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The Association between Racial Discrimination and Suicidality among African American Adolescents and Young Adults

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Abstract

Objectives—This study assessed the association between racial discrimination and suicidality (ideation, plan, or attempt) in African American adolescents and young adults (n = 806, mean age = 17.9 years)

Methods—Structured psychiatric phone interviews were conducted in offspring and their mothers in a high-risk alcoholism family study.

Results—Logistic regression analyses using offspring own racial discrimination as a predictor revealed elevated odds of suicidality, even after adjusting for correlated psychiatric conditions (OR=1.76) but was reduced to non-significance after adjusting for maternal experiences of racial discrimination (OR=3.19 in males), depression, and problem drinking.

Conclusion—Findings support a link between racial discrimination and suicidality in African American youth that, for males, is partially explained by maternal racial discrimination.

Keywords

Racial Discrimination; Suicidality; African Americans; Young Adults; Adolescents

Suicide is the third leading cause of death among African American (AA) adolescents and young adults (15–24 years of age; Heron, 2016). As AA adolescents and young adults contribute to a growing percentage of the nation's suicides (National Adolescent Health Center Information Center, 2008), identifying possible sources of risk for suicidality in this population is a major public health concern.

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Suicidality – defined as suicide ideation, suicide plan and/or suicide attempt (Conner et al., 2007) – has been associated with a number of psychiatric and psychosocial risk factors including depression (Brezo, Paris, & Turecki, 2006), substance use (Groves, Stanley, & Sher, 2007), history of sexual or physical abuse (Kaplan et al., 1997), alcohol dependence (Glowinski et al 2004), conduct disorder, and anxiety (Glowinski et al., 2001). In addition to these known risk factors, racial discrimination, that is, the unfavorable treatment towards an individual due to his/her race or personal characteristics that are associated with his/her race (U.S. Equal Employment Opportunity Commission, n.d.) – has also been posited as an important contributor to suicidality. According to a study by Krieger et al. (2005), African Americans report a higher degree of racial discrimination than any other demographic group.

In a recent review of the impact of racism and health outcomes in 66 studies, Pieterse and colleagues (2012) found a significant association between perceived racism and poor mental and physical health outcomes. Additionally, studies have also linked racial discrimination with depression in AA adults and poorer overall mental health in AAs (Hudson et al., 2015; Hagiwara, Alderson, & Mezuk, 2016). However, investigations of racial discrimination as a risk factor for suicidality has produced mixed results. For example, Castle, Conner, Kaukeinen, & Tu's (2011) examination of the association of racial discrimination with acculturation and suicidal ideation and attempt in AA young adults revealed a significant association between acculturation and suicide ideation, but no significant relationship between racial discrimination and suicidality. Similarly, Gomez, Miranda, & Polanco (2011) found a link between familial acculturation – but not perceived discrimination - and suicide attempts in AA young adults. In contrast, in a community sample of AA middle-aged adults, Walker, Salami, Carter, & Flowers (2014) found that increased reports of racial discrimination were significantly associated with elevations in suicidal ideation and that depression symptoms moderated this association. In a recent longitudinal study conducted with AA youth (mean age 10.6 years at time 1), Walker and colleagues (2017) observed a prospective, direct effect of racial discrimination at time 1 on increased death ideation two years later. Given the inconsistency of findings with prior work and scarcity of studies in this area, additional investigations of the association of racial discrimination with suicidality in AAs that include a broader range of potential contributors to this association are clearly needed.

One such potential contributor that has gone largely unexplored is parental experiences of discrimination. Parents play an integral role in shaping their children's racial identity, conveying racial socialization messaging around racial pride, and facing discrimination experiences with their children (White-Johnson, Ford, & Sellers, 2010). However, the delivery of racial socialization varies depending on factors such as parents' own histories of race related experiences. Hughes and Johnson (2001) suggest that racial socialization that overemphasizes racial barriers and negative racial experiences can increase children's perceived racial discrimination. Furthermore, Tran (2014) found that parental experiences of discrimination were associated with offspring internalizing and externalizing symptoms, suggesting an intergenerational link between parents' experiences of racial discrimination and offspring mental health outcomes that may extend to suicidality. Building on the limited evidence for intergenerational transmission of racial discrimination (Tran, 2014) and the

association of racial discrimination with suicidality in AAs, we investigated the association between racial discrimination and suicidality in AA adolescents and young adults, taking into account maternal factors including her own history of racial discrimination experiences.

