



Personal Internalization of a Confederate Monument Removal Event Associated with Increased Depression, Anxiety, and Stress Among University Students

Journal of Health Disparities Research and Practice

Volume 14 | Issue 1

Article 5

© Center for Health Disparities Research, School of Public Health, University of Nevada, Las Vegas

2021

## Personal Internalization of a Confederate Monument Removal Event Associated with Increased Depression, Anxiety, and Stress Among University Students

Erika M. Redding , *University of North Carolina at Chapel Hill*, [eredding@live.unc.edu](mailto:eredding@live.unc.edu)

Yucheng Hou , *University of North Carolina at Chapel Hill*, [yuchengh@live.unc.edu](mailto:yuchengh@live.unc.edu)

Riley E. Mulhern , *University of North Carolina at Chapel Hill*, [rmulhern@live.unc.edu](mailto:rmulhern@live.unc.edu)

### Abstract:

This study sought to determine the association between racialized events relating to the removal of a Confederate monument and mental health outcomes among students at a Southern state-university in the United States. After the removal of a Confederate monument located on the university's campus, racialized protests and violent clashes with police forces ensued. To assess the impact of these events on student mental health outcomes, a cross-sectional survey was disseminated to 10,000 current students. Student mental health was measured using the 21-item Depression, Anxiety, and Stress Scale (DASS). The key exposure, personal internalization of the event, was measured using the seven-question Centrality of Event Scale (CES) and was defined as the perceived importance of the racialized event for the students' identity and life story. Student demographic information including race, ethnicity, gender, age, and minority status was collected anonymously. Logistic regression was used to compare mental health outcomes of students with high versus low personal internalization of the event, with an interaction term included to capture if the relationship was stronger among students who identified as a minority. After adjusting for minority status, higher internalization of the event was associated with adverse mental health outcomes (OR = 1.96 [95%CI, 1.18-3.25]). However, there was insufficient evidence to determine that minority status modified

the results, which may be due to limited power. Overall, these findings demonstrate that increased internalization of the removal event was associated with adverse mental health outcomes among students during the first two weeks of the academic semester, underscoring the importance of state and university official's consideration of the mental health implications of racial tensions arising from Confederate monument removal events for diverse student populations and strategies for mitigating these outcomes.

Keywords:

Mental Health; University Students; Health Disparities; Confederate Monument

Follow this and additional works at: <https://digitalscholarship.unlv.edu/jhdrp>



Part of the [Medicine and Health Sciences Commons](#), [Race and Ethnicity Commons](#), and the [Social Justice Commons](#)

---

### Recommended Citation

Redding, Erika M.; Hou, Yucheng; and Mulhern, Riley E. (2021) "Personal Internalization of a Confederate Monument Removal Event Associated with Increased Depression, Anxiety, and Stress Among University Students," *Journal of Health Disparities Research and Practice*: Vol. 14 : Iss. 1 , Article 5.

Available at: <https://digitalscholarship.unlv.edu/jhdrp/vol14/iss1/5>

This Article is protected by copyright and/or related rights. It has been brought to you by Digital Scholarship@UNLV with permission from the rights-holder(s). You are free to use this Article in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/or on the work itself.

This Article has been accepted for inclusion in *Journal of Health Disparities Research and Practice* by an authorized administrator of Digital Scholarship@UNLV. For more information, please contact [digitalscholarship@unlv.edu](mailto:digitalscholarship@unlv.edu).

---

## Personal Internalization of a Confederate Monument Removal Event Associated with Increased Depression, Anxiety, and Stress Among University Students

### Cover Page Footnote

We would like to thank Dr. Karin Yeatts at The University of North Carolina at Chapel Hill for her support and guidance throughout this project.



**Journal of Health Disparities Research and Practice**  
**Volume 14, Issue 1, Spring 2021, pp. 56-69**  
© Center for Health Disparities Research  
School of Public Health  
University of Nevada, Las Vegas

## **Personal Internalization of a Confederate Monument Removal Event Associated with Increased Depression, Anxiety, and Stress Among University Students**

Erika M. Redding, University of North Carolina at Chapel Hill

Yucheng Hou, University of North Carolina at Chapel Hill

Riley E. Mulhern, University of North Carolina at Chapel Hill

*Corresponding Author:* Erika Redding, [eredding@live.unc.edu](mailto:eredding@live.unc.edu)

### **ABSTRACT**

This study sought to determine the association between racialized events relating to the removal of a Confederate monument and mental health outcomes among students at a Southern state-university in the United States. After the removal of a Confederate monument located on the university's campus, racialized protests and violent clashes with police forces ensued. To assess the impact of these events on student mental health outcomes, a cross-sectional survey was disseminated to 10,000 current students. Student mental health was measured using the 21-item Depression, Anxiety, and Stress Scale (DASS). The key exposure, personal internalization of the event, was measured using the seven-question Centrality of Event Scale (CES) and was defined as the perceived importance of the racialized event for the students' identity and life story. Student demographic information including race, ethnicity, gender, age, and minority status was collected anonymously. Logistic regression was used to compare mental health outcomes of students with high versus low personal internalization of the event, with an interaction term included to capture if the relationship was stronger among students who identified as a minority. After adjusting for minority status, higher internalization of the event was associated with adverse mental health outcomes (OR = 1.96 [95%CI, 1.18-3.25]). However, there was insufficient evidence to determine that minority status modified the results, which may be due to limited power. Overall, these findings demonstrate that increased internalization of the removal event was associated with adverse mental health outcomes among students during the first two weeks of the academic semester, underscoring the importance of state and university official's consideration of the mental health implications of racial tensions arising from Confederate monument removal events for diverse student populations and strategies for mitigating these outcomes.

