Black Lives Matter! Special Issue: Dismantling Oppression Series

Gender and Racial Identity Moderate the Effects of Online and Offline Discrimination on

Mental Health

*Tiani Perkins <u>tianip@umich.edu</u> University of Michigan – Ann Arbor *Psychology Department*

Myles Durkee <u>mdurkee@umich.edu</u> University of Michigan – Ann Arbor *Psychology Department*

Jasmine Banks jasbanks@umich.edu University of Michigan – Ann Arbor *Psychology Department*

Brittany Ribero-Brown <u>bnrb@umich.edu</u> University of Michigan – Ann Arbor *Psychology Department*

*Corresponding Author

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RUNNING HEAD: ONLINE AND OFFLINE DISCRIMINATION

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Author Manuso

MS. TIANI R. PERKINS (Orcid ID : 0000-0001-9824-8693) DR. MYLES I. DURKEE (Orcid ID : 0000-0003-2617-7384)



Abstract

The present study highlights the growing need to examine Black youths' exposure to racial discrimination in online and offline contexts. Using a sample of 353 Black college students, findings indicate that high public regard moderates the positive association between online and offline racial discrimination and psychological consequences (i.e., depression, anxiety, and psychological well-being) among Black women. Additionally, racial centrality moderated the positive association between online and offline racial discrimination between online and offline racial discrimination experiments of gender. The findings highlight the importance of considering context, gender, and racial identity when examining the links between Black emerging adults' experiences of discrimination and mental health.

Keywords: Racial discrimination, online discrimination, racial identity

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Gender and Racial Identity Moderate the Effects of Online and Offline Discrimination on Mental Health

After national protests against police brutality during the summer of 2020, about 21% of Black Americans report experiences of racial discrimination and 45% believe that it is common for members of other racial groups to hold anti-Black attitudes (Ruiz et al., 2020). This has been compounded by the recent increase of racist bloggers, propaganda, and right-wing extremist groups in online spaces (Criss et al., 2020). These issues are particularly salient for Black emerging adults as they navigate a critical developmental period marked by an emphasis on identity exploration and a growing understanding of what it means to live in a White supremacist society (Hope et al., 2015). Considering the evolving racial tension in an increasingly internet-connected society, we examine the mental health consequences of online and offline racial discrimination among Black emerging adults.

Racial discrimination is "a system of oppression based on racial/ethnic group designations in which a pervasive ideology of racial superiority and inferiority provides the foundation for [...] discrimination and prejudice" (Brownlow et al., 2019, p.2). While perpetrators of offline discrimination tend to be well-acquainted with their targets (i.e., peers, teachers), online discrimination is typically perpetrated by anonymous strangers (Lee & Ahn, 2013). Black youth report the highest rates of daily internet usage and are more likely to experience severe online racial discrimination (Duggan, 2017; Tynes et al., 2008). While both forms of discrimination are associated with poor psychological outcomes, online discrimination has been found to predict mental health challenges over and above offline discrimination (Lozada et al., 2020; Tynes et al., 2008; Umaña-Taylor et al., 2015). This suggests that online and offline discrimination have unique implications for Black emerging adults' mental health. What remains to be determined is whether racial identity and gender moderate the negative effects of online and offline discrimination.

Racial Identity and Online/Offline Discrimination

The Multidimensional Model of Racial Identity (MMRI) identifies public regard as the perceived societal sentiment towards one's racial group, while racial centrality is the extent to which race is a core aspect of an individual's self-concept (Sellers et al., 1997). High public regard may exacerbate the negative consequences of racial discrimination among Black youth as they do not anticipate such worldview disconfirming experiences, resulting in greater

psychological distress (Sellers et al., 2003; Shelton & Sellers, 2000). However, low public regard may similarly place Black youth at risk for adverse mental health outcomes. Seaton and Iida's (2019) longitudinal study among Black youth found that previous exposure to racial discrimination was associated with greater depressive symptoms only among those with lower than average public regard. Additionally, evidence suggests individuals high in racial centrality are more readily able to recognize racial discrimination, potentially leading to greater psychological distress (Lee & Ahn, 2013). However, high centrality may have positive psychological implications for the ways Black youth perceive and interpret these discrimination experiences, potentially buffering the effects of racial discrimination over time (Neblett et al., 2004).

While racial identity often protects against the psychological consequences of offline racial discrimination, our understandings of the implications for online discrimination remains unclear. For example, a stronger positive ethnic identity (i.e., feelings of belonging to one's ethnic group) weakens the relations between online discrimination and anxiety, but not depressive symptoms (Tynes et al., 2012). Additionally, Umaña-Taylor et al. (2015) found that ethnic identity moderated the association between individual online discrimination and externalizing problems (i.e., rule-breaking and aggressive behavior), and weakened the positive association between experiences of vicarious online discrimination and depressive symptoms. Thus, additional research is needed to understand how racial identity may shape the psychological consequences of racial discrimination across online and offline contexts.

Gender as a Moderator

Intersecting identities of race and gender may elicit unique implications from experiences of discrimination (Yip et al., 2019). Black women are more likely to experience online or offline discrimination targeting their hair texture and romantic desirability (Criss et al., 2020; Seaton & Tyson, 2018), while Black men tend to be characterized as threatening or aggressive (Williams & Mohammed, 2009) and are more likely to experience online and offline discrimination than their female peers (Leath et al., 2019; Seaton et al., 2008; Tynes et al., 2019, 2012; UmañaTaylor et al., 2015). However, research indicates that because they experience discrimination from a wider variety of sources targeting both their racial and gendered identity, the psychological toll of discrimination may be greater for Black women (Brownlow et al., 2019).

