of MI, however vignettes also be beneficial in this case.

By specifying each introduction, the validity of the overall survey is improved by making sure participants are responding to the respective questionnaires with a precise understanding of racial trauma and MI in mind. Adjusting questionnaire introductions comes as a reaction to some

of the answers given to the qualitative MI recall questions. While many answers were genuine dilemmas fitting the concept of MI, some superficially fit one aspect of MI but did not relate to the phenomenon. For instance, one participant responded, "losing myself by trying to fit in and find friends", and another responded, "[manager] got aggressive and insulted me in front of the whole crowd". While both are rightfully stressful situations, they are not dilemmas related to morality.

Despite these shortcomings, a strength of this study in relation to the topic at hand was the demographic variety of the respondents. In total there were 21 different nationalities present of the 41 respondents considered. Furthermore, despite many students responding, there was still a considerable variety in educational level from high school to PhD graduates, as well as an age range of 18-49. As this is the first study exploring this specific relationship, it is preferrable to have a diverse sample to avoid focusing on a relationship between racial trauma and MI that is dependent on the social relations of different groups in a particular country but rather take a broader view.

In future, two additional components can be added to a similar survey to increase our understanding of the relationship between racial trauma and MI. Firstly, recruiting a sample consisting of racial-ethnic minorities and a sample of non-racial-ethnic minorities would allow for a test of differences across the groups and see if racial trauma and MI remain unrelated in a comparison of the former to the latter. However, whether it would be ethically and empirically sound to administer the RTS in a sample of people who are not racial-ethnic minorities is questionable, as the scale was created for and validated in a BIPOC population (Williams et al., 2022). The use of an alternate measurement tool such as the Perceived Discrimination Scale

(Williams, Yu, Jackson, J & Anderson, 1997) could be an option as this tool is created to measure differences between people of (all) different racial-ethnic backgrounds.

Secondly, considering that the relationship between guilt, shame and the primary variables of interest in this study were all significant, it would be interesting to include measures of shame and guilt specifically, such as the State Shame and Guilt Scale (SSGS; Cavalera et al., 2017) as well as measures of self-esteem in future surveys of this topic. The reason being that all three, shame, guilt and self-esteem, have been theorised by Zalta & Held (2020) to be instrumental in turning moral distress into MI. Thus, looking at these processes within the context of racial trauma would add more insight into its relationship to MI.

To conclude, there has been considerable backlash amongst psychologists in the trauma field about the overextension of the PTSD diagnosis and the need for more nuance in order to reduce mistreating problems submerged under 'PTSD' classifications (Dobbs, 2009). Both phenomena of interest in the current study, racial trauma and moral injury, aim to do exactly that, in conveying a form of traumatic stress that does not fit under the DSM-5 classification. Links between both phenomena and emotion-related trauma symptoms as well as moral emotions of shame and guilt led to the hypothesis of a relationship between the two. However, the current study finds there to be no supported relationship between the two concepts. Racial trauma thus does not act as a determinant of moral injury, however both of these nuanced trauma classifications remain relevant for further investigation in clinical psychology for clinicians to better understand the variety of traumatic stress reactions that can present in patients.

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## Appendix A

Cumulative effects of racial stress and trauma

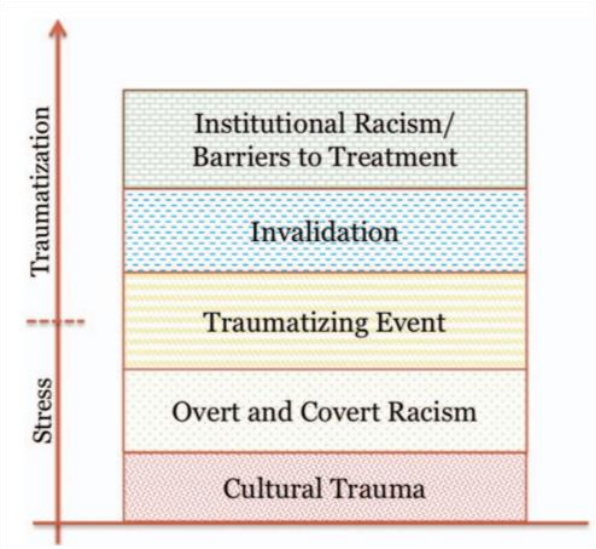


Figure 4. Taken from Williams et al. (2018)

## Appendix B

Racial Trauma Scale Nine-Item Short Form Research Version

Instructions: “Think about all the times when you have heard about, seen, or experienced racial discrimination. As a result of this, how bothered have you been by the following.”

Scoring is 1 = not at all, 2 = slightly, 3 = very much, 4 = extremely.

1. Inability to stop moving.
2. Having difficulties connecting with other people.
3. Feeling society is unfair to people like me.
4. Reacting angrily.
5. Avoiding certain situations or speaking to certain people.
6. Feeling like I am not as good as others.
7. Feeling like I cannot succeed.
8. Finding it difficult to cope without food/alcohol/drugs.
9. Worrying about my safety.

This short form is scored by adding all items. Total scores range from 9 to 36. The three subscales are as follows: (a) Lack of Safety: 3, 5, 9; (b) Negative Cognitions: 2, 6, 7; (c) Difficulty Coping: 1, 4, 8.

## Appendix C

Memory Recall - Moral Injury

1. Memory Task: moral dilemma

   We now ask you to record a different memory of a stressful situation in your life in which you experienced a moral conflict or dilemma. By this we mean that the situation was strongly against your norms and values. Below are a few examples:

   - You had to choose between two “evils” and the outcome was negative anyway.
   - During or after the event, you had many doubts about whether you made “the right” choice or acted “right”.
   - The event conflicted with what you think is “right” or “wrong” in the world.
   - The event evokes feelings of regret and guilt afterwards, because of your own behaviour (or inaction) or the behaviour of others.

   Pay attention! It is important that you choose a situation that can (still) evoke negative feelings in you when you think back to it.

2. When did this event take place?

   - Last week
   - Last month
   - Last year
   - 2-5 years ago
   - 6-10 years ago
   - 11-20 years ago
   - 21-30 years ago
   - More than 30 years ago

3. Did this event take place during work?
    - Yes
    - No
4. What was your moral conflict or moral dilemma?
5. I experienced this moral conflict as a result of:
    - The way I acted or failed to act in this situation
    - How other people acted or failed to act in this situation
    - Both

The following questions are answered on a Likert scale of 1-7 (1 = strongly disagree, 7 = strongly agree)

6. I felt fear during this event.
7. I felt horror during this event
8. I felt joy during this event
9. I felt panic during this event
10. I felt shame during this event
11. I felt guilt during this event
12. I felt sadness during this event
13. I felt disgust during this event
14. I felt anger during this event
15. How strong are your emotions now when you look back at them? (0 = not strong, 100 = very strong)
16. My memory for this event is very vivid.
17. My memory for this event determines how I see myself

18. My memory for this event involves a lot of sensory information (sounds, smells, tastes, etc.)
19. This memory was easy for me to recall
20. The order of the events in the memory are clear
21. Since it happened, I have talked about this event many times
22. I feel like the person in this memory is a different person than who I am today
23. I see the experience in the memory through my own eyes
24. In my memory, I see this experience through the eyes of others