**Keywords:** Mental Health; University Students; Health Disparities; Confederate Monument

Journal of Health Disparities Research and Practice Volume 14, Issue 1, Spring 2021

<http://digitalscholarship.unlv.edu/jhdp/>

Follow on Facebook: [Health.Disparities.Journal](https://www.facebook.com/Health.Disparities.Journal)

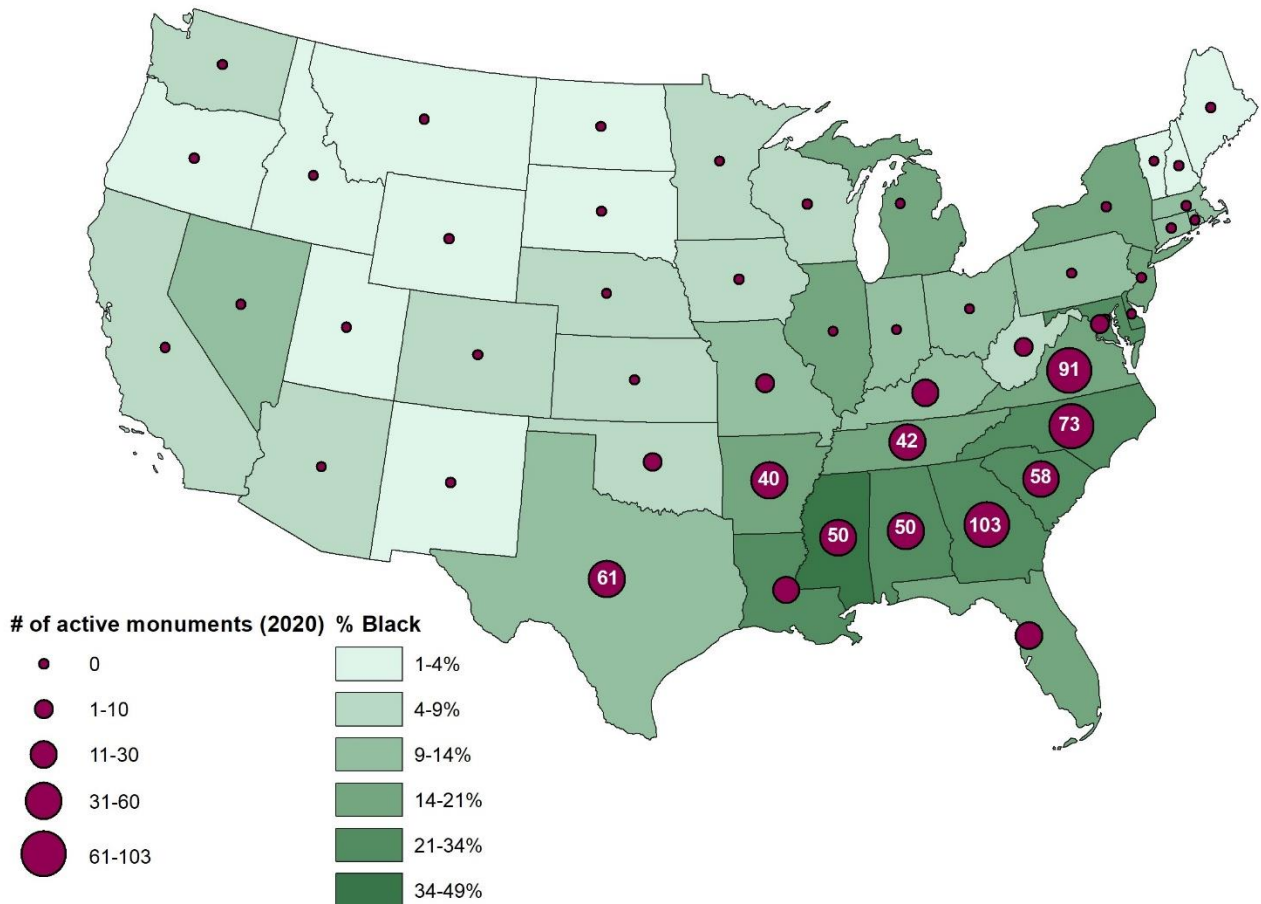
Follow on Twitter: [@jhdp](https://twitter.com/jhdp)

## INTRODUCTION

In the wake of the Charleston, South Carolina shooting in June 2015, in which nine Black Americans were killed at church in a racially-based hate crime (Anderson, 2013), a wave of backlash against Confederate monuments has swept the United States (U.S.), condemning their symbolic representation of white supremacy (Southern Poverty Law Center, 2019). Monument-removal events are often divisive in the communities where they occur, engendering both anti-racist protests, led by those advocating for their removal, and counter-protests in which many individuals freely express support of Confederate monuments through sentiments of racism and white nationalism. Such conflicts can quickly escalate and potentially turn violent, as demonstrated by the Charlottesville protests in August 2017 during which a protester was killed. This onset of unrest surrounding Confederate monuments in the U.S. has the potential to affect the mental health of the surrounding communities and the nation. Research indicates that experiences of racism are associated with adverse health outcomes, including stress, depression, anxiety, and substance use (Anderson, 2013; Pieterse, Todd, Neville, & Carter, 2012; Williams, Neighbors, & Jackson, 2003). Moreover, many cities across the U.S. are still at risk of a traumatic or divisive Confederate monument-removal event occurring. According to 2020 data from the Southern Poverty Law Center, there are currently 679 active, standing Confederate monuments in 569 cities across 24 U.S. states, demonstrating the scope of this potential health risk (Southern Poverty Law Center, 2019).