Black male adolescents tend to report greater levels of public regard and racial centrality than females, and evidence suggests Black males experience a stronger protective role from racial centrality that lessens the psychological toll of offline racial discrimination (Sellers & Shelton, 2003; Sellers et al., 1997; Chavous et al., 2008). Black females, on the other hand, have been found to de-emphasize their racial identity in response to discriminatory experiences, exacerbating psychological distress (Leath et al., 2019). Additionally, there is a lack of research examining gender differences in the implications of racial identity for online discrimination, and findings among racially diverse adolescent samples suggest no gender differences in the protective function of racial identity (i.e., Tynes et al., 2012; Umaña-Taylor et al., 2015). However, due to the growing amount of racial hate groups online (Criss et al., 2020) and greater amount of time Black youth spend in online versus offline spaces, additional research is needed to determine whether gender and racial identity collectively moderate the relationship between online/offline discrimination and psychological functioning.

Current Study

The present study examines the moderating role of racial identity in the association between online and offline racial discrimination and psychological adjustment. We hypothesize that (a) Black emerging adults' exposure to online and offline discrimination will have adverse implications for psychological adjustment outcomes (i.e., depressive symptoms, anxiety, and psychological well-being), (b) higher racial centrality and lower public regard will weaken the relationship between online/offline racial discrimination and mental health, and (c) these effects may vary by gender.

Method

Participants

Data were collected from a larger study examining Black undergraduates' experiences at a predominantly White, public university in the Midwestern United States. Three-hundred seventy-seven students completed the survey in its entirety, 16 were removed due to failing one or more attention checks, and 8 were removed due to missing data. A final sample of 353 Black college students (female = 71%; M_{age} = 19.59; SD_{age} =1.61) were surveyed at the beginning of the 2020-2021 academic year. One person identified as a transgender male and 4 people identified as nonbinary. Ethnic diversity included 63% African American, 15% African, 4% Caribbean, and 28% selected multiple ethnic backgrounds. The sample contained first-year (22%), second-year (27%), third-year (26%), fourth-year (23%), and fifth-year (5%) undergraduates. Average family income was \$80,000, and 25% and 28% of participants had mothers or fathers born outside of the U.S., respectively. Sixty-two percent of participants had mothers who obtained a four-year college degree or higher.

Procedures

The university's registrar office distributed recruitment emails to all self-identified Black undergraduates and Black student organizations on campus. Recruitment emails contained a link for participants to provide informed consent and completed a 45-minute online survey. Data collection was facilitated by Qualtrics software and participants were compensated with a \$20 Amazon gift card.

Measures V

Offline Racial Discrimination

Offline racial discrimination was collected using the 15-item Adolescent Discrimination Distress Index (1 = Not at All to 5 = Extremely; Fisher et al., 2000) to examine exposure to racial discrimination over the past year (e.g., I was called racially insulting names; M = 1.57, SD =.64). To reduce skewness, responses were recoded to indicate whether participants experienced discrimination across each item: 1 (Yes) or 0 (No). Items were summed together to create a breadth score ranging from 0 to 15 (M = 4.59, SD = 3.92; $\alpha = .80$). Online Racial Discrimination

We created a measure to collect online racial discrimination. Participants were asked "During the last year, how often did you experience racial/ethnic discrimination that was directly targeted at you on the following social media platforms:" Twitter, Instagram, Facebook, Tik Tok, and YouTube (1 = Never to 5 = Many times a day; M = 1.17, SD = .51). To reduce skewness, responses were recoded to indicate whether participants experienced discrimination across each social media platform: 1 (Yes) or 0 (No). Items were then summed together to create a breadth score ranging from 0 to 5 (M = .46, SD = 1.05; $\alpha = .73$).

Racial Identity

Racial identity was measured using two, four-item subscales from the Multidimensional Inventory of Black Identity - Short (MIBI-S; 1 = Strongly disagree, 7 = Strongly agree; Martin, et al., 2013). Public regard measured how positively a person believes others view their racial group (e.g., Society views Black people as an asset; $\alpha = .82$) and racial centrality measured the importance of race as a central part of an individual's core identity (e.g., Being Black is an important reflection of who I am; $\alpha = .76$). Responses for each subscale were averaged together with higher values indicating higher racial identity.

Anxiety

The 10-item Generalized Anxiety Disorder Screener–Symptoms Scale (Carroll & Davidson 2000) used dichotomous responses of 0 (No) and 1 (Yes), to measure anxiety symptoms over the past 6 months (e.g., Most days I worry about lots of things). Items were summed together for a scale range of 0 to 10 and higher values indicated more anxiety symptoms ($\alpha = .84$).

Depressive Symptoms

The 9-item Harvard Department of Psychiatry/National Depression Day Screener (HANDS; Baer et al, 2000) measured the frequency of depressive symptoms over the past two weeks (e.g., Had difficulty concentrating or making decisions; 0 = None or a little of the time to 3 = All of the time). Items were summed together for a scale range of 0 to 27 and higher values indicated more depressive symptoms ($\alpha = .89$).