Methods

Data were collected from the Missouri Family Study (MOFAM), a high-risk family study of alcoholism ascertained from the general population that oversampled African American families ($n = 806$ in 450 families). From 2003 to 2009, Missouri state birth records were used to identify families with at least one child aged 13, 15, 17 or 19 years and 1 or 2 additional full siblings. In order to determine familial risk level for alcoholism and to confirm that the children were full siblings, mothers completed a brief telephone survey during which risk status was assigned. High-risk (HR) families were those where the mothers reported the father as ever having been an excessive drinker; otherwise the family was considered Low Risk (LR). Another group of families, designated Very High Risk (VHR), was identified through men with 2 or more DUI convictions on driving records (Duncan et al, 2012). The target enrollment was 450 African American families – 150 at each risk level – with final enrollment of 151 LR, 150 HR and 149 VHR families.

In all participating families, the mothers were interviewed first and their permission was obtained to recruit offspring. Offspring baseline interview data in tandem with maternal interview data were utilized in the current investigation. Mothers and offspring were interviewed with a comprehensive psychiatric interview, with offspring interviewed every two years. All interviews were conducted by telephone. Risk status, assigned at screening interviews (HR or LR), was re-assessed using the mother's full interview report of the father's alcohol problems; fathers were confirmed affected if they met broad alcohol use disorder (AUD) criteria by maternal report. HR families where the fathers did not meet AUD criteria were considered false positive, and LR families where the fathers did meet AUD criteria were considered false negatives. Dummy variables were created to reflect the misclassification. VHR status, based on record evidence, was not changed.

Assessment

The Midwest Alcoholism Research Center developed comprehensive psychiatric interviews based on the Semi-Structured Assessment for the Genetics of Alcoholism (Bucholz et al., 1994). The interviews assessed psychiatric problems and disorders and included a suicidality section independent of major depression.

Racial discrimination—Racial discrimination, derived from an early version of the Experience of Discrimination scale (Krieger et al., 2005), was assessed with the question: “Have you ever experienced racial discrimination (that is, because of your race or color, been prevented from doing something, or been hassled or made to feel inferior in any of the following situations)?” within the following seven domains: at school, getting a job, at work, at home, getting medical care, on the street or in a public setting, and from the police or in the courts. For offspring, racial discrimination was defined as ever experiencing discrimination in at least one of five domains: at school, getting a job, at work, on the street or in a public setting, and from the police or in the courts (endorsements for racial

discrimination at home or when receiving medical care were very rare). Individuals were asked how often the experience had occurred: *often*, *sometimes*, *rarely*, or *never* and, if any discrimination had occurred, were asked to rate how distressing the experience was. Preliminary analyses revealed that individuals who experienced racial discrimination, regardless of frequency, reported these experiences to be distressing, so individuals who endorsed racial discrimination at any frequency were coded as '1' otherwise they were coded as '0'.

Suicidality—Suicidality was assessed with three questions: suicide ideation, “Have you ever thought about taking your own life?”; suicide plan, “Did you ever plan a way of taking your own life?”; and suicide attempt, “Have you ever tried to take your own life?” Suicidality was operationalized as a binary variable, which coded any form of suicidality (ideation, plan and/or attempt) as '1' and no form of suicidality as '0'. Preliminary multinomial logistic regression analyses revealed no significant differences among suicide ideation, plan, and attempt and racial discrimination. Therefore, the three levels of suicidality were combined in order to increase statistical power.

Covariates—Covariates consisted of sociodemographic factors, familial risk status, offspring psychosocial risk factors, and maternal risk factors. Psychosocial risk factors that had been associated with suicidality in the literature, including depression, childhood maltreatment, substance use, conduct disorder (for review McLean et al., 2008), maternal alcohol use (Conner et al., 2014), and maternal depression (Cummings & Davies, 1994), were included in analyses to adjust for potential confounding effects.

Sociodemographic factors: These included offspring age, gender, and mother's education, which served as a proxy for socioeconomic status (Thompson, Homel, & Leadbeater, 2015) and was categorized into three levels: less than a high school, high school only, and more than a high school, with obtaining a GED classified as high school level of education. Additionally, maternal report of the household income was classified in three groups: less than \$30,000, between \$30,000 and \$75,000, and above \$75,000. Dummy variables reflecting family risk status as described above were included in all models to account for family ascertainment.

Offspring psychosocial risk factors: Major depressive disorder (MDD) was defined according to DSM-IV criteria, as meeting five or more major symptoms (excluding the suicide symptom) during a two-week period. Childhood sexual abuse (CSA) and childhood physical abuse (CPA) history (occurring prior to the age of 16) were derived from the Home Environment Interview (Holmes & Robins, 1987) and the checklist of traumatic events (Kessler et al., 1995). Substance use was defined as ever using tobacco or cannabis or consuming a full alcoholic beverage during one's lifetime reported at baseline. Conduct problems were operationalized as endorsing three or more DSM-IV conduct disorder symptoms prior to the age of 15.