Most Confederate monuments were erected during late 19<sup>th</sup> and early 20<sup>th</sup> centuries and, as shown in **Figure 1**, over 90% of the remaining monuments are located in ex-Confederate states (Southern Poverty Law Center, 2019). In North Carolina alone, 71 Confederate monuments remain standing, the third most of any state (behind Georgia with 103 and Virginia with 90). Prior to 2015, only three Confederate monuments had ever been removed in the South (in Greenville, SC [1923], East Baton Rouge, LA [2012], and Reidsville, NC [2013]). In the four years after the 2015 Charleston shooting, however, 33 monuments were removed across seven ex-Confederate states in 21 different cities. Then, in 2020 alone, 73 monuments were removed or relocated in 52 different cities across the south (Southern Poverty Law Center, 2019), likely in response to the killing of George Floyd, in May 2020, and the ensuing protests for racial justice across the U.S. Thus, the likelihood of a monument-removal event occurring in cities in ex-Confederate states has increased exponentially in recent years (**Figure 2**).

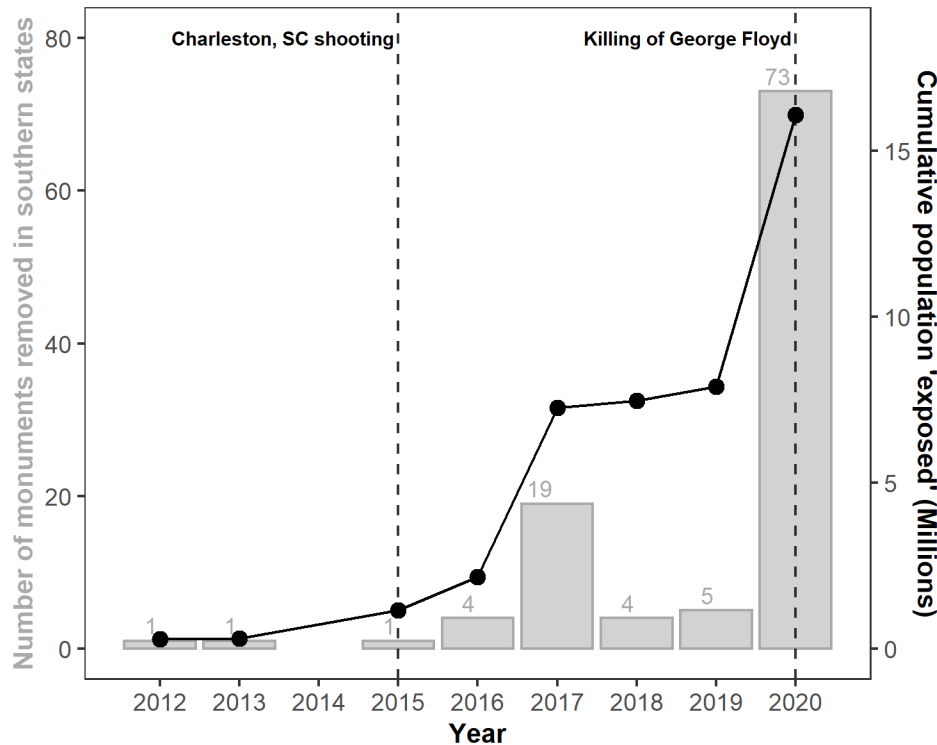
**Figure 1.** Location of active Confederate monuments in the United States according to 2020 data from the Southern Poverty Law Center in comparison to the percent African American population by state.



Monument removal events, especially those occurring in Southern states, increase the possibility of pro-Confederate protests, political tension, and violence in the cities where they occur. Currently, the full mental health impact of these events is unknown. However, based on 2010 U.S. Census data, we estimate that the total at-risk population for experiencing a traumatic monument removal event is approximately 50 million people across all 516 Southern U.S. cities with an active monument (U.S. Census Bureau, Population Division, 2018). Using the same population estimates, the three removals in Southern cities prior to 2015 would have “exposed” less than 1% of the total at-risk population to a traumatic removal event (i.e., an exposure prevalence of approximately 0.6%). In contrast, following the 2015 Charleston shooting, as many as 15.8 million people across 71 cities have been “exposed” to a potentially disruptive monument removal event in their community, representing an estimated exposure prevalence of 31.6% in a five-year period. Thus, individuals living in a Southern city with a Confederate monument became

over 50 times as likely to experience a potentially stressful removal event after 2015 as compared to before. The magnitude of this shift is demonstrated in **Figure 2**.

**Figure 2.** The number of Confederate monument removal events in Southern states by year and the estimated total cumulative population living in Southern cities where a monument removal event has occurred.



This dramatic increase in exposure to Confederate monument removal events demonstrates the need for research regarding the mental health implications of their occurrence on local populations. To address this gap in the literature, we developed a cross-sectional survey that assessed university student experiences pertaining to a Confederate monument removal event that occurred at the University of North Carolina at Chapel Hill (UNC) in August 2018. The monument, known as “Silent Sam,” was the source of much conflict and debate, especially related to its virulently racist dedication speech (Carr, 1913). “Silent Sam” was toppled by anti-racist protesters at the beginning of the Fall 2018 school year. This removal-event incited several waves of counter-protests, organized by white supremacist groups, and elevated tensions between students and campus police for a period of several weeks (D. A. Graham, 2018; Stancill, 2018). Renewed tensions occurred in December 2018 at the announcement from the UNC Board of Trustees that the monument would remain on campus (Harris, 2018). In January 2019, the statue and pedestal were removed from UNC’s campus, but the fate of the statue remains undecided as of this writing (Kelly, 2021).