Psychological Well-Being

The 6-item Psychological Well-Being subscale from the Mental Health Continuum-Short (Keyes et al., 2008) measured positive mental health over the past month (e.g., During the past month how often did you feel... That you have warm and trusting relationships with others; 0 = Never to 5 = Every day). Items were summed together for a scale ranging from 0 to 30, where higher values indicated greater psychological well-being ($\alpha = .78$).

Demographic Variables

Self-reported age, gender (0 = male, 1 = female), and mother's education were collected. Mother's education was used as an indicator of socioeconomic status.

Data analysis

Hierarchical linear regression models were conducted with STATA 16 to test the main hypotheses. Gender, age, and mother's education level were accounted for as demographic covariates in each model. In Model 1, the main effects of online and offline discrimination on psychological outcomes were examined. In Model 2, two-way interactions between racial identity and online and offline discrimination were examined. In Model 3, three-way interactions between gender, racial identity, and online and offline discrimination were examined. Independent variables were mean-centered prior to the construction of interaction terms. Statistically significant interactions were probed and graphed at one standard deviation above and below the mean to test the significance of simple slopes (Aiken & West, 1991).

Results

Descriptive analyses

Means, standard deviations, and bivariate correlations for all variables are shown in Table 1. We conducted t-tests to examine gender differences in demographic variables and experiences of online and offline discrimination. There were no significant gender differences among demographic variables. Black female students reported significantly more experiences of online discrimination (M = 0.52, SD = 1.04) than males (M = 0.21, SD = 0.76; t(345) = -2.65, p = .009). **Primary analyses**

Main effects. Model 1 indicated that online discrimination ($\beta = .19$, p = .001; $\beta = .12$, p = .03) and offline discrimination ($\beta = .23$, p < .001; $\beta = .25$, p < .001) were each positively associated with depressive and anxiety symptoms, respectively. Additionally, the standardized effects of offline discrimination were larger than those of online discrimination.

Interaction effects. In Models 3a and 3b (see Table 2), the three-way interactions between gender, public regard, and offline/online discrimination were significant for depressive (Offline: $\beta = -0.25$, p = .003, $\Delta R^2 = .01$; Online: $\beta = -0.34$, p = .011, $\Delta R^2 = .01$) and anxiety symptoms (Offline: $\beta = -0.24$, p = .004, $\Delta R^2 = .01$; Online: $\beta = -0.27$, p = .050, $\Delta R^2 = .00$). Black males, with high public regard (+1 SD) experienced more depressive (Offline: b = 0.65, p < .001; Online: b = 4.65, p = .009) and anxiety symptoms (Offline: b = 0.33, p < .001) as exposure to discrimination increased; yet there were no significant associations between racial discrimination and mental health among Black males with low public regard (-1 SD). On the contrary, Black females with low public regard experienced more depressive (Offline: b = 0.53, p < .001; Online: b = 2.12, p < .001) and anxiety symptoms (Offline: b = 0.28, p < .001; Online: b = 2.12, p < .001) and anxiety symptoms (Offline: b = 0.28, p < .001; Online: b = 0.88, p = .001) as exposure to discrimination increased; yet there were no significant associations between racial discrimination increased; b = 2.12, p < .001) and anxiety symptoms (Offline: b = 0.28, p < .001; Online: b = 0.88, p = .001) as exposure to discrimination increased; yet there were no significant associations between racial discrimination and mental health among Black females with high public regard (+1 SD; see Figures 1-4).

The three-way interactions for racial centrality were non-significant, indicating that these effects did not vary by gender. However, in Model 2 (see Table 3) the two-way interaction between racial centrality and offline discrimination predicting psychological well-being was

significant ($\beta = 0.12$, p = .04, $\Delta R^2 = .04$; See Table 3). Participants with low racial centrality (-1 SD) reported less psychological well-being as experiences of offline discrimination increased (b = -0.41, p = .003). However, there were no significant associations between racial discrimination and psychological well-being among participants with high racial centrality (+1 SD). All remaining two-way interactions for racial centrality were non-significant (ps > .05).

Discussion

The present study found that the psychological impact of online and offline racial discrimination varied by racial identity and gender among a sample of Black emerging adults. Our findings indicate that the moderating role of public regard functions differently for Black males and females who experience online and offline discrimination. The findings for Black males mirror previous research that offline discrimination is less distressing for individuals with low public regard (Neblett & Roberts, 2013; Yip et al., 2019). It is possible that expressions of overt racism are less distressing for Black men who already believe that society holds negative attitudes about their racial group (i.e., Sellers & Shelton, 2003). Black men may interpret expressions of racism as confirmation due to this anticipation of racial bias (Sellers et al., 2003). Our findings add to the extant literature with evidence that these patterns, previously only found in the context of offline discrimination, also apply to the context of online discrimination.

Our findings for Black females indicated that low public regard was associated with greater detrimental psychological outcomes as exposure to online and offline discrimination increased. The majority of the extant literature reflects our findings for Black males (e.g.; Sellers et al., 2006; Sellers & Shelton, 2003), with very few studies proposing high public regard as a protective factor (Lee & Ahn, 2013). To explain the present findings, we look to the increase of stereotype-breaking Black female public figures who have received overwhelming attention throughout 2020 (i.e., Madame Vice President Kamala Harris, former first lady Michelle Obama), and public campaigns to uplift Black girls (i.e., Black Girls Rock, Black Girls Code). Black females with high public regard may reference these positive examples after experiences of discrimination and are therefore more likely to discount expressions of online discrimination as the fault of individual "trolls" instead of a reflection of the larger society. Black women low in public regard may not utilize these same resources and may therefore find these worldview confirming experiences of discrimination psychologically distressing (Hicken et al., 2013;

Hoggard et al., 2015). Overall, our findings for Black males and females signal a potential shift in our understanding of public regard and how it functions for Black emerging adults.

