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# Assessment of the Impact of Racial Discrimination and Racism: How to Use the Race-Based Traumatic Stress Symptom Scale in Practice

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Empirical evidence has accumulated over several decades that has documented the psychological, physical, and emotional consequences of racism and racial discrimination. Still, little has been written in the legal or mental health assessment literature that is focused on describing the direct and specific effects of racism. There is little that provides guidance to psychologists and mental health professionals in understanding and assessing race-based stress reactions that may occur from exposure to racial discrimination or racism. The current article extends previous work on the Race-Based Traumatic Stress Symptom Scale (RBTSSS) by providing evidence and guidance on how the scale can be used in practice to assess and evaluate the emotional impact of race-based encounters.

*Keywords:* assessment, Race-Based Traumatic Stress Scale, racial trauma, racism

Racial discrimination has been empirically documented to have adverse mental health effects (Lee & Ahn, 2011, 2012; Pascoe & Smart Richman, 2009; Pieterse, Todd, Neville, & Carter, 2012). The growing evidence of harm suggests a need for mental health professionals to learn how best to assess and provide treatment for the impact of racial encounters on its targets. Conceptual models and research evidence indicate that racism-related stress and race-based traumatic stress (Bryant-Davis & Ocampo, 2005; Carter, 2007; Clark, Anderson, Clark, & Williams, 1999; Harrell, 2000) can and often do compromise people's mental health. Although there have been a growing number of instruments presented in the field of health care to assess the impact of racism and racial discrimination (Kressin, Raymond, & Manze, 2008), the measures have tended to be generic and not specific to a person's racial encounter and his or her direct emotional reactions. Recently, Carter and colleagues (2013) introduced the Race-Based Traumatic Stress Symptom Scale (RBTSSS) that was designed to assess a person's particular or memorable racial encounter and its associated psychological and emotional reactions.

Carter et al. (2013, the RBTSSS has been available online since December 2011) presented initial scale development information but did not report on how the RBTSSS could be used as an assessment tool in clinical situations. Prior to the scale being presented, Carter and Forsyth (2009) offered a guide for the forensic assessment of race-based traumatic stress injury and discussed the steps mental health professionals could and should take

when assessing the possible injury from racial encounters. Although the guide was helpful, there was no available instrument at the time of Carter and Forsyth's publication that could be included in their proposed assessment interview.

The purpose of the present article is to discuss how psychologists and mental health professionals can use the RBTSSS in assessing the presence of stress and traumatic stress reactions to racial discrimination and racism experiences. We will present information that adds to what Carter and associates (2013) introduced and extend that by providing scoring information that shows score elevations of symptom scales. Additionally, we present other scale information that is part of the RBTSSS but was not reported in the initial scale development study. It is important that both researchers and clinicians are able to distinguish when and how individuals' scale scores and interview responses reflect race-based traumatic stress reactions.

Although existing literature and research evidence support the conceptualization of racism as a stressor, the majority of studies tend to use global definitions and measures of racism (e.g., institutional racism, perceived discrimination) with few studies or measures linking specific types of racism to clusters of emotional and psychological outcomes that might include traumatic stress reactions. The lack of measures assessing racism and racial discrimination in the field of mental health as well as the dearth of clear associations between a negative race-based encounter and a person's emotional and psychological reactions make it difficult for clinicians to assess and document resulting stress reactions and whether such reactions reveal a traumatic experience(s). Numerous scholars have contended that reactions to race-related encounters can result in symptoms that reflect race-related stress and some argue that encounters can be associated with traumatic stress and posttraumatic stress like reactions (e.g., Bryant-Davis & Ocampo, 2005; Carter, 2007; Carter, Forsyth, Mazzula, & Williams, 2005; Comas-Diaz & Jacobsen, 2001; Helms, Nicolas, & Green, 2010).

Both integrative reviews and recent meta-analyses have reported that distress is an outcome of exposure to racial discrimination, racism, and discrimination in general. Overall, the reviews and

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meta-analyses have focused on health or mental health as distinct bodies of research evidence. Moreover, in the case of meta-analyses, researchers have focused their investigations on particular racial-ethnic groups. For instance, Pieterse et al.'s (2012) meta-analytic investigation included 38 studies that examined the effects of racism on the mental health of Black Americans and Lee and Ahn's (2011, 2012) two meta-analyses investigated the mental health impact of racial discrimination on Asian Americans (23 studies) and Latinos (50 studies). These analyses all found evidence of the adverse effects of racial discrimination on the participants' mental health. Pascoe and Smart Richman's (2009) meta-analysis of exposure to discrimination included 134 studies examining both mental and physical health outcomes.