The “Silent Sam” conflict occurring on a university campus is particularly important in light of recent findings regarding disparities in access to mental health treatment on college campuses and students of color receiving significantly less care (Lipson, Kern, Eisenberg, & Breland-Noble, 2018). The occurrence of these events across the country paired with existing disparities in mental health treatment demonstrate the pressing need for further insight into their impact on the mental health of diverse communities. We hypothesized that exposure, measured as personal internalization, to the events surrounding “Silent Sam” was positively associated with depression, anxiety, and stress indicators and moderated by race or minority status such that the relationship was stronger among students of color or among students who identified with a minoritized group on campus.

## **METHODS**

### Survey Design

A cross-sectional survey was designed to test the association between increased internalization of the removal event (i.e., exposure) and mental health outcomes among UNC students. This study was approved by the UNC Institutional Review Board (Study No. 18-2828).

To assess student mental health outcomes regarding the “Silent Sam” removal event, we utilized the 21-item Depression, Anxiety, and Stress Scale (DASS) (Lovibond & Lovibond, 1995). This scale is composed of three subscales: Depression (DASS-D), Anxious Arousal (DASS-A), and Stress (DASS-S). All items are scored on a rating scale as follows: 0 = did not apply to me at all; 1 = applied to me to some degree; 2 = applied to me to a considerable degree, or a good part of time; 3 = applied to me very much, or most of time. Participants were asked to respond to the DASS questions specifically for the first two weeks of the Fall 2018 semester, the time of the greatest conflict surrounding “Silent Sam.” The interpretation of the DASS is based primarily on the use of cut-off scores. Lovibond and Lovibond (1995) divided severity ratings from “normal” to “extremely severe” on the basis of percentile scores, with scores in the 0-78 percentile classified as “normal” (Lovibond & Lovibond, 1995). The 78<sup>th</sup> percentile was thus used as a cutoff to dichotomize participants’ DASS scores between “normal” and “elevated.” In addition to the composite DASS score, the recommended cut-off scores from “normal” to “elevated” for the depression, anxiety, stress subscales are 5, 4, and 8 respectively.

Internalization was used as a measure of exposure, as a previous study demonstrated that internalization may be a clinically important mechanism through which racist experiences cause anxious symptomatology in Black Americans (J. R. Graham, West, Martinez, & Roemer, 2016). Internalization was measured using the seven-question Centrality of Event Scale (CES) which measures the importance of an event on individual identity and life story (Berntsen & Rubin, 2006). The CES has been previously validated among university students and was found to be correlated with clinical psychological outcomes including post-traumatic stress, depression, and anxiety (Berntsen & Rubin, 2006; Gehrt, Berntsen, Hoyle, & Rubin, 2018). All questions on the CES are scored on a five-point Likert scale from one, “totally disagree,” to five, “totally agree.” A higher score on this scale is indicative of high personal internalization of the event. In our study, participants were asked to respond to the CES questions in relation to the events surrounding the “Silent Sam” removal including the initial toppling event and ensuing demonstrations and counter-protests. Since there is not a recommended clinical cut-off point for CES scores, the 75th percentile was used as the cut-off point between “exposed” and “unexposed” groups as the 75th percentile



61 Personal Internalization of a Confederate Monument Removal Event Associated with Increased Depression, Anxiety, and Stress among University Students  
Redding, Hou, & Mulhern

approximately corresponds to the 78th percentile threshold used for DASS scores. To assess the effect of the choice of cut-off point for CES scores, a sensitivity test was conducted by using the 50th and 90th percentile as different cut-off points to ascertain the robustness of the results.

Beyond DASS and CES measures, data was anonymously collected regarding students' baseline stress level and demographics including self-identified race, ethnicity, gender identity, age, degree level, first semester status, and students' living distance from campus. Additionally, students were asked to indicate whether they identified as being a part of a minoritized group on campus. While students were not asked to specify which group they identified with, this question was intended to capture perceived marginalization by students and how self-identification with any minoritized group may be associated with differential internalization of the monument removal event. While affirmative respondents to this question, or those that identified as being a "minority", could include racially minoritized students, this category was also open to students that identified as a minority based on non-racial identities and affiliations such as religion, LGBTQ+ status, and ability status.

#### Sample

Approximately three months after the "Silent Sam" removal event, 10,000 undergraduate and graduate student emails were randomly sampled from the UNC student directory service from all departments across campus with enrolled students as of the Fall 2018 semester. These students were sent an invitation to participate in the study via a survey link with the email subject title "Silent Sam and Student Stress Survey."

#### Data Analysis

First, composite scores were calculated by adding up scores on each item and on each subscale. Cronbach's alpha coefficients were computed to evaluate internal consistency. Measures of occurrence (prevalence) and association (prevalence odds ratio) for the binary exposure and outcome variables were calculated and potential confounding and effect measure modification (EMM) were tested for demographic factors and other covariates related to stress and internalization of the event. These variables included: "first semester status" which indicated whether a student was in their first semester at the university during the time of the removal event; "relative baseline stress level" which assessed the magnitude of students' perceived stress during the first two weeks of the Fall 2018 semester relative to the six months prior; "degree level" which accounted for student type (graduate versus undergraduate) and the effect of different peer groups, age, and inherent professional and academic differences that may impact outcomes; and "living distance" which measured students' living distance from the campus (on campus, 0-3 miles, 3-10 miles, and over 10 miles from campus). Variables indicating "race" and "minority status" were also included.