Maternal risk factors: Mothers were coded positive for experiencing alcohol problems if they endorsed one or more AUD symptoms in their lifetime. Mother's MDD reflected DSM-IV lifetime criteria. Mother's own racial discrimination was assessed using the Experience

of Discrimination measure (Krieger et al., 2005), counting any report of racial discrimination in at least 1 of 6 domains (school, work, getting a job, medical care, public, police/courts).

Data Analysis

We prepared the data in SAS 9.2 (SAS Institute, Inc., 2002) and statistical analyses were completed in Stata 14 (StataCorp, 2015). Tetrachoric correlations were computed to examine possible collinearity issues before building the models; no violations were detected (all correlations < 0.70). Prevalence rates and logistic regression models were computed to assess the associations of each variable of interest, with suicidality as the outcome. All analyses were conducted by taking familial clustering into account using the cluster command as implemented in Stata (StataCorp, 2015).

A series of models were used to test the robustness of the relationship between offspring racial discrimination and suicidality. The base model (Model 1) included age, gender, family risk status, maternal education and household income as well as the offspring's report of racial discrimination. The second model (Model 2) included all variables in Model 1, with the addition of offspring characteristics – MDD, CSA, CPA, substance use, and conduct problems. In the final model (Model 3), we added maternal characteristics – MDD, alcohol problems, and racial discrimination experiences – in addition to Model 2 variables. As per our interest in gender differences, we tested for gender interactions in a stepwise fashion for each model with the addition of each new independent variable. Because of the importance of detecting an interaction when it exists, we increased the α level to 0.10 when testing interactions to increase power (Selvin, 1996; Gelman and Hill, 2007). In Model 3, a significant interaction between gender and mother's report on racial discrimination for the association with offspring suicidality was revealed ($p = 0.080$) and therefore Model 3 analyses were stratified by gender.

Results

Participants were on average 17.9 years old with a median age of 17 years (range = 13–32 years). Of the 806 AA offspring, 125 (15.7 %) reported experiencing some form of suicidality with a preponderance of females endorsing each level of suicidality. Both the mean and median age of onset for suicidality ranged between 14 to 15 years. Nearly half ($n = 363$; 45.0 %) endorsed experiences of racial discrimination in at least one of the five domains queried (Table 1). Overall, rates of discrimination in each domain were similar across males and females, although males reported more discrimination from the police or courts compared to their female counterparts (22.5% v 8.3%). The majority of participants (54.5%) were from low income households (<\$30,000), and the majority of participants' mothers (59.1%) had more than a high school level education. Additionally, the majority of participants' mothers reported experiencing racial discrimination (63.2%) in at least one domain in their lifetime; 26.9% endorsed one or more alcohol related problems, and 21.8% met criteria for MDD.

The Association of Suicidality and Racial Discrimination

Model 1—Results are displayed in Table 2. The odds of experiencing suicidality was 2.24 times greater in AA adolescents and young adults who reported racial discrimination (95% CI: 1.47–3.41) than in those who did not. There was no evidence of interaction with gender in this model.

Model 2—After accounting for offspring risk factors entered in this stage, racial discrimination remained significantly associated with suicidality (OR = 1.76, 95% CI = 1.10–2.76). Elevation in risk for suicidality was also associated with offspring MDD (OR=3.64, 95% CI:1.89–7.00), offspring CSA (OR = 2.57, 95% CI = 1.45–4.57), offspring CPA (OR = 2.73, 95% CI = 1.71–4.38), and offspring substance use (OR = 2.42, 95% CI = 1.41–4.14.). No interactions with gender were observed.

Model 3—A significant interaction between gender and mother’s racial discrimination ($p < 0.080$) was found, so analyses were stratified by gender in this model. The association between offspring experience of racial discrimination and suicidality was no longer significant for either males (OR = 1.52, 95% CI = 0.78–2.94) or females (OR = 1.71, 95% CI = 0.93–3.14) after accounting for mother’s own depression, her history of one or more alcohol problems and her experiences of racial discrimination. However, mother’s report of racial discrimination was associated with offspring suicidality in males (OR = 3.19, 95% CI = 1.30–7.84), although not in females (OR = 1.41, 95% CI = 0.72–2.78, $p = 0.316$). Associations between suicidality and offspring CSA, CPA, and MDD remained significant in both males and females, and offspring substance ever-use remained significant in females (Table 2).