Findings are limited by the convenience sample from a large predominantly White university in the Midwest and may not generalize to Black emerging adults in other college contexts (e.g., HBCUs) or those not attending college. Additionally, different scales were used to measure online and offline discrimination, thus limiting their ability to be directly compared to one another. Future research should utilize standardized scales to capture the same dimensions of racial discrimination across online and offline contexts (e.g., Tynes et al., 2020). Future investigations should also use experiential sampling methods to understand how Black youth transition between in-person and online spaces.

These findings are useful for Black youth and their parents, counselors, and educators due to the chronic nature of racial discrimination in U.S. society. While digital spaces are becoming increasingly important for Black emerging adults, researchers must continue to critically analyze the psychological impact of discrimination across multiple contexts. These results are both useful and timely during a period where Black youth have shifted a significant amount of their social interactions from offline to online contexts.

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References

- Aiken, L. S., & West, S. G. (1991). Multiple regression: Testing and interpreting interactions. Thousand Oaks, CA: Sage Publications.
- Baer, L., Jacobs, D. G., Meszler-Reizes, J., Blais, M., Fava, M., Kessler, R., . . . O'Laughlen, J. (2000). Development of a brief screening instrument: The HANDS. Psychotherapy and Psychosomatics, 69(1), 35–41. doi:10.1159/000012364
- Brownlow, B. N., Sosoo, E. E., Long, R. N., Hoggard, L. S., Burford, T. I., & Hill, L. K. (2019). Sex Differences in the impact of racial discrimination on mental health among Black Americans. Current Psychiatry Reports, 21(112). <u>https://doi.org/10.1007/s11920-019-</u> 1098-9
- Carroll, B. J., & Davidson, J. R. T. (2000). Screening Scale for DSM-IV GAD. Copyright 2000.
- Chavous, T., Rivas-Drake, D., Smalls, C., Griffin, T., & Cogburn, C. (2008). Gender matters, too: The influences of school racial discrimination and racial identity on academic engagement outcomes among African American adolescents. Developmental Psychology, 44, 637-654. doi:10.1037/0012-1649.44.3.637
- Criss, S., Michaels, E. K., Solomon, K., Allen, A. M., & Nguyen, T. T. (2020). Twitter Fingers and Echo Chambers: Exploring Expressions and Experiences of Online Racism Using Twitter. Journal of Racial and Ethnic Health Disparities. DOI: 10.1007/s40615-020-0 0894-5.
- Duggan, M. (2017). Online Harassment 2017. Washington, D.C.: Pew Research Center. Retrieved from http://www.pewinternet.org/2017/07/11/onlineharassment- 2017/.
- Fisher CB, Wallace SA, & Fenton RE (2000). Discrimination distress during adolescence. Journal of Youth and Adolescence, 29, 679–695. doi:1023/a:1026455906512
- Hicken, M. T., Lee, H., Ailshire, J., Burgard, S. A., & Williams, D. R. (2013). "Every shut eye, ain't sleep": The role of racism-related vigilance in racial/ethnic disparities in sleep difficulty. Race and social problems, 5(2), 100-112.
- Hoggard, L. S., Byrd, C. M., & Sellers, R. M. (2015). The lagged effects of racial discrimination on depressive symptomology and interactions with racial identity. Journal of Counseling Psychology, 62, 216–225. http://dx.doi.org/10.1037/cou0000069
- Hope E.C., Hoggard L.S., & Thomas A. (2015). Emerging into adulthood in the face of racial discrimination: physiological, psychological, and sociopolitical consequences for African

American youth. Transl Issues Psychol Sci. 1(4):342.