Multiple logistic regression models were developed to assess the association between the internalization of the event and the probability of having an elevated versus normal DASS score after adjusting for the confounders listed above. In addition, each confounder was tested for potential EMM using a stratified analysis. If the ORs in the stratified analysis bounded the crude OR, the occurrence of EMM was suggested. The interaction term between the internalization and the confounder of interests was then included in the logistic regression model to capture the modifying effect after adjustment for other confounders. All analyses were performed using Stata version 15.

## RESULTS

### Study Participants

A total of 1,155 responses were received (response rate of 11.6%). Respondents with incomplete survey records, were under 18 years old, were not enrolled at UNC during the Fall 2018 semester, had missing data on any of the variables included in the analysis, or were “straight liners” (i.e., chose the same answer for each survey item) were excluded (401 observations or 34.7% of the total responses). In total, 754 responses were included for analysis.

Demographic characteristics of the sample are shown in **Table 1**. The sample was generally comparable to the school-wide statistics published by the university for the Fall 2018 semester (Office of Institutional Research and Assessment, 2018). With respect to racial diversity, there was a slight overrepresentation of white students in the sample (76% compared to 61%). Black/African American student representation was approximately equivalent with school-wide population (approximately 6.5%), and Hispanic/Latino and Asian/Asian American students were slightly underrepresented (5.3% and 6.9%, respectively, compared to school-wide populations of approximately 8% and 14%). About 59% of survey participants identified as female which is representative of the higher female enrollment at UNC.

Regarding CES and DASS scores and outcomes, the average CES score was 14.7 (SD, 7.6) with a range of 7-35, while the average DASS score was 12.8 (SD, 11.5) with a range of 0-58. After dichotomization of the variables, 26.1% of the sample reported having a high level of internalization (scores in the 75th percentile or greater) and 22.9% showed elevated levels of DASS (scores in the 78<sup>th</sup> percentile or greater) (**Table 1**).

### Event Internalization and Health Outcomes

The results of the logistic regression model assessing the association between internalization and odds of elevated versus normal DASS scores are depicted in **Table 2**. The crude OR between CES and DASS was 2.88 [95% CI, 2.01-4.13] (Model 1, Column 1), suggesting that students with high internalization of the “Silent Sam” event had 2.88 times the odds of reporting increased depression, anxiety, and stress outcomes at the beginning of the Fall 2018 semester compared to students with low internalization. This finding was statistically significant and consistent across different dichotomization cut-off points of CES scores (50th, 75th, 90th percentile).

Columns 2-4 show the results of the relationship after adjusting for different confounders. Compared to the crude OR, there was strong evidence that baseline relative stress level, first semester status, and minority status each acted as confounders (Model 2, Column 2). While higher baseline stress level and self-identification as a minority were associated with an elevated DASS score, first semester status, as expected, was negatively associated with the DASS outcomes when holding all other predictors constant, as new students may only have limited exposure to the event during their first semester on campus. In Model 3 (Column 3), minority status was replaced by dichotomized race (white versus non-white). The insignificant estimated OR for race indicates that self-reported minority status, instead of race, may be a potential confounder between internalization and DASS score.

Among all confounders included in the model, only minority status showed evidence of EMM. That is, in a simple stratified analysis, among students who identified as a minority, having a high internalization score had a stronger association with adverse mental health outcomes compared to non-minority students. Model 4 (Column 4) thus adjusted for confounding in addition

63 Personal Internalization of a Confederate Monument Removal Event Associated with Increased Depression, Anxiety, and Stress among University Students  
Redding, Hou, & Mulhern

to the EMM of minority status by including an interaction term between CES and minority status. Including the EMM of “minority status” adjusted the OR for CES to 1.96 [95% CI, 1.18-3.25]. However, the OR for the interaction term was not statistically significant.

Additionally, when analyzing the outcomes of each DASS subscale separately, the relationship between internalization and DASS subscale outcomes among all students was found to be stronger for the anxious arousal subscale (OR = 2.97 [95% CI, 2.07-4.28]) compared to the depression subscale (OR = 2.04 [95% CI, 1.44-2.89]) and stress subscale (OR = 2.64 [95% CI, 1.81-3.84]).

**Table 1.** Demographic characteristics in a cross-sectional sample of university students and measures of occurrence for internalization of “Silent Sam” events and mental health outcomes at the semester start.

Characteristic	No.	%	Mean (SD)	Range
Participants	754	65.28		
Exclusion	401	34.72		
Demographic characteristics				
Age				
18-24 years old	579	76.79		
25-34 years old	150	19.89		
35-44 years old	17	2.25		
45 years or older	6	0.80		
Prefer Not to Answer	2	0.27		
Sex				
Male	300	39.79		
Female	446	59.15		
Another gender identity	5	0.66		
Prefer Not to Answer	3	0.40		
Race				
White or Caucasian	573	75.99		
Black or African American	51	6.76		
Hispanic or Latino	40	5.31		
Asian/Asian American	52	6.90		
American Indian/Alaska Native	2	0.27		
Arab/Arab American	2	0.27		
Multiracial	29	3.85		
Other (please specify)	5	0.66		
Minority				
Minority	255	33.82		
Non-Minority	499	66.18		
Study Level				
Undergraduate	533	70.69		
Graduate	221	29.31		
First Semester				
Yes	202	26.79		
No	552	73.21		
Living Distance				
I live on campus	279	37.00		
I live 0-3 miles from campus	335	44.43		
I live 3-10 miles from campus	86	11.41		
I live over 10 miles from campus	54	7.16		

64 Personal Internalization of a Confederate Monument Removal Event Associated with Increased Depression, Anxiety, and Stress among University Students  
 Redding, Hou, & Mulhern