Although no meta-analytic studies were found in the health research literature, we were able to locate integrative reviews of the impact of exposure to racial discrimination and health and health care (e.g., Shavers et al., 2012). The researchers examined 58 studies published between 2008 and 2011 and reviewed a range of issues, including measurement, prevalence, and other topics. In general, Shavers et al. found that racial discrimination measures in the field were inadequate, with few of the studies examining the prevalence of discriminatory behavior in health care. Taken together, the integrative reviews and meta-analyses point to the need for an instrument that could aid mental health and health professionals in assessing the impact of racial encounters. Carter and colleagues (2013) developed such a measure.

The Race-Based Traumatic Stress Symptom Scale (RBTSSS; Carter et al., 2013) was developed to assess the prevalence and severity of psychological and emotional stress reactions to memorable encounters of racism and racial discrimination. The RBTSSS was based on Carter's (2007) conceptualization of race-based traumatic stress injury, in which it was proposed that a person's reaction would consist of a cluster of symptoms indicating a traumatic stress reaction. As part of the survey, participants are asked to describe in their own words up to three memorable racist events they have experienced. After identifying the *one* event that was the *most* memorable, participants are asked to indicate (*yes/no*) whether the event was unexpected, out of their control, and emotionally painful (or negative). In stress research studies (see Carlson, 1997), endorsement of these criteria has been found to intensify one's level of stress associated with an event, thus Carter (2007) included this criteria in his conceptualization of traumatic stress associated with racial encounters. Although there is a possibility that some people may have trouble recalling race-related events, particularly if the events were traumatic, we suspect that racial experiences may tend to be memorable in part because such experiences are often inexplicable. Finally, participants complete the survey by responding to a series of reaction and symptom items indicating whether, and to what degree, they had a particular reaction after the most memorable event.

The RBTSSS has three questions that follow each reaction item. The first question, which was the only one reported in the initial scale development (Carter et al., 2013), asked about participants' reactions immediately after their memorable racial event (i.e., *after the event*). The second question asked about respondents' more recent reactions when thinking about the event (i.e., *recent*). This second question is presented in the current paper and was designed to determine the extent to which reactions persisted over time. The third question asked participants whether anyone noticed a change

in their behavior (*yes/no*), with regard to each reaction (i.e., *change*). The final question was included to provide external validation of participants' reported reactions and is also presented in the present paper.

In the development of the RBTSSS, Carter and colleagues (2013) reported seven symptom scales (Depression, Anger, Physical Reactions, Avoidance, Hypervigilance, Intrusion, and Low Self-Esteem) comprising 52 items. Results showed that the participants who endorsed their memorable event as emotionally painful, sudden, and unexpected had higher mean scores (total score across symptoms scales) than those who did not. Carter et al. reported group level information about the instrument, however, they did not include a description of how to use the measure to assess and interpret a person's reaction or symptom scale scores for clinical application.

The current article will discuss parts of the RBTSSS that were not presented in the initial scale development study. Additionally, a scoring and scale interpretation procedure will be described including an explanation of how to utilize the instrument in the assessment of race-based traumatic stress. Finally, a case example will be presented to illustrate the utilization of the RBTSSS in practice.

### Elements of Race-Based Traumatic Stress

Carlson (1997) and trauma scholars have noted that the recognition of traumatic stress did not occur until the late 19th and early 20th century. What was and continues to be clear about traumatic reactions is that they are severe with lasting and recurring symptoms. The combination of psychological and physiological components creates intrusive and repeated recall of such experiences which do not seem to be in the person's control. In this sense, as with Post-Traumatic Stress Disorder (PTSD), there are criteria that need to be met for a racial encounter to be considered traumatic.

As noted by Carter and Forsyth (2009) and Carter (2007), a person's experience must be sudden, unexpected, and emotionally painful (negative) for an encounter to be considered traumatic. In the absence of the first tier of criteria according to Carter (2007), race-based traumatic stress may not have occurred. Moreover, the person should report the presence of at least two of three symptoms for traumatic stress to be present; the three reactions are arousal or hypervigilance, intrusion or reexperiencing, and avoidance or numbing. The three reactions are considered important but not necessary components of race-based traumatic stress reactions which may also be expressed as a symptom cluster that includes depression, anger, physical reactions, and low self-esteem and perhaps other symptoms. It is also the case that race-based trauma is such that people struggle to forget the incident(s) while being unable to do so. Thus, the event is one that can reproduce relevant memories upon recall or even when triggered by a related experience, thus we might expect that if asked about an event that occurred in the past, the person might relive similar reactions in the present (Boone, Neumeister, & Charney, 2003). The connection between the past and current reactions may be evidence that the event was severe enough to be traumatic and may contribute to the person's functional impairment (if they have been impaired). Therefore we might find a relationship between *after* the event and *recent* reactions while discussing or completing the RBTSSS. This may be the case with race and racial encounters because such

encounters are often inexplicable, are often not discussed with professionals, and may not even be talked about with family in much detail (Carter & Forsyth, 2010).