- Leath, S., Mathews, C., Harrison, A., & Chavous, T. (2019). Racial identity, racial discrimination, and classroom engagement outcomes among Black girls and boys in predominantly Black and predominantly White school districts. American Educational Research Journal, 56(4), 1318–1352. <u>https://doi.org/10.3102/0002831218816955</u>
- Lee, D. L., & Ahn, S. (2013). The Relation of Racial Identity, Ethnic Identity, and Racial Socialization to Discrimination–Distress: A Meta-Analysis of Black Americans. Journal of Counseling Psychology, 60(1), 1-14. DOI: 10.1037/a0031275.
- Lozada, F. T., Seaton, E. K., Williams, C. D., & Tynes, B. M. (2020). Exploration of Bidirectionality in African American and Latinx Adolescents' Offline and Online Ethnic-Racial Discrimination. Cultural Diversity and Ethnic Minority Psychology. Advance online publication. <u>http://dx.doi.org/10.1037/cdp0000355</u>
- Martin, A. J., Nejad, H. G., Colmar, S., & Liem, G. A. D. (2013). Adaptability: How students' responses to uncertainty and novelty predict their academic and non-academic outcomes. Journal of Educational Psychology, 105(3), 728–746. https://doi.org/10.1037/a0032794
- Neblett, E. W., Jr., & Roberts, S. O. (2013). Racial identity and autonomic responses to racial discrimination. Psychophysiology, 50, 943–953.
- Neblett, E. W., Jr., Shelton, J. N., & Sellers, R. M. (2004). The Role of Racial Identity in Managing Daily Racial Hassles. In G. Philogène (Ed.), Racial identity in context: The legacy of Kenneth B. Clark (pp. 77–90). American Psychological Association. https://doi.org/10.1037/10812-005
- Ruiz, N. G., Horowitz, J. M., & Tamir, C. (2020, July 1). Many Black and Asian Americans Say They Have Experienced Discrimination Amid the COVID-19 Outbreak. Washington, D.C: Pew Research Center. Retrieved from https://www.pewsocialtrends.org/2020/07/01/
- Seaton, E. K., & Iida, M. (2019). Racial discrimination and racial identity: Daily moderation among Black youth. American Psychologist, 74(1), 117–127. https://doi.org/10.1037/amp0000367
- Seaton, E. K., & Tyson, K. (2018). The intersection of race and gender among Black American Adolescents. Child Development, 90(1), 62-70. http://dx.doi.org/10.1111/cdev.13093
- Sellers, R. M., Caldwell, C. H., Schmeelk-Cone, K. H., & Zimmerman, M. A. (2003). Racial identity, racial discrimination, perceived stress, and psychological distress among African

American young adults. Journal of Health and Social Behavior, 44, 302–317. doi:10.2307/1519781

- Sellers, R. M., Rowley, S. A. J., Chavous, T. M., Shelton, J. N., & Smith, M. A. (1997). Multidimensional Inventory of Black Identity: A preliminary investigation of reliability and construct validity. Journal of Personality and Social Psychology, 73, 805–815. http://dx.doi.org/10.1037/0022-3514.73.4.805
- Sellers, R. M., & Shelton, J. N. (2000). Situational Stability and Variability in African American Racial Identity. Journal of Black Psychology, 26(1), 27-50.
- Sellers, R. M., & Shelton, J. N. (2003). The role of racial identity in perceived racial discrimination. Journal of Personality and Social Psychology, 84, 1079–1092. doi:10.1037/0022-3514.84. 5.1079
- Tynes, B. M., Giang, M. T., Williams, D. R., & Thompson, G. N. (2008). Online racial discrimination and psychological adjustment among adolescents. Journal of Adolescent Health, 43, 565–569. https://doi. org/10.1016/j.jadohealth.2008.08.021
- Tynes, B. M., Torro, J. D., Lozada, F. T., English, D., Smith, N. A., & Williams, D. (2020). Trajectories of Online Racial Discrimination and Psychological Functioning Among African American and Latino Adolescents. Child Development, 91(5), 1577-1593. DOI:10.1111/cdev.13350
- Tynes, B. M., Umaña-Taylor, A. J., Rose, C. A., Lin, J., & Anderson, C. J. (2012). Online racial discrimination and the protective function of ethnic identity and self-esteem for African American adolescents. Developmental Psychology, 48(2), 343–355. https://doi.org/10.1037/a0027032
- Umaña-Taylor, A. J., Tynes, B. M., Toomey, R. B., Williams, D. R., & Mitchell, K. J. (2015). Latino adolescents' perceived discrimination in online and offline settings: An examination of cultural risk and protective factors. Developmental Psychology, 51, 87– 100. https://doi.org/ 10.1037/a0038432
- Williams, D. R., & Mohammed, S. A. (2009). Discrimination and racial disparities in health: Evidence and needed research. Journal of Behavioral Medicine, 32, 20–47. https://doi.org/10.1007/s10865-008-9185-0
- Yip, T., Wang, Y., Mootoo, C., & Sheena, M. (2019). Moderating the association between discrimination and adjustment: A meta-analysis of ethnic/racial identity. Developmental

Psychology, 55(6), 1274-1298. DOI: 10.1037/dev0000708

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ONLINE AND OFFLINE DISCRIMINATION

Table 1

Means, standard deviations, and bivariate correlations

Variables	M SD	%	Skewness	Kurtosis	1	2	3	4	5	6	7	8	9
	\mathbf{O}	Missing	(SE)	(SE)									
1. Age	19.59 1.61	.3	6.30 (.13)	73.42 (.25)	-								
2. Mother's	7.56 1.67	1.1	-1.50 (.13)	2.26 (.25)	06	-							
Education													
3. Female		1.3	93 (.13)	-1.15 (.25)	01	07	-						
4. Offline	1.57 .64	.8	1.83 (.13)	4.13 (.25)	.09	.03	.10	-					
5. Online	1.17 .51	.3	4.81 (.13)	26.62 (.25)	01	03	.14**	.36***	-				
6. Cent	5.40 1.20	0	89 (.13)	.57 (.25)	.11*	08	.16**	.29***	.16**	-			
7. Public	2.78 1.21	0	.58 (.13)	05 (.25)	10	08	26***	21***	07	18***	-		
8. Depress	9.28 6.28	0	.65 (.13)	14 (.25)	.01	03	.18***	.31***	.29***	.02	16**	-	
9. Anxiety	4.46 3.12	.3	.21 (.13)	-1.13 (.25)	.02	05	.23***	.30***	.24***	.09	16**	.71***	-
10. Well-	18.87 6.00	0	28 (.13)	62 (.25)	.05	04	10	13*	13**	.17**	.13*	50***	41***
Being	0												
Not	e. *p<.05, **p	o<.01, ***p	<.001										

