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Associations between Adolescents' Exposure to Online Racism and Substance Use

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Abstract

Objective: Adolescents' exposure to racism in online contexts is related to adverse outcomes, including poor mental health. This study aims to expand existing research by examining the unique relation between adolescents' online exposure to race-based violence and substance use, beyond experiences of racism in offline contexts, and by exploring racial differences.

Method: Data are from an observational study of 834 students (42% Black, 52% female) from four high schools (grades 9 through 12) in one county in the southeastern United States. Youth reported their frequency of exposure to online race-based violence, offline racial discrimination, and past 30-day use of cigarettes, cannabis, vaping, and getting drunk. They also completed measures of caring adult relationships and neighborhood cohesion.

Results: Most participants (92%) reported at least one exposure to online race-based violence in the past year. Racism experienced in online and offline contexts was positively associated with substance use. Controlling for demographics and exposure to offline racism, online exposure to racism was associated with greater likelihood of getting drunk and using cannabis (*ORs* = 1.24, 1.34, 95% CIs [1.03, 1.51], [1.10, 1.62]), but not using cigarettes and vaping. Community factors were associated with lower substance use but were not protective.

Conclusion: Adolescents' online exposure to race-based violence may be a unique risk factor for substance use, beyond their in-person exposure to racism. With youths' easy access to videos of race-based violence in the media, there is a need for research on preventing and mitigating the impacts of exposure to racism in the media.

With recent increases in adolescents' use of the internet and social media, exposure to online racism and race-based violence has emerged as a critical public health concern.

Recent studies have found that 45% to 94% of adolescents report exposure to online racism^{1,2}, which includes being a direct target of race-based discrimination or being exposed to others' experiences of racism (i.e., vicarious exposure;³. Exposure to online racism among adolescents is associated with greater symptoms of depression and anxiety, and lower academic self-efficacy⁴. Theory and prior research indicates that Black adolescents in particular experience higher levels of distress and mental health symptoms from exposure to anti-Black racism when compared with White adolescents^{1,5}. Although prior research has found that exposure to racism is associated with substance use⁶, gaps persist in the literature regarding the associations between *online racism* and adolescents' substance use.

Only one prior study was identified that examined how exposure to online racism is related to adolescents' substance use. In a sample of youth ages 15 to 18 who identified as Black, East/Southeast Asian, Indigenous, or Latiné², found that greater exposure to racial discrimination on social media was associated with greater alcohol and illicit drug use. Limited research has examined the impact of online racial discrimination on adolescent mental health above and beyond offline experiences of racism. The model of combined influences of racism on the developing child argues that exposure to simultaneous direct and vicarious racism can adversely impact child development⁷. Prior studies have found that exposure to vicarious online racism leads to increases in adolescents' depressive and anxiety symptoms above and beyond direct racism in offline contexts³. However, the unique associations of online and offline racism with adolescents' substance use have not been examined.

Given high rates of exposure to online racism among adolescents, it is also critical to identify factors that may mitigate the associations between exposure to online racism and substance use. The integrated model of minority child and adolescent development⁵ highlights the role of the child's environment, interpersonal interactions, and cultural processes in protecting against adverse outcomes of racism. Positive relationships with adults in the community might buffer against adverse outcomes of racism such as substance use.

The current study had three objectives. First, we aimed to examine the individual and unique associations between adolescents' exposure to online and offline racism and their substance use. We hypothesized that exposure to online racism would be positively associated with substance use, even when controlling for offline racism. We hypothesized that the associations between exposure to racism and substance use would differ across race, with stronger associations for Black adolescents compared with White adolescents. Finally, supplementary analyses explored the protective influence of positive community and adult influences.

Methods

This study is a secondary analysis of a cross-sectional, observational study that took place in one county in the southeastern United States ($N = 834$). The project recruited a representative sample of the region in terms of income, urbanicity/rurality, and race/ethnicity from four high schools (grades 9 through 12). Students completed surveys between

December 2022 and May 2023. Students were eligible to participate if they were at least 14 years old, received parent/guardian consent, provided assent, and were present on the days that surveys were administered.