In addition to these elements we would argue that a person who might experience a traumatic stress reaction would need to have knowledge of race and race relations as well as a grasp of his or her own racial group membership. He or she would need to have an understanding of race as part of the person's sense of self (Carter & Forsyth, 2009).

Our aims, in the present article, are to provide a way to assess race-based traumatic stress using all parts of the RBTSSS. Utilizing the sample from the initial RBTSSS study (Carter et al., 2013), we present two studies. In Study 1, we introduce the *recent* reaction questions and report on statistical analyses testing the relationship of *after* and *recent* responses. In Study 2 we describe a scoring procedure for the RBTSSS reaction scales and present analyses of demographic group variations. We additionally examine the meaning of the *change* reaction items that asked whether others noticed a change in the participant's behavior with respect to the reaction and whether the type of memorable racial event was associated with RBTSSS scale elevations. Last, we provide a clinical illustration of an assessment interview to demonstrate the utility of the RBTSSS in practice.

## Study 1: Method

### Participants

Participants in the study included 381 adults, of whom 278 (73%) were female, 102 (27%) were male, and one nonresponse. Respondents' self-reported racial group memberships were Black ( $n = 125$ ; 32.8%), White ( $n = 90$ ; 23.6%), Hispanic ( $n = 86$ ; 22.6%), Asian/Pacific Islander ( $n = 54$ ; 14.2%), Biracial ( $n = 24$ ; 6.3%), and Other ( $n = 2$ ; 0.5%). The age of participants ranged from 14 to 61 ( $M = 26.40$ ,  $SD = 9.50$ ) and although 8 participants (2.1%) did not respond, self-reported socioeconomic status was as follows: 9 (2.4%) lower class; 87 (22.8%) working class; 195 (51.2%) lower middle and middle class; 71 (18.6%) upper-middle class; and 11 (2.9%) upper class.

### Instruments

**The demographic information form.** The demographic form asked participants to indicate their age, gender, race, socioeconomic status, and education level.

**The Race-Based Traumatic Stress Symptom Scale (RBTSSS; Carter et al., 2013).** The RBTSSS is a survey questionnaire that can also be used as part of a clinical assessment interview. The format starts with an open-ended section in which participants are asked to describe in their own words no more than three of the most memorable events of racism or racial discrimination they have experienced in their lives. They can also describe a particular event or series of events and treat the series as a whole. Of the memorable events, participants are instructed to select the one that was the most memorable. With reference to the most memorable event of racism, the respondent is then asked to answer, using a *yes/no* format, whether the most memorable incident was negative (i.e., emotionally painful), out of their control, and sudden in its occurrence. Still referring to their memorable event, participants

are then asked to complete a section of emotional or physiological symptom reaction items with the following instructions: "Below is a list of reactions or feelings that people sometimes have after an upsetting event. Read each reaction carefully and circle the number that best describes your reactions or feelings right *after the event* (within one month) and *more recently* or *now* when thinking about the event." Each item is preceded by *As a consequence of the memorable encounter I had with racism. . .* Examples of reaction items include *I felt sad* or *I experienced tiredness and lack of energy*. Respondents indicate whether, and to what degree, they experienced a particular reaction using a 5-point Likert-scale with the following response options: 0 (*does not describe my reaction*); 1 (*infrequently*); 2 (*sometimes*); 3 (*frequently*); and 4 (*this reaction would not go away*). A third question asked whether anyone noticed a *change* in the participant's behavior or personality with respect to the reaction (*yes/no*) following his or her memorable racial encounter. Reaction scores are obtained by summing the items that make up each of the seven reactions scales. High scores indicate greater presence of that reaction. As reported by Carter et al. (2013), the RBTSSS contains 52 items which comprise seven symptom scales; Depression (*After the event*; 10 items;  $\alpha = .90$ ), Intrusion (*After*; 8 items;  $\alpha = .90$ ), Anger (*After*; 8 items;  $\alpha = .90$ ), Hypervigilance (*After*; 8 items;  $\alpha = .90$ ), Physical reactions (*After*; 8 items;  $\alpha = .86$ ), Self-esteem (*After*; 6 items;  $\alpha = .85$ ), and Avoidance (*After*; 4 items;  $\alpha = .66$ ).

### Procedure

The analyses conducted in the study utilized, with permission, the sample from the initial RBTSSS scale development study (Carter et al., 2013). Participants were recruited through communication with various community-based organizations in a large Northeastern metropolitan area and several community and 4-year private and public colleges and universities in the Northeast and Midwest regions of the United States. Participants were also recruited through a "snowball method" in which individuals were asked to participate through word of mouth. Once a person agreed to participate in the study they were asked to complete the questionnaire packet, which included a demographic data form, the RBTSSS, and a debriefing form, which included information about the study and resources for participants who wanted more information about ways to address their experiences.