Table 2

Main-effects, two-way, and three-way interactions between online and offline discrimination, public regard, and gender predicting depressive symptoms, anxiety symptoms, and psychological well-being

0	Depressive Symptoms	Anxiety Symptoms	Psychological Well- Being		
-	B (SE) β	B (SE) β	B (SE) β		
Model 1: Main Effects			· · · · · · · · · · · · · · · · · · ·		
Age	-0.06 (.19)02	-0.00 (.10)00	0.19 (.20) .05		
Gender	1.83 (.70) .13	1.26 (.35) .18***	-1.30 (.71)10		
Mom Education	-0.10 (.19)03	-0.08 (.09)04	-0.12 (.19)03		
Offline Discrim	0.38 (.09) .23***	0.20 (.04) .25***	-0.10 (.09)07		
Online Discrim	1.20 (.35) .19***	0.39 (.17) .12*	-0.58 (.35)10		
R ²	.14	.14	.02		
Model 2: 2-Way					
Interactions					
Age	-0.10 (.19)03	-0.02 (.10)01	0.23 (.20) .06		
Gender	1.68 (.73) .12*	1.19 (.36) .17***	-1.07 (.74)08		
Mom Education	-0.16 (.19)04	-0.11 (.09)06	-0.06 (.19)02		
Offline Discrimination	0.39 (.09) .24***	0.21 (.04) .26***	-0.10 (.09)06		
Online Discrimination	1.05 (.36) .16**	0.31 (.18) .10	-0.48 (.36)08		
Pub Regard	-0.41 (.28)08	-0.19 (.14)07	0.45 (.28) .09		
Offline Discrim X Pub Regard	0.01 (.07) .01	-0.00 (.04)00	-0.02 (.08)02		
Online Discrim X Pub Regard	-0.75 (.38)11*	-0.38 (.19)12*	0.52 (.39) .08		
\mathbb{R}^2	.15	.15	.02		
ΔR^2	.01	.01	.00		
Model 3a: 3-Way Interaction (Offline					
Discrim)	0.07(10) 02	0.01 (10) 00	0.20(20) 05		
Age	-0.07 (.19)02	-0.01 (.10)00	0.20 (.20) .05		
Gender	1.27 (.75) .09	0.99 (.37) .15**	-0.71 (.76)05		

ONLINE AND OFFLINE DISCRIMINATION

Mom Education	-0.16 (.19)	04	-0.11 (.09)06	-0.06 (.19)02
Offline Discrimination	0.40 (.16)	.25*	0.22 (.08) .27**	0.04 (.16)02
Online Discrimination	1.42 (.35)	.22***	0.49 (.17) .16**	-0.77 (.35)13
Pub Regard	0.23 (.49)	.05	0.11 (.24) .04	-0.11 (.49) .23
Offline Discrim X Pub	0.21 (11)	15†	0.00 (0.0) 14	-0.27 (.11)21*
Regard	0.21 (.11)	.15†	0.09 (.06) .14	
Gender X Offline Discrim	-0.15 (.18)	07	-0.08 (.09)08	-0.08 (.19)04
Gender X Pub Regard	-0.84 (.59)	13	-0.38 (.29)12	0.74 (.60) .12
Offline Discrim X Pub	0.42 (14)	05**	0.01 (07) 0.4**	0.46 (.14) .28**
Regard X Gender	-0.43 (.14)	25**	-0.21 (.07)24**	
R^2	.16		.16	.04
ΔR^2	.01*		$.01^{\dagger}$.02*
Model 3b: 3-Way				
Interaction (Online				
Discrim)				
Age	-0.07 (.19)	02	-0.01 (.10)00	0.23 (.20) .06
Gender	1.40 (.75)	$.10^{\dagger}$	1.12 (.37) .16**	-0.93 (.77)07
Mom Education	-0.21 (.19)	06	-0.13 (.09)07	-0.03 (.19)01
Offline Discrimination	0.39 (.09)	.24***	0.21 (.04) .26***	-0.09 (.09)06
Online Discrimination	2.24 (.81)	.35**	0.57 (.40) .18	-1.61 (.83)27 [†]
Pub Regard	0.51 (.56)	.10	0.15 (.28) .06	0.05 (.57) .01
Online Discrim X Pub	1.46(02)	22	0.4c(4c) = 14	0.04 (.94) .01
Regard	1.46 (.92)	.22	0.46 (.46) .14	
Gender X Online Discrim	1.39 (.87)	20	-0.31 (.43)09	1.31 (.89) .20
Gender X Pub Regard	-1.01 (.64)	16	-0.38 (.32)12	0.54 (.66) .09
Online Discrim X Pub	2.52 (00)	2.4*	0.07 (10) 07*	0.43 (1.02) .06
Regard X Gender	-2.52 (.99)	34*	-0.97 (.49)27*	
R^2	.16		.15	.02
ΔR^2	$.01^{\dagger}$.00	.00

Note: *p<.05, **p<.01, ***p<.001. [†]Denotes marginal effect of predictors (p<.10)

Table 3

Main-effects, two-way, and three-way interactions between online and offline discrimination, racial centrality, and gender predicting depressive symptoms, anxiety symptoms, and psychological well-being