Baseline Stress Level				
Relative high baseline stress	208	27.59		
Relative low baseline stress	546	72.41		
Exposure: personal internalization of the event				
Centrality of Event			14.67 (7.58)	7-35
Exposed	197	26.13		
Unexposed	557	73.87		
Outcome: mental health outcomes				
Depression, Anxiety, and Stress Scale total score			12.83 (11.49)	0-58
Elevated	173	22.94		
Normal	581	77.06		

**Table 2.** The association between CES and odds of elevated versus normal DASS scores

VARIABLES	Odds of Elevated versus Normal DASS Scores			
	Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3 OR (95% CI)	Model 4 OR (95% CI)
High CES Score	2.879*** (2.007 - 4.131)	2.158*** (1.462 - 3.184)	2.252*** (1.530 - 3.316)	1.958*** (1.178 - 3.253)
Baseline Stress		4.064*** (2.774 - 5.953)	4.099*** (2.804 - 5.992)	4.058*** (2.769 - 5.946)
Graduate Student		1.067 (0.663 - 1.717)	1.085 (0.674 - 1.747)	1.077 (0.669 - 1.735)
First Semester		0.565** (0.359 - 0.891)	0.586** (0.372 - 0.921)	0.565** (0.359 - 0.892)
Living Distance from Campus (reference group: on campus)				
0-3 Miles		0.814 (0.509 - 1.303)	0.767 (0.479 - 1.229)	0.816 (0.510 - 1.307)
3-10 Miles		0.896 (0.446 - 1.801)	0.897 (0.447 - 1.797)	0.894 (0.444 - 1.799)
> 10 Miles		1.037 (0.455 - 2.366)	0.901 (0.394 - 2.061)	1.036 (0.454 - 2.362)
Minority Status		1.649*** (1.130 - 2.407)		1.516* (0.944 - 2.432)
Dichotomized Race			1.105 (0.714 - 1.709)	
CES*Minority				1.264 (0.578 - 2.763)
Constant	0.214*** (0.172 - 0.266)	0.149*** (0.099 - 0.226)	0.167*** (0.101 - 0.276)	0.154*** (0.100 - 0.235)
Observations	754	754	754	754

## 65 Personal Internalization of a Confederate Monument Removal Event Associated with Increased Depression, Anxiety, and Stress among University Students Redding, Hou, & Mulhern

Note: Logistic regression results. Prevalence odds ratios and 95% confidence intervals in parentheses are reported. CES denotes Centrality of Event Scale; DASS denotes Depression, Anxiety, and Stress Scale. \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$

### Reliability

All the internal consistency coefficients for the DASS and CES scales and subscales were above 0.89, suggesting high reliability. The reliability results are comparable to and even higher than other studies where these scales were used previously. For example, in a study assessing coping practices regarding experiences with racism among a sample of Black college students, internal reliability coefficients for the DASS-D and DASS-A subscales were 0.82 and 0.88, respectively, whereas this study yielded coefficients of 0.92 and 0.88 for each of these subscales, and 0.95 and 0.93 for the DASS and CES scales overall (J. R. Graham et al., 2016; West, Donovan, & Roemer, 2010).

### **DISCUSSION**

Feelings of stress and anxiety among college students could be due to a myriad factors, including life transitions (Lee, Olson, Locke, Michelson, & Odes, 2009), homesickness (Thurber & Walton, 2012), academic pressures (Misra, 2000), a sense of perfectionism (Curran & Hill, 2019), financial stress (Eisenberg, Gollust, Golberstein, & Hefner, 2007), and poor sleep habits (Orzech, Salafsky, & Hamilton, 2011), among others. However, almost one quarter (23%) of respondents in this study reported elevated levels of depression, anxiety and stress. By comparison, students at a comparable large, public, university a prevalence of elevated depression, anxiety, and stress of only 15.6% for undergraduates and 13% for graduate students (Eisenberg et al., 2007).

Additionally, depression, anxiety, and stress symptomatology has been associated with other traumatic events among college students such as school shootings (Hughes et al., 2011; Stephenson, Valentiner, Kumpula, & Orcutt, 2009), hurricanes (Pickens, Field, Prodromidis, Pelaez-Nogueras, & Houssain, 1995), and sexual assault (Frazier et al., 2009). Significantly, we found that the odds of experiencing elevated depression, anxiety, and stress from high internalization of the “Silent Sam” event were approximately equivalent to the odds of experiencing posttraumatic stress symptoms after the injury or death of a friend when compared to a cross-sectional study of students after the Virginia Tech shooting in 2007 (Hughes et al., 2011).

While this study is only exploratory, these findings suggest that elevated depression, anxiety, and stress levels reported among students at UNC at the beginning of the 2018 school year were significantly associated with increased internalization of the events surrounding the “Silent Sam” incident. Baseline stress level and other key demographic factors such as first semester status, and minority status may confound this relationship, but we did not find evidence that race (both race categories and dichotomized race) confounded the association in the same way. The finding that minority status acted as a confounder and not race is of particular interest as it suggests that student responses to Confederate monument protests may be based more on self-identified minority status, and perceived marginalization of any type, rather than on traditional external race categories alone. In addition, although the EMM of minority status was suggested in a simple stratified analysis, there was not sufficient evidence to confirm that the association between high internalization and mental health outcomes was modified by minority status after adjustment for

other confounders. This could be due to insufficient power to detect an interaction effect in a logistic regression model given the small estimating sample size (N=754).