## Study 1: Results

We wanted to determine whether the *after the event* and *recent* reaction responses of the RBTSSS (Carter et al., 2013) were positively and significantly related for the total sample of 381 participants. For this analysis we used canonical correlation (Sherry & Henson, 2005) to determine whether respondents' reactions *after* the memorable event were significantly related to their more *recent* reactions as they thought about the event. Canonical correlation allows for the exploration of simultaneous relationships between multiple independent and dependent variables. The seven *after the event* reaction scales (e.g., Depression, Anger, Physical Reactions, Avoidance, Hypervigilance, Intrusion, and Low Self-Esteem) were the predictors and the seven *recent* reaction scales were the criterion variables in the analysis. In the context of this study, positively related *after* and *recent* reactions

scales (e.g., *DepressionAfter* and *DepressionRecent*) would reflect that people's emotional experiences were likely long lasting and resurfaced when they were asked about how they felt about the event. We hoped that there were canonical relationships for each pair of symptoms that significantly contributed to the analyses.

The results of the analysis (see Table 1) revealed seven functions with squared canonical correlations ( $R_c^2$ ) of .75, .61, .59, .52, .48, .41, and .35 for each successive function, all of which were noteworthy in the context of this study. The full model including all seven functions was statistically significant, Wilks'  $\lambda = .004$ ,  $F(49, 1811.77) = 73.65$ ,  $p < .001$ . For the set of seven canonical functions, the  $r^2$  or effect size was 0.996, meaning that the full model explained almost all of the variance shared between the *After* and *Recent* sets of reaction scales.

The dimension reduction analysis reveals the statistical significance of the hierarchical arrangement of functions. In addition to the full model, all successive functions (i.e., Functions 2 to 7) were also statistically significant. Additionally, given the  $R_c^2$  values of each of the functions, all of the seven functions warrant interpretation.

Table 1 shows the standardized canonical function coefficients (*Coef*) and structure coefficients ( $r_s$ ) for the first function (the full table is available upon request). For Function 1, the relevant criterion variables were primarily *AvoidanceRecent* and *DepressionRecent*, with *HypervigilanceRecent*, *AngerRecent*, *PhysicalRecent*, *IntrusionRecent*, and *LowSelf-EsteemRecent* making contributions to the synthetic variable. The structure coefficients for each criterion variable had the same sign, indicating that all were positively related. The dominant predictors in Function 1 were *AvoidanceAfter* and *DepressionAfter* and other contributors were *HypervigilanceAfter*, *IntrusionAfter*, *PhysicalAfter*, *AngerAfter*, and *LowSelf-EsteemAfter*. All of the symptom *recent* and *after* reactions were included in the first function, thus supporting that *after* and *recent* reactions were positively and signif-

icantly related. The other functions provide further evidence of this relationship in that each involved one pair of reactions. The relationships indicate that participant responses to reaction items associated with race-based situations immediately after the event were positively related to their reactions when they were asked to think about the event in the present. Thus, the *recent* response items should be used with the *after* the event questions in future uses of the RBTSSS.

## Study 1: Discussion

In the initial RBTSSS scale development study, Carter and associates (2013) reported analyses using only one of the three sets of reactions questions—the *after the event* reaction responses. The two reaction questions not included in the initial analyses aimed to assess participants' more *recent* reactions to the event and whether anyone noticed a *change* in participants' behavior with respect to the reaction (see Study Two). The idea that traumatic stress symptoms last over time is an accepted proposition of trauma scholars and researchers. Thus we thought it was important to show if the *After* and *Recent* reaction responses were statistically related. We used canonical correlation analysis to determine if the seven sets of reaction scales were related.

Results of Study 1 indicated that the seven *After* and seven *Recent* reaction scales of the RBTSSS were positively and significantly related across all seven functions. Although this analytic procedure produces as many functions as there are variables, it is often the case that only one or two functions are meaningful or significant and warrant interpretation. The fact that the first and all remaining functions were not only significant but included all seven sets of reaction scales was meaningful. Canonical correlation analysis, like factor analyses, requires interpreting the meaning of the new combined variates that are created in the analysis.

The pairing of RBTSSS *After* and *Recent* reaction scales seems to warrant the label "past and present symptom reactions" and provides empirical evidence that both reaction questions should be used when the RBTSSS is administered. The relationships found in this analysis also provide evidence of the continued impact of racist events on individuals over time and merits further examination. Another possibility is that the findings reflect statistical chance that needs further support and clarification. Future inquiry could not only shed light on the lasting effects of racism and racial discrimination and the potentially persistent nature of reactions over time, but also the possible cumulative effect that multiple race-based events may have on individuals.