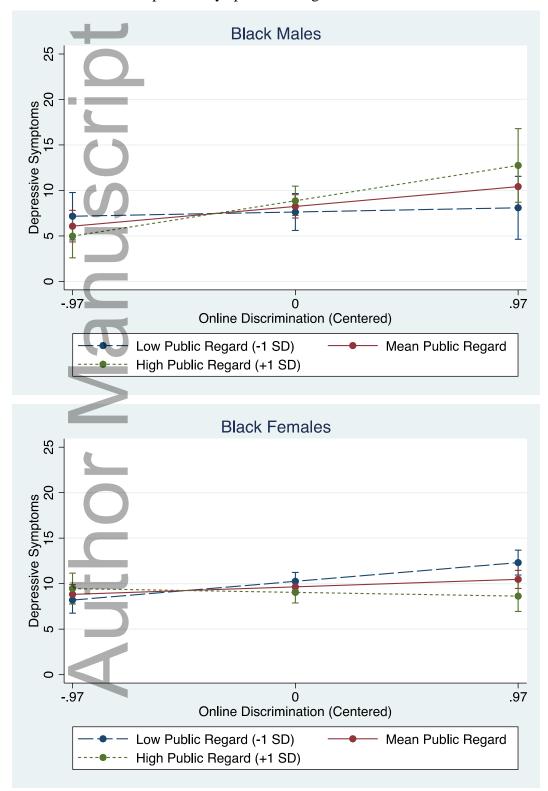
0	Depressive Symptoms	Anxiety Symptoms	Psychological Well- Being		
-	B (SE) β	B (SE) β	$B(SE) \qquad \beta$		
Model 1: Main Effects					
Age	-0.06 (.19)02	-0.00 (.10)00	0.19 (.20) .05		
Gender	1.83 (.70) .13	1.26 (.35) .18***	-1.30 (.71)10		
Mom Education	-0.10 (.19)03	-0.08 (.09)04	-0.12 (.19)03		
Offline Discrim	0.38 (.09) .23***	0.20 (.04) .25***	-0.10 (.09)07		
Online Discrim	1.20 (.35) .19***	0.39 (.17) .12*	-0.58 (.35)10		
\mathbb{R}^2	.14	.14	.02		
<u>Model 2: 2-Way</u>					
Interactions					
Age	-0.02 (.19)01	0.01 (.10) .00	0.11 (.19) .03		
Gender	2.03 (.71) .15**	1.29 (.36) .19***	-1.74 (.70)13*		
Mom Education	-0.14 (.19)04	-0.09 (.09)05	-0.03 (.19)01		
Offline Discrimination	0.43 (.09) .27***	0.21 (.05) .26***	-0.22 (.09)14*		
Online Discrimination	1.16 (.38) .18**	0.37 (.19) .12 [†]	-0.67 (.38)11		
Centrality	-0.58 (.30)11 [†]	-0.10 (.15)04	1.31 (.30) .27***		
Offline Discrim X	0.08 (.08)05	-0.02 (.04)03	0.16 (.08) .12*		
Centrality					
Online Discrim X	0.25 (.38) .04	0.06 (.19) .02	-0.12 (.37)02		
Centrality					
\mathbb{R}^2	.14	.13	.07		
ΔR^2	.00	.01	.05***		
Model 3a: 3-Way					
Interaction (Offline					
Discrim)					
Age	-0.01 (.20)00	0.01 (.10) .01	0.09 (.19) .03		
Gender	1.78 (.74) .13*	1.21 (.37) .18**	-1.74 (.73)13*		

ONLINE AND OFFLINE DISCRIMINATION

	0.14 (10)	0.4		5 0.02 (10)	0.1
Mom Education	-0.14 (.19)	04	-0.09 (.10)03	· · · · · · · · · · · · · · · · · · ·	
Offline Discrimination	0.52 (.15)	.32**	0.26 (.08) .33	-0.17 (.15)	01
Online Discrimination	1.26 (.35)	.20***	0.40 (.17) .13	* -0.71 (.35)	12*
Centrality	-1.02 (.54)	20^{\dagger}	0.28 (.27)11	1.90 (.53)	.39***
Offline Discrim X	0.21(14)	15	0.07(07) 10	-0.25 (.13)	.19
Centrality	-0.21 (.14)	15	-0.07 (.07)10	0	
Gender X Offline Discrim	-0.16 (.18)	08	-0.09 (.09)09	-0.05 (.18)	03
Gender X Centrality	-0.84 (.59)	13	0.28 (.32) .09	-0.81 (.64)	14
Offline Discrim X	0.22(10)	14	0.07(08)00	-0.13 (.16)	08
Centrality X Gender	0.23 (.16)	.14	0.07 (.08) .09		
R^2	.14		.13	.07	
ΔR^2	.00		.00	.00	
Model 3b: 3-Way					
Interaction (Online					
Discrim)					
Age	-0.02 (.20)	01	0.01 (.10) .0	0 0.11 (.19)	.03
Gender	2.04 (.75)	.15**	1.34 (.37) .2	.0*** -1.75 (.74)	13*
Mom Education	-0.13 (.19)	03	-0.08 (.09)0	-0.05 (.19)	01
Offline Discrimination	0.40 (.09)	.25***	0.20 (.05) .2	-0.17 (.09)	11^{\dagger}
Online Discrimination	1.51 (.88)	.24	0.33 (.44) .1	0 -1.26 (.88)	21
Centrality	-0.18 (.65)	03	0.03 (.32) .0	1.21 (.64)	$.25^{\dagger}$
Online Discrim X	1 40 (1 00)	22		-1.17 (1.27)	20
Centrality	1.48 (1.28)	.23	0.56 (.64) .1	8	
Gender X Online Discrim	-0.44 (.96)	06	0.05 (.48) .0	0.70 (.95)	.10
Gender X Centrality	-0.24 (.72)	03	-0.07 (.36)0	-0.33 (.71)	06
Online Discrim X	1 44 (1 22)	22		1.43 (1.32)	.22
Centrality X Gender	-1.44 (1.33)	22	-0.58 (.66)1	. /	
\mathbf{R}^2	.14		.13	.06	
ΔR^2	.00		.00	.01	