Measures

Students self-reported their racial identity, grade, and sex assigned at birth and completed behavioral self-report measures. Past 30-day use of cigarettes, cannabis, vaping, and getting drunk were assessed using the Problem Behavior Frequency Scale – Adolescent Report⁸. Each item was recoded to binary, indicating any use within the past 30 days. Two items were adapted from the Traumatic Events Online scale⁹ and two were added to create the Media Exposure to Race-Based Violence scale. Items were averaged to create a composite score representing adolescents' past-year frequency of exposure to images or videos of violent acts of racial discrimination, including seeing others from their ethnic group or a Black person being harassed, beaten, killed, or shot by a police officer ($\alpha = .82$). The Adolescent Discrimination Distress Index¹⁰ assessed ethnic-racial discrimination across three subscales representing different offline contexts (i.e., peers, institutions, school in the original index, with a teacher subscale created for this study; $\alpha s = .78 - .87$), each consisting of three averaged items. Potential protective factors were assessed using the Social Cohesion and Trust subscale ($\alpha = .83$) of the Collective Efficacy Scale¹¹ and Presence of Caring Adult subscale ($\alpha = .85$) of the Individual Protective Factors Index¹².

Data Analysis

All analyses were completed using Mplus. Binary logistic regressions examined associations between substance use outcomes and 1) demographic covariates, 2) each racism exposure variable (i.e., online and offline) in separate models, and 3) all racism variables simultaneously. Using multiple group analysis, chi-square difference tests examined whether these associations differed for Black non-Latiné and White non-Latiné adolescents. Youth that self-identified a race other than Black or White were excluded from analyses because they represented small proportions of the sample.

Results

Demographic characteristics and descriptive statistics are reported in Table 1. Regarding exposure to online racism, 92% of the sample reported exposure to at least one type of race-based violence online. More specifically, 82% had seen a Black person being shot by a police officer, 77% had seen a Black person being harassed, 68% had seen someone from their ethnic group being beaten, and 59% had seen someone from their ethnic group being killed. Black youth reported more frequent exposure to online and offline racial discrimination, lower levels of adult protective factors, and lower likelihood of vaping compared with White youth (Table 1).

Results of multiple group logistic regression analyses stratified by race indicated that the associations between adolescents' substance use and sociodemographic covariates, experiences of racism, and protective factors did not significantly differ across race (see Table S1, available online). We therefore interpreted the results for the sample aggregated

across race (see Table 2). These results indicated that more frequent exposure to online racism was associated with greater odds of reporting getting drunk and using cannabis in the past 30 days. Youth who experienced more frequent offline racism from teachers, peers, institutions (e.g., police), and at school were more likely to endorse each type of substance use.

All variables representing exposure to racism and covariates were included in a combined logistic regression model (see Table S1, available online). After controlling for exposure to racism in offline contexts, exposure to online racism was the only type of exposure that was uniquely associated with greater odds of getting drunk and using cannabis in the past 30 days. Adolescents who experienced more frequent exposure to racism at school were more likely to report smoking cigarettes. See Supplement 1 (available online) for results related to positive community and adult influences.

Discussion

The results of this study provide further support for an association between exposure to online racism and poor health outcomes among youth. Adolescents with greater exposure to online race-based violence were more likely to use cannabis and get drunk. This is consistent with the results of a prior study of online racism² and theories arguing that adolescents' exposure to racism is related to increased distress and using substances to cope⁷. This study builds on prior studies that established positive associations between adolescents' exposure to online racism and substance use¹ by demonstrating that these associations are robust, remaining significant even after accounting for offline exposure to racial discrimination across multiple interpersonal contexts.

Although the present study did not find race differences in the associations between online racism and substance use, theory⁵ and prior research¹ suggest that Black youth may experience more distress from being exposed to racism. The long-term compounding impact of exposure to racism in online and offline contexts likely was not adequately assessed in the current cross-sectional study. More longitudinal research is needed to examine the relation between online racism and youths' subsequent functioning to identify which youth may be most impacted.

This study found that the presence of caring adult relationships was negatively associated with substance use above and beyond exposure to racial discrimination, though protective influences were not supported in the present study (see Supplement 1 for more detailed discussion). More research is needed to identify factors that mitigate the adverse effects of youths' exposure to online racism to inform intervention.