## Study 2: Method

### Participants

Participants in study two included 355 adults, of whom 258 (73%) were female, 96 (27%) were male, and one nonresponse. Respondents' self-reported racial group memberships were Black ( $n = 118$ ; 33.2%), White ( $n = 82$ ; 23.1%), Hispanic ( $n = 79$ ; 22.3%), Asian/Pacific Islander ( $n = 50$ ; 14.1%), Biracial ( $n = 24$ ; 6.8%), and Other ( $n = 2$ ; 0.6%). The mean age of participants was 26.53 ( $SD = 9.36$ ) and self-reported socioeconomic status was as follows: 9 (2.5%) lower class; 82 (23.1%) working class; 177

Table 1  
Canonical Correlation Solution for RBTSSS After the Event Reactions Predicting More Recent Reactions

Variable	Function 1	
	<i>Coef</i>	$r_s$
depRECENT	.43	<b>.74</b>
intrusRECENT	.26	<b>.69</b>
angerRECENT	-.03	<b>.58</b>
physRECENT	-.13	<b>.63</b>
hypervRECENT	.06	<b>.72</b>
avoidRECENT	.70	<b>.92</b>
lowselfestRECENT	-.16	<b>.48</b>
depAFTER	.354	<b>.71</b>
intrusAFTER	.134	<b>.56</b>
angerAFTER	.045	<b>.59</b>
physAFTER	-.106	<b>.57</b>
hypervAFTER	.059	<b>.63</b>
avoidAFTER	.802	<b>.95</b>
lowselfestAFTER	-.199	<b>.46</b>

Note. depAFTER = Depression; intrusAFTER = Intrusion; angerAFTER = Anger; physAFTER = Physical; hypervAFTER = Hypervigilance; avoidAFTER = Avoidance; lowselfestAFTER = Low Self-Esteem; *Coef* = standardized canonical function coefficient;  $r_s$  = structure coefficient. Structure coefficients ( $r_s$ ) greater than |.45| are in bold.

(49.9%) lower middle and middle class; 68 (19.2%) upper-middle class; 11 (3.1%) upper class; and 8 (2.3%) missing responses.

The same demographic form, RBTSS Scale, and procedures were used in study two as were reported for study one.

### RBTSS Scoring

The initial development of the RBTSS (Carter et al., 2013) used group mean scale scores to determine whether there was evidence to support the construct. With some initial evidence for the possible presence of race-based traumatic stress there is now a need to apply the construct to individuals if the scale is to be used in clinical settings. Therefore, a score conversion method is needed for the RBTSS.

The scoring method involves converting the summed scores to standardized scores. The goal of the new scoring method was to show elevations of individual symptom scales and for the configuration of a person's scale elevations to have clear meaning for clinical and research purposes. However, the symptom scores needed to be easy to interpret for each person's reactions to his or her particular memorable encounter with racism.

The new scoring method changes raw summed scores, for *After* and *Recent* symptom scales, first to  $z$  scores and then  $t$  scores to produce standardized reaction scale scores (see Table 2 for illustration). The change of scores is done for each participant based on the respondent's scale summed score (e.g., Depression<sub>After</sub> scale summed score = 16) and the sample's scale mean and standard deviation for the respective reaction scale (e.g.,  $M$  (Depression<sub>After</sub>) = 4.66,  $SD$  (Depression<sub>After</sub>) = 6.46). The participant's summed scale score, mean, and standard deviation are then used to convert the raw summed scale score to a  $z$  score, which is done for each reaction scale ( $z$  (Depression<sub>After</sub>) =  $16 - 4.66/6.46 = 1.76$ ). To convert the  $z$  scores to  $t$  scores (where  $M = 50$ ,  $SD = 10$ ), the  $z$  score is multiplied by 10, and then 50 is added to the result (e.g.,  $(1.76 \times 10) + 50 =$  Depression<sub>After</sub>  $T$  score = 68). We believe this score transformation procedure allows for easy identification of scale elevations and assists in understanding RBTSS reaction scores.

The sample from Study 1 ( $n = 381$ ) was reduced by 26 cases through the conversion of summed scale scores to  $z$  scores and  $t$  scores, which resulted in the Study 2 sample ( $n = 355$ ). In instances where the evaluator has one or two clients and wishes to administer the RBTSS, two options are available: (1) reported sample scale means and standard deviations can be used to convert

scores, or (2) the person's own raw scores can be summed across the scales and the mean and standard deviation can be used to convert to  $z$  scores.