Current research regarding race-related traumatic events and mental health outcomes is limited by a lack of measures to capture intensity of stress outcomes associated with race-based events (Kirkinis, Pieterse, Martin, Agiliga, & Brownell, 2018). The use of DASS and CES scales in this study addresses this important gap in the literature. Additionally, the CES, initially developed to measure the integration of traumatic experiences into one's identity, has also been shown to correlate with post-traumatic stress disorder (Berntsen & Rubin, 2006). Therefore, student depression, anxiety and stress outcomes associated with high internalization of events surrounding the "Silent Sam" removal may have been related to trauma (Molina, Brosseau, & Grubb, 2018). Secondary trauma from exposure to the "Silent Sam" incident via the media may have also been a large contributor to the overall trauma experienced by UNC students. Indeed, other research has established a link between repeated exposure to traumatic and violent events, through media coverage, and post-traumatic stress symptoms (Thompson, Jones, Holman, & Silver, 2019).

These results provide timely information for how communities can best address conflicts related to Confederate monuments. The magnitude of the effect on UNC's campus ought to alert community leaders as well as state and local governments that Confederate monument removal events that generate trauma, as a result of expressions of racism, are likely to have a significant negative impact on community mental health. It is important to note that this finding does not imply that such removals should not occur as communities confront legacies of racism; rather it should encourage community and governmental leaders to invest in strategies for minimizing violence, racist protests, and police force within these contexts to protect the mental health of their communities.

Regarding mental health outcomes among college students, these findings reaffirm the importance of improving access to mental health care for minorities on college campuses. Health institutions, such as university campus health services in this case, ought to be aware of the mental health risks posed by politically and racially charged Confederate monument removal events in order to direct services and resources to those students or community members who are most likely to be negatively affected. As Galovski et. al. have shown, social support systems can operate as protective factors to depression and stress following situations of racially-based violence and civil unrest (Galovski, Peterson, & Fox-Galalis, 2018). Strengthening and investing in systems of social support for students, such as campus mental health resources, affinity group organizations, and mechanisms for reporting and penalizing identity-based discrimination, may help mitigate the negative public health impacts of future Confederate monument-based conflicts on college campuses.

#### Limitations

Limitations to this study include reliance on self-selection and student recall of events and stress outcomes related to "Silent Sam"—the majority of which had occurred several months prior to the date when the survey was conducted. Disproportionate interest in the survey by students passionate about the events and/or underreporting of past stress outcomes unrelated to "Silent Sam" could have caused a degree of selection bias, exaggerating the strength of the effect. Nevertheless, study participant demographics were similar to those of the student body at large, increasing confidence in the representativeness of these results to the student population. Our

Journal of Health Disparities Research and Practice Volume 14, Issue 1, Spring 2021

<http://digitalscholarship.unlv.edu/jhdrp/>

Follow on Facebook: Health.Disparities.Journal

Follow on Twitter: @jhdrp

survey tool was also unable to specifically isolate the effect of other stressors, beyond the monument and protests, that may have led to high student DASS scores. To best correct for this effect, we controlled for potential confounders relating to individual baseline stress level and other demographic factors. Given the cross-sectional design of our study, causality between events surrounding “Silent Sam” and mental health outcomes cannot be established. Finally, this study is specific to only one community and monument removal event. A comparative analysis of a range of communities where different monument removal events have occurred is suggested as an area for further research in order to evaluate whether the existence of legislation protecting Confederate monuments or different procedures for handling the removals by community members, police, and local governments have led to different mental health outcomes.

## REFERENCES

- Anderson, K. F. (2013). Diagnosing Discrimination: Stress from Perceived Racism and the Mental and Physical Health Effects. *Sociological inquiry*, 83(1), 55–81. doi:10.1111/j.1475-682X.2012.00433.x
- Berntsen, D., & Rubin, D. C. (2006). The centrality of event scale: a measure of integrating a trauma into one’s identity and its relation to post-traumatic stress disorder symptoms. *Behaviour Research and Therapy*, 44(2), 219–231. doi:10.1016/j.brat.2005.01.009
- Carr, J. S. (1913). Unveiling of Confederate Monument at University. June 2, 1913. In *Julian Shakespeare Carr Papers #141*. University of North Carolina Chapel Hill.
- Curran, T., & Hill, A. P. (2019). Perfectionism is increasing over time: A meta-analysis of birth cohort differences from 1989 to 2016. *Psychological Bulletin*, 145(4), 410–429. doi:10.1037/bul0000138
- Eisenberg, D., Gollust, S. E., Golberstein, E., & Hefner, J. L. (2007). Prevalence and correlates of depression, anxiety, and suicidality among university students. *The American journal of orthopsychiatry*, 77(4), 534–542. doi:10.1037/0002-9432.77.4.534
- Frazier, P., Anders, S., Perera, S., Tomich, P., Tennen, H., Park, C., & Tashiro, T. (2009). Traumatic events among undergraduate students: Prevalence and associated symptoms. *Journal of Counseling Psychology*, 56(3), 450–460. doi:10.1037/a0016412
- Galovski, T. E., Peterson, Z. D., & Fox-Galalis, A. (2018). Trajectories of Posttraumatic Stress and Depression in Police and Community Members Following the Violence during Civil Unrest in Ferguson, Missouri. *American Journal of Community Psychology*, 62(3-4), 433–448. doi:10.1002/ajcp.12273
- Gehrt, T. B., Berntsen, D., Hoyle, R. H., & Rubin, D. C. (2018). Psychological and clinical correlates of the Centrality of Event Scale: A systematic review. *Clinical Psychology Review*, 65, 57–80. doi:10.1016/j.cpr.2018.07.006
- Graham, D. A. (2018, August 21). The Dramatic Fall of Silent Sam, UNC’s Confederate Monument. *The Atlantic*. Retrieved from <https://www.theatlantic.com/politics/archive/2018/08/silent-sam-confederate-monument-unc-chapel-hill/568006/>