This study had several limitations. It was not possible to measure structural racism through adolescents' self-report. The sample was representative of a specific region in the southeastern United States, so the results may not generalize beyond this. The results of this cross-sectional study are not causal. A large number of statistical tests were conducted to evaluate potential differences across race, and these should be considered exploratory. Despite these limitations, this is one of the first studies to examine the association between

online racism and adolescents' substance use. The cross-sectional associations identified in this study provide a basis for future longitudinal research examining potential mechanisms that might explain these associations, such as distress symptoms.

This foundational study adds to the body of evidence emphasizing the need for media-based or policy-level structural interventions to reduce adolescents' exposure to harmful online influences such as racism and race-based violence. Policies initiated by the government or social media companies that aim to reduce the spread of images/videos of racialized violence or content that supports racist ideologies may contribute to a reduction in exposure to online racism. Health care practitioners may adapt existing recommendations for caregiver media management to improve monitoring of adolescents' online activities, reduce their exposure to online racism, and increase supportive communication in response to exposures to such content¹³. These findings highlight that it is critical to simultaneously reduce youths' exposure to race-based violence as well as reduce the occurrence of race-based violence nationally to promote positive development among youth.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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References

1. Del Toro J, Wang MT. Online racism and mental health among black american adolescents in 2020. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2023;62(1):25–36.e8. doi:10.1016/j.jaac.2022.07.004 [PubMed: 35868431]

2. Tao X, Fisher CB. Exposure to social media racial discrimination and mental health among adolescents of color. *J Youth Adolescence*. 2022;51(1):30–44. doi:10.1007/s10964-021-01514-z
3. Tynes BM, Giang MT, Williams DR, Thompson GN. Online racial discrimination and psychological adjustment among adolescents. *Journal of Adolescent Health*. 2008;43(6):565–569. doi:10.1016/j.jadohealth.2008.08.021
4. Thomas A, Jing M, Chen HY, Crawford EL. Taking the good with the bad?: Social media and online racial discrimination influences on psychological and academic functioning in Black and Hispanic youth. *Journal of Youth and Adolescence*. 2023;52(2):245–257. doi:10.1007/s10964-022-01689-z [PubMed: 36229754]
5. Garcia Coll C, Crnic K, Lamberty G, et al. An integrative model for the study of developmental competencies in minority children. *Child Development*. 1996;67(5):1891–1914. doi:10.1111/j.1467-8624.1996.tb01834.x [PubMed: 9022222]
6. Benner AD, Wang Y, Shen Y, Boyle AE, Polk R, Cheng YP. Racial/ethnic discrimination and well-being during adolescence: A meta-analytic review. *American Psychologist*. 2018;73(7):855–883. doi:10.1037/amp0000204 [PubMed: 30024216]
7. Quintana SM, McKown C. Introduction: Race, racism, and the developing child. In: *Handbook of Race, Racism, and the Developing Child*. John Wiley & Sons, Ltd; 2007:1–15. doi:10.1002/9781118269930.ch1
8. Farrell AD, Sullivan TN, Gonyea EA, Le ATH. Assessment of adolescents' victimization, aggression, and problem behaviors: Evaluation of the Problem Behavior Frequency Scale. *Psychological Assessment*. 2016;28(6):702–714. doi:10.1037/pas0000225 [PubMed: 26372261]
9. Tynes BM, Willis HA, Stewart AM, Hamilton MW. Race-related traumatic events online and mental health among adolescents of color. *Journal of Adolescent Health*. 2019;65(3):371–377. doi:10.1016/j.jadohealth.2019.03.006
10. Sladek MR, Umaña-Taylor AJ, McDermott ER, Rivas-Drake D, Martinez-Fuentes S. Testing invariance of ethnic-racial discrimination and identity measures for adolescents across ethnic-racial groups and contexts. *Psychological Assessment*. 2020;32(6):509–526. doi:10.1037/pas0000805 [PubMed: 32091231]
11. Sampson RJ, Raudenbush SW, Earls F. Neighborhoods and Violent Crime: A Multilevel Study of Collective Efficacy. *Science*. 1997;277(5328):918–924. doi:10.1126/science.277.5328.918 [PubMed: 9252316]
12. Phillips J, Springer F. Extended National Youth Sports Program 1991–92 Evaluation Highlights, Part Two: Individual Protective Factors Index (IPFI) and Risk Assessment Study (Unpublished Report Prepared for the National Collegiate Athletic Association). EMT Associates; 1992.
13. Gabrielli J, Marsch L, Tanski S. TECH Parenting to promote effective media management. *Pediatrics*. 2018;142(1):e20173718. doi:10.1542/peds.2017-3718 [PubMed: 29954831]