### Interpretation of RBTSS Elevations

The interpretation of RBTSS scale score elevations requires that we first consider whether participants reported that their most memorable racial event was (a) emotionally painful (negative), (b) sudden, and (c) unexpected, thus we selected only those participants who responded *Yes* to these questions about their reported memorable racial event. The race-based event criteria reduced the Study 2 sample of 355 by 102 respondents, leaving 253 participants (the new group had the same demographic proportions as that reported in the participant section for Study 2).

To illustrate our score interpretation strategy, we focused solely on participants' *after* the event reactions for ease of explanation. Once  $t$  scores were calculated for each of the seven symptoms scales for each participant in the sample, we identified reaction scale scores of 60 and higher, which are at least one standard deviation above the mean, and treated them as elevated. We contend that a standardized scale score that is at least one standard deviation above the mean reflects some relative level of race-based stress. Consistent with Carter's (2007) conceptualization of race-based traumatic stress, at least one of the seven reaction scales need to be elevated for the person to qualify for our race-based stress and/or race-based trauma groups.

Therefore for a race-based stress or trauma reaction to be present, in this nonclinical participant group, it was determined that one must have at least one elevated standardized reaction scale score (e.g., a participant with an Intrusion score of 63). A total of 98 participants had one or more elevated RBTSS scale scores and indicated that their memorable racial encounter was emotionally painful, out of their control, and sudden, thus meeting our criteria for race-based stress or race-based trauma. Of this group, 43 ( $n = 43$ ) participants had three or more elevated scale scores, which we determined to be a race-based traumatic stress reaction, whereas 55 ( $n = 55$ ) respondents had race-based stress reactions with one or two scale elevations. One hundred fifty-five participants ( $n = 155$ ) had no scale elevations.

Table 2  
Illustration of RBTSS After the Event Reaction Scale Score Conversion Method

Reaction scale	Scale item and item response	Max scale score	Sum raw score	Sample scale mean ( $M$ ), standard deviation ( $SD$ )	$z$ Score $(X-M)/SD$	$t$ Score $(^*10) + 50$
Items	1 2 3 4 5 6 7 8 9 10					
Depression (10 items)	2 2 2 1 2 0 3 1 2 1	40	16	$M = 4.66, SD = 6.46$	1.76	68
Intrusion (8 items)	2 2 1 2 3 3 3 2	32	18	$M = 7.64, SD = 7.65$	1.35	64
Anger (8 items)	2 3 2 2 4 4 4 2	32	22	$M = 6.76, SD = 6.83$	2.23	72
Hypervigilance (8 items)	2 2 1 1 2 1 1 1	32	11	$M = 3.43, SD = 5.52$	1.37	64
Physical (8 items)	2 2 4 4 2 0 4 4	32	22	$M = 3.61, SD = 5.24$	3.51	85
Self-esteem (6 items)	3 1 1 1 2 0	24	8	$M = 2.73, SD = 4.20$	1.26	63
Avoidance (4 items)	2 0 1 0	16	3	$M = 0.87, SD = 1.85$	1.15	61

## Study 2: Results

### Demographic Group Differences

To determine whether there were demographic group differences on the RBTSSS *after* the event reaction scales, we conducted a multivariate analyses of variance (MANOVA) in which race, age, gender, sex, socioeconomic status, education, and religion served as the independent variables and the RBTSSS *after* reaction summed scale scores were the dependent variables. We used the summed scale scores, not standardized *t* scores, in the group differences analysis, to be consistent with the analysis in the initial scale development reported by Carter et al. (2013). No significant group differences were found for any of the demographic variables except age, Wilks'  $\lambda = .860$ ,  $F(21, 959.619) = 2.473$ ,  $p < .001$ ,  $\eta_p^2 = .049$ . Results of Bonferroni post hoc tests found that participants in the 41- to 61-year-old age group endorsed significantly greater RBTSSS Physical*After* reactions as compared with the 14- to 20-year-old age group ( $p < .05$ ) and the 21- to 30-year-old age group ( $p < .05$ ). Additionally, respondents in the 31- to 40-year-old age group endorsed significantly greater RBTSSS Intrusion-*After* reaction as compared with those in the 14- to 20-year-old age group ( $p < .05$ ).

### Change Question: Does Endorsement of “Change” Have Meaning?

We wanted to determine whether the *change* items, or the third question after each reaction stem, were a meaningful part of the RBTSSS. To investigate whether the *change* items were a meaningful part of the instrument, we examined whether those participants who met our criteria for race-based traumatic stress ( $n = 43$ ) endorsed that others noticed a *change* in their behavior as a result of their racial experience to a different degree than the race-based stress respondents ( $n = 55$ ).

