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Creation and validation of the anti-racism efficacy measure: factor analysis and measurement invariance

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Abstract

This study develops and validates the Anti-Racism Efficacy Scale (A-RES), a 4-item measure that examines (1) competence, or self-rated ability to challenge racism and (2) impact, the degree to which an individual believes they may create change in working against racism. Drawing on a sample of 1322 college students, including 26.6% White, 20.6% Black, 17.1% Latinx, 25.3% Asian or Pacific Islander, 1.2% American Indian, and 9.3% indicating either nothing, other or more than one racial grouping, we test for measurement invariance, conduct a factor analysis, and use ANOVA to compare factor scores by racial grouping. Past literature on antiracism has either not focused explicitly on efficacy, or has not developed means to measure it. The A-RES scale assesses the extent to which individuals feel they are capable of exerting some impact on racism in society.

Introduction and background

Research on efficacy, including self-efficacy and political efficacy, suggests that when individuals believe they are capable, effective, and have the capacity to create change, they are more resilient and more likely to engage politically (Cassidy 2016; Osborne et al. 2015). To date, no measures have tested whether the efficacy framework applies to how people think about and respond to racism. Our review of the current literature suggests that there is no published instrument available to measure the degree to which individuals believe they are capable of challenging racism at individual or structural levels—what we call *anti-racism efficacy*. Understanding

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perceived efficacy in combatting racism is important, given what we know about the connection between other forms of personal efficacy and a variety of outcomes. For example, self-efficacy is a concept that refers to an individual's assessment of their "effectiveness, competence, and causal agency (Gecas 1989, p. 292)." Higher levels of self-efficacy have been linked to resilience (Cassidy 2016; Turner et al. 2012), grit (Wolters & Hussain 2015), and performance (Sturman & Zappala-Piemme 2017). Along similar lines, political efficacy is defined as "the perceived capacity to effect social and political change (Diemer & Rapa 2016, p. 221)." Higher levels of political efficacy have been found to predict higher levels of political participation (Osborne et al. 2015). When people believe they can create change, it seems, they may be more likely to act in ways that inspire change.

There are competing understandings of the nature of racism and its relevance in society. One one hand, critical race theory suggests that racism is pervasive, structural, and often implicit in institutions, policies, and interactions that can appear to be color-blind (Delgado & Stefancic 2000). But this framing of racism as a structural problem runs counter to the dominant modes of thinking about racism in America as an individual-level problem divorced from the history of oppression (Bonilla-Silva 2017; Moffatt 1989). Some have argued that we are in a post-Racial society, as the problem of racism was solved with the Civil Rights Movement – or at least with the election of President Barack Obama (Bonilla-Silva 2016; D'souza 1995). For those who believe racism is a problem of the past, experiences with more explicit expressions of racism online can be an eye-opening experience that challenges their understandings of the realities of race in the 21st century (Eschmann 2020).

Survey results demonstrate that the way Americans think about racism is dynamic, with fewer than 33% of respondents believing racism was a serious problem in society under Obama, but 50% or more thinking racism is a serious problem under Trump (Neal 2017). Increasing recognition of racism as a problem, however, may not necessarily predict how people respond to that problem. Indeed, Bobo and colleagues (1996) find that while attitudes toward interracial marriage and segregation became more egalitarian in the 50 years following the Civil Rights Movement, these attitudes did not correspond with increased support for anti-racist policies like school busing or affirmative action. Rejecting racism in theory, it seems, does not necessarily translate to support for anti-racism in practice.

Anti-racism can be understood as involving recognition, critical thinking, and activism, and necessitates recognizing racism in all its forms, individual to structural, past and present (Boatright-Horowitz 2005; Copeland & Ross 2021; Kowal et al. 2013). This includes seeing racism as part of interlocking oppressions and intersecting identities (Bailey 2004; Srivastava 2005). It also requires recognizing ones racial identity development, personal ideologies, and affective reactions (Boatright-Horowitz; Hughey 2012; Kowal et al. 2013; Mallot et al. 2015; Pieterse, Utsey, & Miller, 2016; Smith & Redington 2010; Zembylas 2012). Critical thinking deepens recognition through analysis of dynamics of power and oppression, interrogation of affective reactions, reasoning, behaviors, and impacts, and assessment of challenges and risks (Corneau & Stergiopoulous 2012; Kowal et al. 2013; Zembylas 2012). Activism effectively applies recognition and critical thinking to countering all forms of racism, while meeting the challenges and managing the risks

involved (Corneau & Stergiopolous, 2012; Hughey 2012; Kowal et al. 2013; Mallot et al. 2015; Mitchell et al. 2011; Nelson et al. 2011; Pieterse, Utsey, & Miller, 2016; Smith & Redington 2010). In addition, activism demands ongoing learning to increase recognition, sharpen critical thinking, and take more competent actions, while developing an antiracist identity (Mallot et al. 2015; Smith & Redington 2010; Srivastava 2005).