Table 1
Descriptive Statistics for the Full Sample and Stratified by Black non-Latiné and White non-Latiné adolescents

	Full Sample		Black non-Latiné		White non-Latiné		χ^2	p-value
	n/M	%/SD	n/M	%/SD	n/M	%/SD		
All Participants	834		348		352			
School								
School A	206	25%	183	53%	2	1%		
School B	173	21%	60	17%	86	24%		
School C	443	54%	103	30%	264	75%		
Sex at Birth								
Male	379	47%	173	50%	150	43%		
Female	431	53%	174	50%	200	57%		
Grade								
9	221	27%	90	26%	101	29%		
10	266	33%	102	29%	119	34%		
11	215	26%	81	23%	103	29%		
12	111	14%	74	21%	28	8%		
Substance Use								
Been Drunk	190	23%	67	20%	87	25%	2.79	0.095
Used Cannabis	176	22%	76	22%	68	19%	0.86	0.355
Used Cigarettes	81	10%	23	7%	37	11%	3.30	0.069
Vaped	197	24%	62	18%	94	27%	7.77	0.005
Experiences of Racism								
Online	2.59	1.03	2.93	1.11	2.27	0.82	81.50	0.000
Peer	1.43	0.84	1.52	0.92	1.27	0.67	16.67	0.000
School	1.26	0.71	1.33	0.79	1.11	0.48	19.82	0.000
Institutional	1.34	0.81	1.53	0.95	1.10	0.41	59.02	0.000
Teacher	1.28	0.76	1.37	0.82	1.10	0.45	28.64	0.000
Caring Adult Relationships	3.18	0.58	3.11	0.58	3.29	0.57	18.41	0.000
Neighborhood Social Cohesion	3.45	0.83	3.22	0.87	3.65	0.72	50.39	0.000

Note. n/M = frequencies for categorical variables or means for continuous variables; %/SD = percentages for categorical variable or standard deviations for continuous variables

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Wald chi-squared difference (χ^2) test compared Black non-Latiné and White non-Latiné participants on mean levels of substance use endorsement, experiences of racism, and protective factors. A significant p -value for the chi-squared difference (χ^2) test indicates significant differences across race. Students with other racial or ethnic identities were excluded from comparisons due to low rates (i.e., <5% of sample).

Odds Ratios and Confidence Intervals for the Unique and Interactive Associations Between Online and Offline Racism, Protective Factors, and Substance Use