An analysis of variance (ANOVA) was conducted where the total *Change* reaction scale was the dependent variable and participants' RBTSSS stress or trauma reaction grouping was the independent variable. Results of the analysis were significant,  $F(1, 2784.508) = 25.636$ ,  $p < .001$ ,  $\eta_p^2 = .277$ . Participants who composed the race-based trauma reaction group ( $M = 19.27$ ,  $SD = 1.81$ ) endorsed that others noticed a change in their behavior to a significantly greater degree than the race-based stress group ( $M = 6.56$ ,  $SD = 1.74$ ). Thus, it seems that the *change* questions are of value as a way to determine whether the respondent was aware of how his or her behavior might have changed following their memorable race-related experience. At the very least, the *change* questions may simply indicate that the respondent endorsed that others had noticed and expressed a change in the participant's behavior, which they attributed to their racial encounter.

### Relationship Between Racial Events and Reaction Types

Is a race-based trauma or stress reaction more likely if the racial encounter is hostile rather than avoidant? Participants' memorable events were coded into the following 11 categories, as reported by Carter et al. (2005): verbal assault, denied access, hostile work environment, violated racial rules, profiled, treated as stereotype,

physical assault, own group discrimination, multiple experiences, vicarious, and other.

We grouped the events into two types of memorable racial encounters and excluded the event categories of other, vicarious, and multiple experiences: (a) avoidant (i.e., often indirect; e.g., denied access, stereotypical treatment, violated racial rules, and own group discrimination), and (b) hostile (i.e., often direct; e.g., verbal and physical assault, hostile work environment, and profiled). In the analyses, our participant groups were reduced further because we included only those participants who had a memorable racial encounter that fell within one of the eight event categories and those respondents whose RBTSSS scale elevation configurations met criteria for either the race-based stress or race-based traumatic stress reaction group. Thus we had a total of 159 participants in the present analysis (the demographic distribution remained equivalent to that of Study 2). The results and tables for these analyses are available upon request.

To examine whether the type of racial encounter (i.e., hostile or avoidant) was associated with the RBTSSS reaction type (i.e., race-based stress or race-based traumatic stress), the avoidant versus hostile event variable was entered as the independent variable while the stress versus trauma reaction group was entered as the dependent variable, in a logistic regression analysis (Powers & Xie, 2000). The results were not significant,  $n = 105$ ,  $df = 1$ , Wald = .021,  $p = .89$ , meaning that the type of racial encounter, whether avoidant or hostile, was not a significant predictor of the type of race-based reaction.

## Study 2: Discussion

There were several objectives for Study 2. The main goal was to present information on how to score and interpret the seven symptoms scales of the RBTSSS. We also wanted to share findings about the RBTSSS not previously reported, which included the two unreported questions associated with each reaction item and how they contributed to understanding a person's stress or traumatic stress reactions. The results of Study 1 found that RBTSSS *after the event* and *recent* reaction scales were positively and significantly related. From the findings of Study 2, we learned that the question about “others noticing a *change* in [the participant's] behavior” was endorsed by respondents in the race-based traumatic stress group to a greater degree than the race-based stress group. In other words, individuals who subjectively experienced their racial encounter as traumatic as compared to stressful also reported to a greater degree that others might have observed them to behave in a changed manner. Thus, the *Change* items of the RBTSSS provide important and valuable information pertaining to the individual's functioning that might be observed by others and thus should be used when the RBTSSS is administered.

Before presenting our RBTSSS scoring approach and converting summed scale scores to standardized scores, we investigated whether there was variation in the RBTSSS *after* the event reaction scales by demographic characteristics (i.e., racial, gender, socioeconomic status), which resulted in significant findings for age. The differences in RBTSSS *after* reaction scores by age revealed that the older adult participants reported greater Physical reactions than the young adult and adolescent respondents and additionally, the adult participants endorsed greater Intrusion reactions than the adolescent respondents. Although these findings

may simply reflect the accumulation of physical and intrusion reactions with time as individuals' age, they may also suggest that these RBTSSS reactions are more greatly experienced by individuals within certain age groups.

Consistent with the conceptualization of race-based traumatic stress, we considered the importance of assessing for stress and traumatic stress reactions. To incorporate the RBTSSS in practice as a clinical assessment tool we recognized the need for a scoring procedure that would generate standardized scale scores and person profiles as well as a score interpretation method that would allow for easy reading of the scores. This resulted in the *t* scoring method of the RBTSSS reactions, which produces symptom scale scores that are calculated as standard scores and shows the person's symptom scale elevations. Converting each individual's summed reaction scale scores into standardized *t* scores provided an easier way of interpreting score elevations.