Discussion

Our investigation of racial discrimination and suicidality in AA adolescents and young adults extends the limited existing literature by examining the potential contribution of maternal discrimination experiences and psychiatric risk factors in combination with those of the youth and considering differences by gender in their associations with suicidality. Our hypothesis that racial discrimination experiences of the youth would be associated with elevated risk for suicidality was partially supported. A significant association between racial discrimination and suicidality was observed, even after accounting for sociodemographic characteristics and offspring psychosocial risk factors. However, the association was reduced to non-significance after maternal report of her own racial discrimination experiences, problem drinking, and depression were introduced into the model. This was the case for both female and male AA youth, but, interestingly, mother’s report of discrimination was only associated with suicidality in male offspring, suggestive of gender-specific pathways of risk for suicidality in AAs.

Our findings extend the current understanding of the relationship between racial discrimination and suicidality in a familial context. Prior work in this area has focused on the individual’s experience of racial discrimination (Castle et al., 2011; Gomez et al., 2011; Walker et al., 2014; Walker et al., 2016). We expanded the scope of possible contributors to suicidality risk to include the intergenerational influences of maternal mental health and

racial discrimination experiences. There are few studies of the impact of parental discrimination on children's mental health, and none on suicidality. In one study conducted in an ethnically diverse general population sample of 957 parent-child pairs, associations were found between parent's experiences with racial and cultural discrimination and their own psychopathology, which in turn was associated with increased internalizing and externalizing symptoms in their children. (Tran, 2014). Our findings extend that of Tran (2014) to suicidality which is arguably an even more severe psychiatric outcome. Further data suggests parents preparing children for racial bias may contribute to increased feelings of depression and anger, increased anti-social behaviors, and decreased self-esteem and academic engagement for the child (Davis & Stevenson, 2006; Hughes et al., 2009). These alterations in parenting practices could potentially account for the association of parental experiences of racial discrimination on suicidality in their children.

In fact, differences in racial socialization messaging has been shown to differentially impact youth development and behavioral outcomes. When racial socialization enhances youths' positive views of their racial group or allows them to attribute unfavorable outcomes to an external source (Crocker & Major, 1989), one might expect it to be associated with higher self-esteem (Smith et al., 1999). However, when racial socialization centers around telling youth to expect persistent discrimination and unfair treatment – i.e. negative racial socialization – one might expect it to be associated with lower self-esteem (Branscombe et al., 1999). Data supports this latter point; youth, who received racial discrimination messaging that emphasized expecting that others would discriminate against them, had more depressive symptoms and greater conflict with their parents than did those who did not have such expectations (Rumbaut, 1994).

The specificity of the association between maternal discrimination experiences and offspring suicidality to males may be partly attributed to gender differences in racial socialization messaging. Parents who experience more racial discrimination are more likely to provide racial socialization (Hughes & Johnson, 2001) and research suggests that the content of these messages differ by gender (Thomas & Speight, 1999). That is, boys receive increased messaging on negative stereotypes or societal messages, racial barriers, and egalitarianism, while girls receive increased positive messaging on racial pride. In turn, boys with higher racial socialization scores reported more frequent sad moods and greater hopelessness than their counterparts, whereas girls reported less frequent sad moods and less hopelessness (Stevenson et al., 1997). Furthermore, girls were more sensitive to cultural socialization messages than boys, and boys were more sensitive to parents' negative messages about discrimination than girls (Hughes, Hagelskamp, et al., 2009). As such, this bias towards potentially negative racial socialization from parents to their male children may account for the significant association of maternal discrimination for suicidality in male and not female offspring.

As expected, offspring MDD was also associated with an elevated likelihood of suicidality. Considering how strong the association of MDD was with suicidality in our sample - as well as in prior studies (Brezo, Paris, & Turecki, 2006) - the fact that a significant relationship with racial discrimination remained after accounting for MDD is quite noteworthy. Our findings are consistent with previous research, including a study by Walker et al. (2014),

which found that depressive symptomatology was associated both with racial discrimination and suicidal ideation in AA adults. The persistence of the relationship between racial discrimination and suicidality even after accounting for MDD points to racial discrimination as a possible risk factor for suicidality in this cohort, although in these cross sectional data it is not possible to determine direction of effect. Hence, further longitudinal investigation into the relationship between racial discrimination and suicidality and possible mediators of this relationship is warranted.