Table 2

Variable	Been drunk		Cannabis		Cigarettes		Vaped	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
	Online Racism adjusted for Covariates							
Male adolescents	0.50	(0.34, 0.74)	0.60	(0.41, 0.89)	0.49	(0.27, 0.89)	0.71	(0.49, 1.04)
Non-Latiné Black adolescents	0.53	(0.64, 1.83)	0.85	(0.56, 1.30)	0.56	(0.30, 1.03)	0.54	(0.36, 0.81)
10th grade adolescents	1.08	(0.84, 2.43)	1.09	(0.63, 1.90)	1.48	(0.68, 3.22)	1.43	(0.85, 2.35)
11th grade adolescents	1.43	(1.44, 4.73)	1.69	(0.98, 2.92)	1.58	(0.71, 4.49)	1.54	(0.92, 2.58)
12th grade adolescents	2.61	(1.12, 1.66)	2.52	(1.37, 4.63)	1.63	(0.83, 1.49)	1.73	(0.94, 3.19)
Online Racism	1.36	(1.12, 1.66)	1.44	(1.18, 1.76)	1.11	(0.83, 1.49)	1.10	(0.90, 1.33)
	Peer Racism adjusted for Covariates							
Male adolescents	0.47	(0.32, 0.69)	0.54	(0.36, 0.80)	0.45	(0.25, 0.82)	0.68	(0.47, 0.99)
Non-Latiné Black adolescents	0.63	(0.42, 0.92)	1.02	(0.69, 1.51)	0.54	(0.30, 0.97)	0.54	(0.37, 0.79)
10th grade adolescents	1.17	(0.69, 1.97)	1.20	(0.69, 2.08)	1.46	(0.67, 3.17)	1.43	(0.86, 2.36)
11th grade adolescents	1.55	(0.92, 2.63)	1.89	(1.20, 3.25)	1.58	(0.72, 3.48)	1.55	(0.93, 2.60)
12th grade adolescents	2.85	(1.58, 5.14)	2.83	(1.54, 5.18)	1.57	(0.61, 4.07)	1.74	(0.95, 3.22)
Peer Racial Discrimination	1.33	(1.07, 1.65)	1.51	(1.22, 1.86)	1.50	(1.15, 1.95)	1.36	(1.11, 1.68)
	School Racism adjusted for Covariates							
Male adolescents	0.46	(0.31, 0.69)	0.53	(0.36, 0.79)	0.41	(0.22, 0.76)	0.67	(0.46, 0.97)
Non-Latiné Black adolescents	0.62	(0.42, 0.92)	1.00	(0.68, 1.49)	0.49	(0.27, 0.90)	0.52	(0.35, 0.77)
10th grade adolescents	1.17	(0.69, 1.98)	1.18	(0.68, 2.06)	1.45	(0.66, 3.16)	1.41	(0.86, 2.34)
11th grade adolescents	1.51	(0.89, 2.56)	1.78	(1.03, 3.07)	1.44	(0.64, 3.22)	1.48	(0.88, 2.49)
12th grade adolescents	2.81	(1.56, 5.09)	2.74	(1.49, 5.02)	1.54	(0.59, 4.04)	1.71	(0.93, 3.16)
School Racial Discrimination	1.38	(1.07, 1.79)	1.60	(1.23, 2.06)	1.88	(1.40, 2.52)	1.53	(1.19, 1.97)
	Institutional Racism adjusted for Covariates							
Male adolescents	0.48	(0.32, 0.70)	0.56	(0.38, 0.83)	0.45	(0.25, 0.82)	0.69	(0.48, 1.01)
Non-Latiné Black adolescents	0.59	(0.40, 0.89)	0.95	(0.64, 1.43)	0.43	(0.23, 0.81)	0.50	(0.33, 0.74)