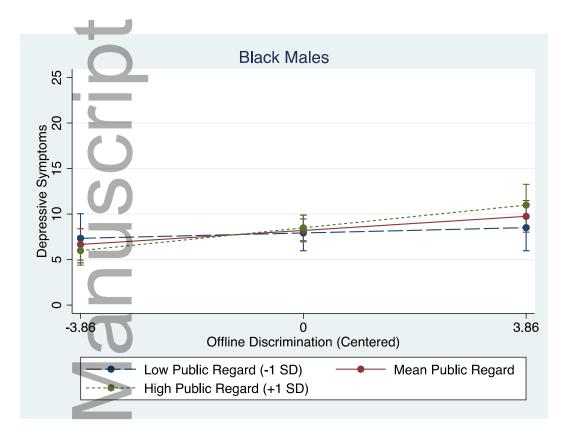
Note: *p<.05, **p<.01, ***p<.001. [†]Denotes marginal effect of predictors (p<.10)

Racial identity public regard and gender moderate the relationship between online discrimination and depressive symptoms among Black males and females

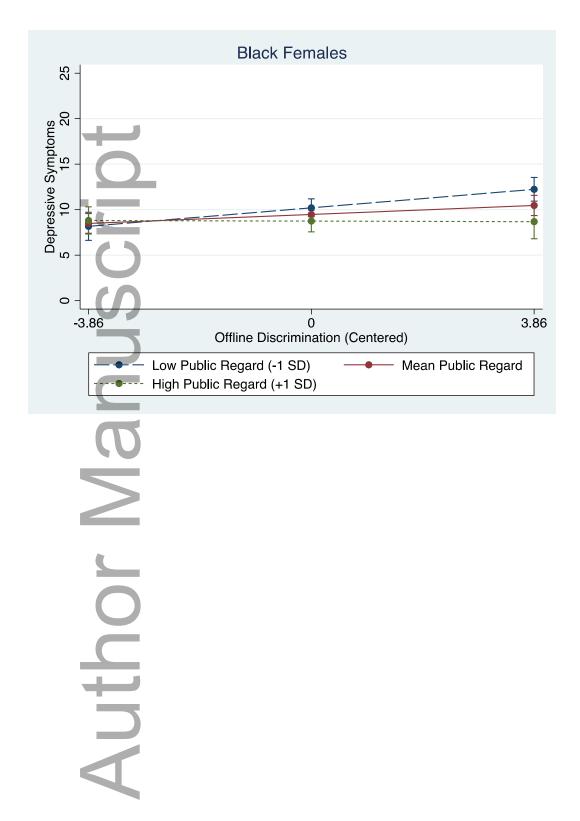


Author Manuscri

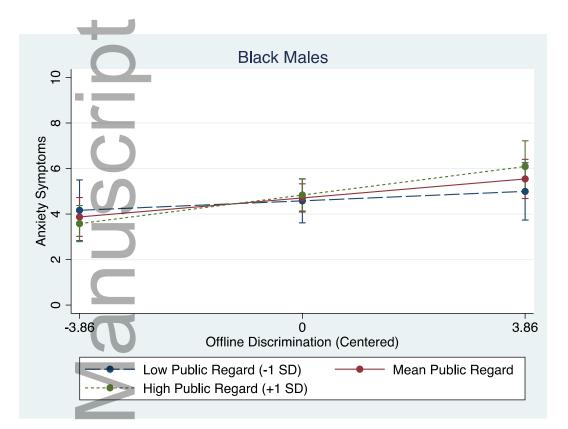
Racial identity public regard and gender moderate the relationship between offline discrimination and depressive symptoms among Black males and females



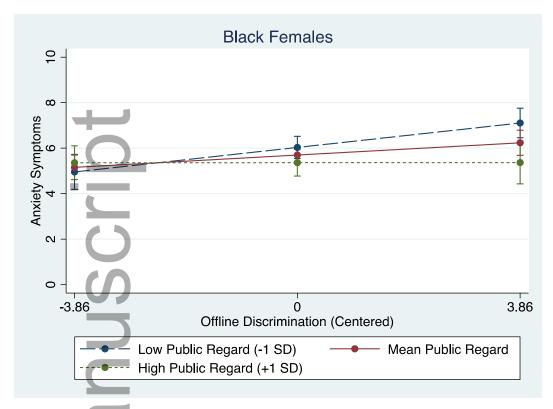
Author



Racial identity public regard moderates the association between exposure to offline discrimination and anxiety among Black males and females



Author



Racial identity public regard moderates the association between online discrimination and anxiety symptoms among Black males and females

Author

26