Despite its strengths, several limitations to this study should be noted. First, the timing of racial discrimination experiences was not queried, so we cannot determine whether they preceded or followed suicidal ideation, plans, or attempts. Second, suicidality was examined as a single construct, encompassing suicidal ideation, plans and attempts, and it is possible that the association of racial discrimination is not consistent across these behaviors, although this has yet to be investigated. Third, this is a sample enriched for paternal AUD and thus may not be generalizable to an unselected community samples. Limits to generalizability to AAs in other regions of the country should also be considered.

Future directions

Our findings suggest a number of possible directions for continued work in this area, including examination of similar psychosocial constructs, such as acculturation, and the role of parenting behaviors (e.g., parental bonding and support) as possible moderators of the relationship between racial discrimination and suicidality. Prior work by Richardson et al. (2015), for example, has linked racial discrimination, low parental support regarding coping mechanisms, and child's internalizing symptoms, but the means by which parents' experiences of discrimination shape parenting practices and communication with their children remains unknown. Another natural extension of this line of research is to consider racial discrimination and psychiatric risk factors in fathers as well as mothers. Finally, a prospective study would be highly informative for capturing the long-term, cumulative effects of racial discrimination on suicidality risk.

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Table 1

Distribution of characteristics in African American (AA) offspring

Individual Risk Characteristics	Total	Males (n=403)	Females (n=403)
	N (%)	N (%)	N (%)
Suicidality	125 (15.7 %)	43 (10.8 %)	82 (20.6 %)
Ideation	124 (15.6%)	42 (10.6%)	82 (20.6%)
Plan	52 (6.5%)	14 (3.5%)	38 (9.5%)
Attempt	38 (4.8%)	11 (2.8%)	27 (6.8%)
Racial discrimination	363 (45.0 %)	191 (47.4 %)	172 (42.7 %)
At school	197 (24.7%)	95 (23.9%)	102 (25.5%)
On the street or in public	198 (24.8%)	102 (25.7%)	96 (24.0%)
From the police or courts	122 (15.3%)	89 (22.5%)	33 (8.3%)
Getting a job	77 (9.7%)	43 (10.8%)	34 (8.5%)
At work	72 (9.1%)	40 (10.1%)	32 (8.0%)
Ever Used Substances ^a	508 (63.0%)	269 (66.8%)	239 (59.3%)
Childhood sexual abuse	78 (9.7%)	15 (3.7%)	63 (15.6%)
Childhood physical abuse	403 (50.0 %)	221 (54.84 %)	182 (45.16 %)
Major depressive disorder ^b	75 (9.3%)	20 (5.0%)	55 (13.7%)
3 + Conduct disorder problems	92 (11.4%)	63 (15.6%)	29 (7.20 %)

Note:

^aSubstances include alcohol, tobacco, and cannabis;^bMajor depressive disorder minus suicide symptoms.

Table 2

Suicidality Outcomes among AA Adolescents and Young Adults

	Model 1			Model 2			Model 3			
	OR	95% CI		OR	95% CI		OR	95% CI		
Racial discrimination	2.24 [*]	(1.47–3.41)		1.76 [*]	(1.10–2.76)		1.52	(0.78–2.94)	1.71	(0.93–3.14)
Ever use substances ^a	-	-		2.42 [*]	(1.41–4.14)		1.52	(0.67–3.46)	4.11 [*]	(1.95–8.68)
Childhood sexual abuse	-	-		2.57 [*]	(1.45–4.57)		3.81 [*]	(1.02–14.26)	2.64 [*]	(1.27–5.46)
Childhood physical abuse	-	-		2.73 [*]	(1.71–4.38)		2.70 [*]	(1.20–6.10)	2.76 [*]	(1.45–5.26)
Major depressive disorder ^b	-	-		3.64 [*]	(1.89–7.00)		4.24 [*]	(1.46–12.31)	3.25 [*]	(1.41–7.47)
Conduct disorder problems	-	-		1.55	(0.86–2.80)		1.39	(0.61–3.18)	2.54	(0.80–8.04)
Maternal racial discrimination	-	-		-	-		3.19 [*]	(1.30–7.84)	1.41	(0.72–2.78)
Maternal major depressive disorder	-	-		-	-		1.66	(0.73–3.79)	1.26	(0.62–2.55)
Maternal 1 alcohol problem	-	-		-	-		0.77	(0.36–1.67)	0.71	(0.36–1.42)

Note. Adjusted Odds Ratios (AOR) for all models account for gender (Models 1 and 2), age, family risk status, mother's education, and familial income level;

^aSubstances include alcohol, tobacco, and cannabis;

^bMajor depressive disorder minus suicide symptoms;

* signifies p < 0.05.