Variable	Been drunk		Cannabis		Cigarettes		Vaped	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
10th grade adolescents	1.18	(0.70, 2.00)	1.22	(0.70, 2.11)	1.47	(0.68, 3.20)	1.44	(0.87, 2.38)
11th grade adolescents	1.53	(0.01, 2.59)	1.83	(1.07, 3.15)	1.48	(0.67, 3.29)	1.52	(0.91, 2.54)
12th grade adolescents	2.76	(1.53, 4.99)	2.70	(1.47, 4.94)	1.45	(0.55, 3.80)	1.68	(0.91, 3.10)
Institutional Racial Discrimination	1.31	(1.04, 1.66)	1.42	(1.13, 1.78)	1.72	(1.30, 2.28)	1.40	(1.11, 1.76)
Teacher Racism adjusted for Covariates								
Male adolescents	0.48	(0.33, 0.71)	0.56	(0.38, 0.84)	0.47	(0.26, .085)	0.69	(0.48, 1.01)
Non-Latiné Black adolescents	0.60	(0.40, 0.89)	0.97	(0.65, 1.45)	0.52	(0.29, 0.93)	0.51	(0.35, .076)
10th grade adolescents	1.18	(0.70, 2.00)	1.22	(0.70, 2.11)	1.51	(0.70, 3.28)	1.44	(0.88, 2.39)
11th grade adolescents	1.51	(0.89, 2.56)	1.82	(1.05, 3.15)	1.60	(0.73, 3.52)	1.56	(0.93, 2.61)
12th grade adolescents	2.80	(1.54, 5.08)	2.76	(1.50, 5.08)	1.52	(0.58, 3.97)	1.71	(0.92, 3.16)
10th grade adolescents	1.52	(1.17, 1.97)	1.73	(1.32, 2.26)	1.57	(1.16, 2.12)	1.50	(1.16, 1.93)
Unique Associations of Online and Offline Exposure to Racism adjusted for Covariates								
Male adolescents	0.50	(0.34, 0.74)	0.58	(0.38, 0.86)	0.40	(0.21, 0.75)	0.68	(0.46, 0.99)
Non-Latiné Black adolescents	0.51	(0.33, 0.79)	0.83	(0.54, 1.28)	0.46	(0.24, 0.89)	0.50	(0.33, 0.76)
10th grade adolescents	1.09	(0.64, 1.84)	1.09	(0.62, 1.91)	1.43	(0.65, 3.14)	1.41	(0.85, 2.35)
11th grade adolescents	1.40	(0.82, 2.40)	1.65	(0.95, 2.89)	1.42	(0.63, 3.19)	1.51	(0.89, 2.54)
12th grade adolescents	2.61	(1.43, 4.77)	2.58	(1.39, 4.80)	1.53	(0.58, 4.03)	1.69	(0.91, 3.15)
Online Racism	1.31	(1.06, 1.61)	1.35	(1.09, 1.66)	0.95	(0.69, 1.30)	1.01	(0.82, 1.24)
Peer Racial Discrimination	1.04	(0.75, 1.46)	1.15	(0.83, 1.60)	1.04	(0.64, 1.69)	1.08	(0.77, 1.50)
School Racial Discrimination	0.98	(0.62, 1.55)	1.13	(0.74, 1.74)	1.78	(1.05, 3.02)	1.24	(0.82, 1.88)
Institutional Racial Discrimination	0.94	(0.64, 1.38)	0.87	(0.59, 1.27)	1.38	(0.86, 2.20)	1.05	(0.73, 1.53)
Teacher Racial Discrimination	1.45	(0.93, 2.27)	1.46	(0.95, 2.24)	0.76	(0.42, 1.40)	1.16	(0.76, 1.78)
Unique Association of Caring Adult Relationships adjusted for Racism and Covariates								
Male adolescents	0.53	(0.36, 0.79)	0.63	(0.42, 0.95)	0.44	(0.23, 0.84)	0.71	(0.48, 1.04)
Non-Latiné Black adolescents	0.49	(0.32, 0.76)	0.79	(0.51, 1.23)	0.42	(0.22, 0.81)	0.49	(0.32, 0.75)
10th grade adolescents	1.12	(0.65, 1.91)	1.12	(0.64, 1.97)	1.50	(0.68, 3.33)	1.44	(0.87, 2.39)
11th grade adolescents	1.40	(0.82, 2.41)	1.68	(0.96, 2.96)	1.34	(0.59, 3.08)	1.49	(0.88, 2.52)
12th grade adolescents	2.59	(1.41, 4.74)	2.57	(1.38, 4.82)	1.40	(0.52, 3.74)	1.65	(0.89, 3.08)