Some literature has explored factors relevant to questions of efficacy such as constraints and enablers of antiracism practice. Constraints include appraisals of whether a person could make a difference, perceptions that action would be ineffective, and self-doubt (Mitchell et al. 2011; Nelson et al. 2011; Smith & Redington 2010). Perceived ability to intervene has been identified as an enabler (Nelson et al. 2011).

While past literature has helped to conceptualize antiracism practice and identify constraints and enablers, it has either not focused explicitly on efficacy, or not developed means to measure it. This study fills this gap in the literature and validates the Anti-Racism Efficacy Scale (A-RES), a 4-item measure that examines (1) competence, or self-rated ability to challenge racism and (2) impact, the degree to which an individual believes they may create change in working against racism. Do participants believe that racism is something that can be changed, and do they believe themselves capable of being a part of that change? Are there intergroup differences in anti-racism efficacy?

Sample

The sample includes 1322 college students, including 248 (18.8%) from Boston University, and 1074 from an online panel. The sample consisted of 26.6% White, 20.6% Black, 17.1% Latinx, 25.3% Asian or Pacific Islander, 1.2% American Indian, and 9.3% indicating either nothing, other or more than one racial grouping. For gender, 44% of participants identified as men, 54% as women, and 2% as non-binary or another gender. When asked about their political leanings, 53% of participants leaned toward being liberal, 19% leaned toward being conservative, and 28% did not report leaning in any particular direction. While 60% of the students in this sample did not hold jobs, 27% worked 34 h or less each week, and 13% worked over 35 h each week.

Of the respondents reporting one race, the Boston University sample was roughly half White and half Asian, and the online panel was roughly one quarter each of the following groups: Black, White, Latinx, Asian. The Boston University sample was recruited in 2019 from SONA, an outline platform that enables students to take part in research projects for course credit. The online panel survey was gathered in 2019 through Qualtrics, who maintains online research panels and gives participants credits as incentives for their participation. Both surveys were administered online via computer or smartphone. Inclusion criteria included being over 18, full-time college students, and English speakers. We chose to study college students because of the long history of studying racism among college students, and because they are

at a unique developmental period, learning about themselves and the world in contexts where they are also experiencing increased independence (Moffatt 1989; Yosso et al. 2009; Keels et al. 2017).

For the non-measurement verification analyses reported below, we restricted the sample to only those respondents reporting one racial identification (n=1183).¹ We tested for measurement variance between samples and across single-identification racial groups. No issues were noted.

Findings

There were 4 (0.3%) participants that did not respond to any of anti-racism efficacy scale items; of the remaining n = 1322 responses, all participants responded to all items. The items of the anti-racism efficacy scale were adapted from questions on political efficacy (Gil de Zúñiga et al. 2012; Valenzuela et al. 2012) and modified to focus on racism. The items are as follows, with reverse-coded items flagged:

- People like you can influence the way racism affects others.
- You consider yourself well qualified to participate in movements related to racism.
- You have a pretty good understanding of the important issues facing our country around racism.
- People like you don't have any say about racism. (rev)
- No matter what you do, racism will never go away. (rev)

Items were answered using a 4-point, fully-anchored, Likert-type scale ranging from Agree strongly (1) to Disagree strongly (4). Items were rescored so a higher number would indicate a more positively-valanced response.

Initial exploration of the scale using all 5 items failed to support the assumption of a single-construct scale. Along with the results of these analyses, an examination of the responses and the item content suggested that the 5th item (No matter what you do, racism will never go away) should be treated as a stand-alone item. First and foremost, the participants responses were more negative than any of the other 4 items on the scale. Table 1 shows the response patterns across the items on this scale.

Next, the content of the items pointed toward a possible two-factor solution with the 1st & 4th items being a measure of impact regarding anti-racism efficacy ("influence", "any say"), and with the 2nd and 3rd items being a measure of competence regarding anti-racism efficacy ("qualified", "good understanding"). Consequently, a 2-factor model with 2 pairs of items per factor was examined.

Measurement invariance (MI) analyses were conducted comparing solelyidentifying White and Asian participants with solely-identifying Black and Latinx

¹ There were too few students identifying as multi-racial to create a separate category for analysis.