Using the *t* score method with the nonclinical sample, we tested whether participants' most memorable racial event (i.e., avoidant or hostile, as described by Carter, 2007) was associated with RBTSSS scale elevations (i.e., race-based stress or race-based traumatic stress reactions). We found that there was no relation between the type of racial encounter and respondents' race-based reactions. Consistent with existing research on stress (Folkman, Lazarus, Gruen, & DeLongis, 1986), this result might suggest that it is not the type or nature of the event itself that determines one's stress or trauma reaction but is the individual's appraisal of the event that serves as a greater predictor of the stress-trauma response. In other words, two people who experience the same event do not necessarily have the same reaction to it. All of our findings should be interpreted with caution and further research is required to confirm the results reported here.

### Case Example: How to Use the RBTSSS in Practice

#### Client Description and Background

Zola was a 40-year-old, middle class, Black woman who claimed she was harmed by a racially hostile work environment. She filed several racial discrimination complaints within the organization to no avail, and she took her concerns outside of the organization for some relief.

Her complaints involved racial bias associated with issues of unequal pay, being forced to work overtime, changes in her performance evaluations, and unwarranted close supervision.

#### Client Clinical Interview and RBTSS Assessment

Zola stated during the assessment interview that she experienced chest pains while at home one day and that she was taken to the emergency room (ER), where she was kept to determine the basis for her ailment. Her physical episode turned out to be a panic attack. She also reported high levels of anxiety, headaches, and episodes of trembling before she would go to work. While at work, she started to have memory loss that got worse over time. At work and home she was unable to concentrate or to calm her thoughts. The work situation affected many aspects of her family relationships. A corroborative interviewee supported her account of her behavior and emotional state.

### RBTSSS Assessment Conclusions

Zola had general and personal knowledge of race such that she was able to recognize her situation as a racially hostile work environment. She indicated that the racial experiences at work were beyond her control, unexpected, and emotionally painful. She also tried to cope with the stress of the situation by filing complaints with HR.

Based on the medical and psychiatric evidence showing episodes of panic attacks attributed to work-related stress, the assessment and corroborative interviews, and the RBTSSS results (see Table 2), it was concluded that she had symptoms of race-based traumatic stress injury. She was depressed (RBTSS *t* score, 68), angry (RBTSS *t* score, 72), had intrusive thoughts (RBTSS *t* score, 64), physical reactions (RBTSS *t* score, 85), hypervigilance (RBTSS *t* score, 64), low-self-esteem (RBTSS *t* score, 63), and avoidance reactions (RBTSS *t* score, 61). During the interview she was visibly distraught and in considerable emotional pain as she recalled the events.

### Discussion of Case Illustration and Clinical Application

In the assessment of race-based traumatic stress, it is essential to learn about the person's racial background in addition to compiling a detailed account of the precipitating racial encounter. Irrespective of whether the reported racial event(s) can be confirmed or not, how the person felt and feels should be accepted as valid. The client should explain what about the event(s) were racial and what was the basis for his or her emotional pain. Did the harm manifest in ways that produced emotional and psychological impairment? What did the client do to cope with and address the situation and what was the result of the coping efforts? Did others (employer, coworker(s), and other parties) who were involved think of the event(s) in racial terms? How did they characterize what happened? For Zola, the evaluator concluded that harm and impairment was evident and that the racially hostile environment at her workplace was the direct basis for the emotional and psychological harm she experienced. For clinical purposes, the evaluator using the interview information and the RBTSSS scale scores should be able to assess whether, and to what extent, the client was affected by the event(s) associated with his or her racial encounter(s), and thus provide treatment or the needed evaluation to assist the person to relieve the experienced stress.

### Conclusions: Studies 1 and 2 and Case Illustration

There were several objectives for the present article. The main objective was to present information on how to score and interpret the reaction and symptoms scales of the RBTSSS and how to use the scale in clinical situations. The case illustration was included to demonstrate the use of the RBTSSS in practice with American racial minorities to assess the presence of race-based traumatic stress from racial discrimination and racism experiences. It should be noted that it is not clear how this assessment would apply to African immigrants or immigrants from other countries if they encounter racial discrimination or harassment. Clinicians should consider how immigrants' experiences and associated trauma might be expressed differently from Americans. In addition to the



scoring and interpretation strategy and case illustration, we also wanted to share empirical findings associated with the RBTSSS not previously reported. Therefore we included analyses of the relationships between participants' reactions immediately after their memorable racial encounter and their more recent reactions and whether respondents reported if anyone noticed changes in their behavior with respect to particular reactions and how this question should be used in the RBTSSS.

We explored potential variations in RBTSSS reaction levels by demographic groups, and finally we aimed to determine whether the type of racial event experienced as the most memorable was associated with RBTSSS scale elevations. For the most part with the nonclinical participants, we found no significant variations in RBTSSS scores by race, gender, or socioeconomic status, and the type of event was not related to RBTSSS reaction types. Overall, the core information presented in this paper was the scoring procedures and the guide for the clinical use of the RBTSSS.

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