Variable	Been drunk		Cannabis		Cigarettes		Vaped	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Online Racism	1.31	(1.06, 1.61)	1.36	(1.10, 1.67)	0.92	(0.67, 1.27)	1.01	(0.82, 1.24)
Peer Racial Discrimination	1.01	(0.72, 1.42)	1.12	(0.81, 1.56)	0.98	(0.60, 1.61)	1.05	(0.75, 1.47)
School Racial Discrimination	0.93	(0.58, 1.48)	1.06	(0.68, 1.64)	1.68	(0.97, 2.92)	1.19	(0.78, 1.83)
Institutional Racial Discrimination	0.95	(0.64, 1.40)	0.87	(0.60, 1.28)	1.39	(0.86, 2.26)	1.07	(0.74, 1.56)
Teacher Racial Discrimination	1.47	(0.94, 2.30)	1.48	(0.96, 2.28)	0.75	(0.41, 1.38)	1.17	(0.76, 1.80)
Caring Adult Relationships	0.64	(0.46, 0.89)	0.55	(0.39, 0.77)	0.40	(0.24, 0.66)	0.75	(0.54, 1.04)
Unique Association of Neighborhood Social Cohesion adjusted for Racism and Covariates								
Male adolescents	0.51	(0.34, 0.76)	0.59	(0.39, 0.88)	0.41	(0.21, 0.77)	0.69	(0.47, 1.01)
Non-Latiné Black adolescents	0.49	(0.31, 0.76)	0.79	(0.51, 1.23)	0.41	(0.21, 0.81)	0.48	(0.31, 0.73)
10th grade adolescents	1.09	(0.64, 1.85)	1.09	(0.62, 1.91)	1.40	(0.64, 3.08)	1.41	(0.85, 2.33)
11th grade adolescents	1.40	(0.82, 2.40)	1.65	(0.95, 2.89)	1.38	(0.61, 3.11)	1.50	(0.89, 2.53)
12th grade adolescents	2.55	(1.39, 4.67)	2.52	(1.35, 4.69)	1.39	(0.52, 3.70)	1.64	(0.88, 3.06)
Online Racism	1.30	(1.06, 1.60)	1.34	(1.09, 1.66)	0.93	(0.68, 1.28)	1.00	(0.82, 1.23)
Peer Racial Discrimination	1.04	(0.74, 1.45)	1.15	(0.83, 1.59)	1.03	(0.63, 1.67)	1.07	(0.77, 1.49)
School Racial Discrimination	0.99	(0.62, 1.56)	1.14	(0.74, 1.75)	1.81	(1.07, 3.07)	1.25	(0.82, 1.89)
Institutional Racial Discrimination	0.93	(0.63, 1.37)	0.86	(0.59, 1.26)	1.33	(0.83, 2.15)	1.04	(0.72, 1.52)
Teacher Racial Discrimination	1.44	(0.93, 2.25)	1.45	(0.94, 2.22)	0.77	(0.43, 1.40)	1.16	(0.75, 1.77)
Neighborhood Social Cohesion	0.87	(0.68, 1.11)	0.87	(0.69, 1.12)	0.73	(0.51, 1.03)	0.86	(0.68, 1.09)
Interaction Model - Online Racism by Caring Adult Relationships adjusted for Covariates								
Male adolescents	0.53	(0.36, 0.79)	0.63	(0.41, 0.94)	0.44	(0.23, 0.84)	0.70	(0.48, 1.03)
Non-Latiné Black adolescents	0.50	(0.32, 0.77)	0.77	(0.50, 1.20)	0.37	(0.19, 0.72)	0.47	(0.31, 0.72)
10th grade adolescents	1.12	(0.66, 1.91)	1.12	(0.63, 1.97)	1.53	(0.69, 3.41)	1.44	(0.87, 2.40)
11th grade adolescents	1.40	(0.82, 2.42)	1.66	(0.95, 2.93)	1.32	(0.57, 3.04)	1.48	(0.87, 2.50)
12th grade adolescents	2.59	(1.41, 4.76)	2.51	(1.34, 4.71)	1.30	(0.48, 3.50)	1.62	(0.87, 3.03)
Peer Racial Discrimination	1.01	(0.72, 1.42)	1.13	(0.81, 1.57)	0.98	(0.60, 1.61)	1.06	(0.76, 1.48)
School Racial Discrimination	0.93	(0.58, 1.49)	1.04	(0.67, 1.61)	1.61	(0.94, 2.76)	1.18	(0.77, 1.81)
Institutional Racial Discrimination	0.95	(0.64, 1.40)	0.88	(0.60, 1.29)	1.46	(0.91, 2.34)	1.09	(0.75, 1.58)
Teacher Racial Discrimination	1.47	(0.94, 2.30)	1.47	(0.95, 2.26)	0.77	(0.42, 1.42)	1.18	(0.77, 1.81)
Online Racism x Caring Adult Relationships	0.99	(0.73, 1.34)	1.18	(0.85, 1.63)	1.84	(1.14, 2.98)	1.19	(0.88, 1.61)

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Note: OR = odds ratio; 95% CI = 95% confidence interval for the odds ratio. Bolded values indicate significant odds ratios based on the 95% CI not including 1.0.

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