	Negative answers			Positive answers
	Disagree strongly	Disagree	Agree	Agree strongly
People like you can influence the way racism affects others	27 (2.0%)	178 (13.5%)	697 (52.7%)	416 (31.5%)
You consider yourself well qualified to participate in movements related to racism	49 (3.7%)	332 (25.1%)	660 (49.9%)	277 (21.0%)
You have a pretty good understanding of the important issues facing our country around racism	12 (0.9%)	158 (12.0%)	745 (56.4%)	403 (30.5%)
(reverse coded items)	Agree strongly	Agree	Disagree	Disagree strongly
People like you don't have any say about racism	56 (4.2%)	226 (17.1%)	626~(48.9%)	390 (29.5%)
No matter what you do, racism will never go away	234 (17.7%)	603 (45.6%)	390 (29.5%)	91 (6.9%)

 Table 1
 A-RES item response patterns

Subscale	Group	М	SD	min	q1	Mdn	Q3	MAX
Competenc	e							
	White	- 0.262	0.816	- 2.547	- 0.905	-0.004	0.180	1.452
	Black	0.240	0.944	- 2.501	- 0.144	0.180	1.176	1.452
	Latnix	0.171	0.906	- 2.731	- 0.489	0.088	1.128	1.452
	Asian	- 0.059	0.819	- 2.315	- 0.673	0.042	0.227	1.452
Impact								
	White	- 0.170	0.682	- 2.305	- 0.640	-0.088	0.281	1.335
	Black	0.135	0.766	- 2.490	- 0.323	0.134	0.781	1.335
	Latnix	0.15	0.793	- 2.637	- 0.415	0.134	0.783	1.335
	Asian	- 0.068	0.695	- 2.527	- 0.552	- 0.051	0.316	1.335

Table 2 A-RES factor score summary statistics by racial/ethnic group

participants.² MI analyses indicated good configural fit ($\chi^2(2) = 0.606$, p = 0.74; CFI=1.000, TLI=1.016, RMSEA=0.000). Metric equivalence (equal factor loadings, latent means freely estimated across groups) was observed ($\chi^2(4) = 4.380$, p=0.36; CFI=0.999, TLI=0.998, RMSEA=0.013). Scalar equivalence (equal item intercepts) was reasonably observed, with one item (4th item) being freely estimated across the two groups ($\chi^2(7) = 13.65$, p = 0.058; CFI = 0.987, TLI = 0.978, RMSEA = 0.040). Structural equivalence (latent variable covariances constrained across groups) was achieved (with the relaxed scalar model; $\chi^2(8) = 14.69$, p=0.065; CFI=0.987, TLI=0.981, RMSEA=0.038). Finally, the latent means were constrained to be equal across the two groups. This resulted in a poorly fitting model ($\chi^2(10) = 66.85$, p < 0.001; CFI=0.891, TLI=0.870, RMSEA=0.098). A more relaxed model in which the competence latent mean was freely estimated across the groups resulted in reasonable model fit with $\chi^2(9) = 17.41$, p = 0.043; CFI=0.984, TLI=0.979, RMSEA=0.040. Thus, the two scales were interpreted comparably between the two groups. Moreover, the average response was comparable between the two groups for impact.

Factor scores were generated using a 2 factor measure (with 2 pairs of items per scale) with the data aggregated across race. The descriptive statistics for the two scales by solely-identifying racial groups are given in Table 2.

An ANOVA comparing the factor scores by racial grouping indicates a statistically significant difference by racial grouping for both competence ($F_{3,1176}=21.06$, p < 0.001) and impact ($F_{3,1176}=13.78$, p < 0.001). Post hoc comparison for competence by group suggests the White group average is statistically lower than Asian group average (p=0.002), which is in turn statistically lower than the aggregate group average for Black and Latinx groups (p < 0.001), and these last two groups are not statistically significantly different (p=0.38). Regarding impact, the White and Asian groups are not statistically significantly different (p=0.067), nor are the

² These groupings were made based on patterns seen in descriptive data analyses.