68 Personal Internalization of a Confederate Monument Removal Event Associated with Increased Depression, Anxiety, and Stress among University Students  
Redding, Hou, & Mulhern

- Graham, J. R., West, L. M., Martinez, J., & Roemer, L. (2016). The mediating role of internalized racism in the relationship between racist experiences and anxiety symptoms in a Black American sample. *Cultural Diversity & Ethnic Minority Psychology, 22*(3), 369–376. doi:10.1037/cdp0000073
- Harris, A. (2018, December 3). Silent Sam Survives. *The Atlantic*. Retrieved from <https://www.theatlantic.com/education/archive/2018/12/unc-announces-plan-create-museum-silent-sam/577228/>
- Hughes, M., Brymer, M., Chiu, W. T., Fairbank, J. A., Jones, R. T., Pynoos, R. S., ... Kessler, R. C. (2011). Posttraumatic stress among students after the shootings at Virginia Tech. *Psychological Trauma: Theory, Research, Practice, and Policy, 3*(4), 403–411. doi:10.1037/a0024565
- Kelly, A. (2021, February 16). Somebody is not telling the truth’: Where Silent Sam stands a year after deal reversal. *The Daily Tar Heel*.
- Kirkinis, K., Pieterse, A. L., Martin, C., Agiliga, A., & Brownell, A. (2018). Racism, racial discrimination, and trauma: a systematic review of the social science literature. *Ethnicity & health, 1*–21. doi:10.1080/13557858.2018.1514453
- Lee, D., Olson, E. A., Locke, B., Michelson, S. T., & Odes, E. (2009). The effects of college counseling services on academic performance and retention. *Journal of college student development, 50*(3), 305–319. doi:10.1353/csd.0.0071
- Lipson, S. K., Kern, A., Eisenberg, D., & Breland-Noble, A. M. (2018). Mental health disparities among college students of color. *The Journal of Adolescent Health, 63*(3), 348–356. doi:10.1016/j.jadohealth.2018.04.014
- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy, 33*(3), 335–343. doi:10.1016/0005-7967(94)00075-u
- Misra, R. (2000). College students’ academic stress and its relation to their anxiety, time management, and leisure satisfaction. *American journal of health studies, 16*(1).
- Molina, C., Brosseau, C., & Grubb, T. (2018, September 9). Police “broke the peace” at UNC’s Silent Sam protest, say 8 who were arrested. *The News and Observer*. Retrieved from <https://www.newsobserver.com/news/local/article218089130.html>
- Office of Institutional Research and Assessment. (2018, September 4). UNC-Chapel Hill Headcount Enrollment Diversity. Retrieved December 5, 2018, from <https://oira.unc.edu/reports/>
- Orzech, K. M., Salafsky, D. B., & Hamilton, L. A. (2011). The state of sleep among college students at a large public university. *Journal of American college health: J of ACH, 59*(7), 612–619. doi:10.1080/07448481.2010.520051



69 Personal Internalization of a Confederate Monument Removal Event Associated with Increased Depression, Anxiety, and Stress among University Students  
Redding, Hou, & Mulhern

- Pickens, J., Field, T., Prodromidis, M., Pelaez-Nogueras, M., & Houssain, Z. (1995). Posttraumatic Stress, Depression and Social Support Among College Students After Hurricane Andrew . *Journal of college student development*, 36(2).
- Pieterse, A. L., Todd, N. R., Neville, H. A., & Carter, R. T. (2012). Perceived racism and mental health among Black American adults: a meta-analytic review. *Journal of counseling psychology*, 59(1), 1–9. doi:10.1037/a0026208
- Southern Poverty Law Center. (2019, February 1). Whose Heritage? Public Symbols of the Confederacy . Retrieved March 1, 2021, from <https://www.splcenter.org/20190201/whose-heritage-public-symbols-confederacy#Download%20the%20data>
- Stancill, J. (2018, November 15). The Silent Sam debate yields emotional, soul-searching reactions from the public. *The News & Observer*. Retrieved from <https://www.newsobserver.com/news/local/article221709740.html>
- Stephenson, K. L., Valentiner, D. P., Kumpula, M. J., & Orcutt, H. K. (2009). Anxiety sensitivity and posttrauma stress symptoms in female undergraduates following a campus shooting. *Journal of Traumatic Stress*, 22(6), 489–496. doi:10.1002/jts.20457
- Thompson, R. R., Jones, N. M., Holman, E. A., & Silver, R. C. (2019). Media exposure to mass violence events can fuel a cycle of distress. *Science Advances*, 5(4), eaav3502. doi:10.1126/sciadv.aav3502
- Thurber, C. A., & Walton, E. A. (2012). Homesickness and adjustment in university students. *Journal of American college health: J of ACH*, 60(5), 415–419. doi:10.1080/07448481.2012.673520
- U.S. Census Bureau, Population Division. (2018, May). Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2017. Retrieved May 7, 2019, from <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>
- West, L. M., Donovan, R. A., & Roemer, L. (2010). Coping with racism: what works and doesn't work for black women? *Journal of Black Psychology*, 36(3), 331–349. doi:10.1177/0095798409353755
- Williams, D. R., Neighbors, H. W., & Jackson, J. S. (2003). Racial/ethnic discrimination and health: findings from community studies. *American Journal of Public Health*, 93(2), 200–208. doi:10.2105/ajph.93.2.200