No matter what you do, racism will never go away

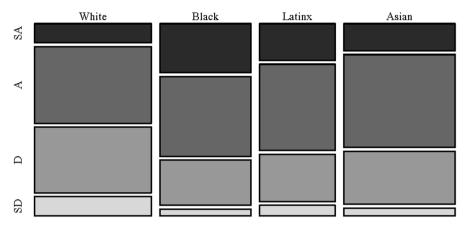
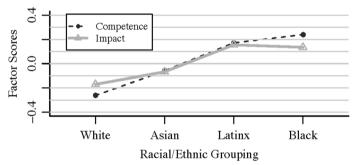


Fig. 1 "Racism will never go away" by racial/ethnic group



Anti-Racism Efficacy Subscales

Fig. 2 Anti-racism efficacy subscales by racial/ethnic group

Black or Latinx groups (p=0.75), but the two pair of groups are statistically different (p < 0.001).

Finally, when examining the final item (*No matter what you do, racism will never go away*), there are distinct response patterns across the racial groupings, as seen in Fig. 1. There is a statistically significant relationship between response patterns and race ($\chi^2(9)=53.61$, p < 0.001, V=0.116), as can be seen in the mosaic-plot of the responses (grouped by racial groupings) where higher categories on the vertical axis indicate more negative responses.

Here we see that Whites are the most likely to believe that racism *will* go away, followed by Latinx, then Asian, then Black. Blacks, on the other hand, are most likely to believe that racism will never go away, yet have high rates of believing they can have an impact on racism. These findings are consistent with the

intergroup comparisons of the A-RES subscales in Fig. 2, which show that White students have higher perceived impact and lower perceived competence, while Black students have higher perceived competence but lower perceived impact.

Discussion

The results from this study are promising. First, we discuss the need for an antiracism self-efficacy scale that assesses the extent to which individuals feel they are capable of exerting some impact on racism in society. Our analysis looks for measurement variance across racial groups, and across samples, and reveals two distinct subscales, competency and impact. Future research will explore whether a stronger sense of anti-racism efficacy influences individuals' actions and engagements with antiracist practices, or moderates the impact of adverse experiences with racism on wellness, and may use qualitative methods to further expand our understanding of how racial efficacy influences antiracist beliefs and actions.

Secondly, though white and Asian students comparatively scored lower than Black and Latinx students on the scale, most students surveyed scored positively overall (e.g., 84.7% of the sample rated agree or strongly agree with item 1, "can influence the way racism affects others"). The distinctions between White and Asian students on one hand, and Black and Latinx students on the other, may reflect broader patterns of racialized experiences, proximal relations between the groups (i.e., patterns of segregation), and collective histories and shared alliances between Black and Latinx people in the U.S. For example, while dominant stereotypes or news coverage of Black and Latinx folks often reflect their being seen as threats, or dangerous, Asians in the US are seen as being the model minority (itself a harmful stereotype, though of a different sort) (Chavez 2013; Márquez 2012; Ng et al. 2007). Research on race on college campuses has found that Asian students can feel pitted against Black and Latinx students, especially during discussions of affirmative action (Duster 1991). These findings do not suggest that Asian folks are not also negatively influenced by White supremacy. Notably, this data was collected before the increases in anti-Asian violence seen in 2020–2022, and future research should continue to understand the complexities and contradictions inherent in racial attitudes within and between different racial and ethnic groups.

Third, there seems to be a contradiction regarding the fifth item, *no matter* what you do, racism will never go away, as Whites demonstrate a higher belief that racism will go away, but have lower perceived competence and impact on the anti-racism efficacy subscales. This paradox is less compelling when direct lived experiences of racism are taken into account. That is, because Whites are not historically or contemporarily primary targets of racist treatment, it seems logical that they would feel more hopeful about racism going away, whereas racialized groups who have been primary targets may feel less hopeful about future change because of this discriminatory treatment. Moreover, as scholarship on race demonstrates, Whites live in more homogeneous communities, believe in merit-based approaches to racial equity and equality, and are less likely to support substantial

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Relatedly, while these factors may be important for assessing respondents' selfefficacy regarding antiracism, this study is not intended to predefine antiracism or determine whether it is an individual-level or structural-institutional form of praxis. While common definitions of antiracism certainly advance a proactive and reflexive stance against policies, practices, and structures that reinforce or reproduce racial inequity and racial discrimination—such as that posited by Ibram X. Kendi (2019)—the aim of this study is to merely validate an innovative and pertinent antiracism scale in order to better ascertain whether this form of self-efficacy has bearing on various kinds of anti-racist actions.

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Data availability The datasets analyzed during the current study are not publicly available as the authors are still engaged in analyzing and publishing from the data.

Declarations

Competing interests The authors declare that they have no competing interests.

Ethical approval and consent to participate This study was deemed to meet the criteria for exemption in accordance with CFR 46.101(b) (2) by the IRB Board at Boston University (4855X).

Consent for publication Not applicable.

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