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# Teacher-principal race and teacher satisfaction over time, region

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## Abstract

**Purpose** – The purpose of this paper is to replicate prior findings on teacher-principal race congruence and teacher job satisfaction and extend the literature by investigating trends over time and if the relationship between race congruence and teacher job satisfaction differs by principal race and region.

**Design/methodology/approach** – The study sample comes from four waves of cross-sectional data, the nationally representative Schools and Staffing Survey, administered between 2000 and 2012. The analysis is conducted using ordinary least squares and school-year fixed effects with a comprehensive set of covariates.

**Findings** – The relationship between race congruence and teacher job satisfaction is attenuating over time and is likely explained by the lower job satisfaction of white teachers who work for black principals. Some evidence indicates teacher-principal race congruence has greater salience in the Southern region of the country. Find evidence that teachers with race-congruent principals report more workplace support than their non-race congruent colleagues.

**Research limitations/implications** – Future studies should investigate why racial congruence has more salience in the Southern region of the country and for white teachers who work with black principals. At the same time, results indicate that teacher-principal race congruence might no longer be a determinant of teacher job satisfaction, although further studies should continue investigating this relationship.

**Originality/value** – Findings on the changing nature of the relationship between principal-teacher race congruence and teacher job satisfaction over time as well as the differing nature of race congruence in the Southern region of the country are both novel findings in the literature.

**Keywords** Teachers, Job satisfaction, Race, Working conditions, Region, Race congruence

**Paper type** Research paper

Teacher job satisfaction can influence a variety of organizational processes and outcomes. Previous work suggests greater job dissatisfaction is associated with decreased organizational commitment (Bogler, 2001; Feather and Rauter, 2004) which, in turn, may weaken bonds between school and home as well as school and the broader community (Renzulli *et al.*, 2010). Prior studies also show that job dissatisfaction is a key predictor of teacher turnover (Balu *et al.*, 2009; Griffith, 2004; Lee and Mitchell, 1994; Price, 2001; Renzulli *et al.*, 2010; Skaalvik and Skaalvik, 2011). Teacher job dissatisfaction can undermine student outcomes given its relationship to teacher collaboration and teacher turnover since the former has been shown to increase student achievement (Ronfeldt *et al.*, 2015) while the latter negatively affects student outcomes (Ronfeldt *et al.*, 2012). Job satisfaction among the 3.1 million teachers in elementary and secondary schools is of economic, educational, and social relevance (National Center for Education Statistics, 2016).

Prior research suggests school leadership is consistently associated with teacher job satisfaction. In broad terms, administrator support of teachers and leadership abilities have been identified as factors shaping teacher job satisfaction (Balu *et al.*, 2009; Boyd *et al.*, 2010; Curtis, 2012; Grissom, 2011; Johnson and Birkeland, 2003; Johnson *et al.*, 2012;

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Kukla-Acevedo, 2009; Ladd, 2011; Pogodzinski *et al.*, 2012; Stockard and Lehman, 2004; Tickle *et al.*, 2011). More specifically, Johnson and Birkeland (2003) found that administrators with satisfied, beginning teachers employ similar strategies at their schools: they assign teachers a manageable workload, provide teachers with sufficient resources, develop mentorship networks among teachers and administrators, and maintain a safe and orderly work climate. Thus, factors influencing the allocation of physical, human, or social capital by principals to teachers can substantially affect teacher job satisfaction.

This collection of prior works suggests policymakers or educational agencies can improve teacher job satisfaction by promoting certain school administrator behaviors. Although there are many ways school administrator-teacher interactions might influence teacher job satisfaction, we focus on the influence of principal-teacher race congruence (i.e. sharing the same self-identified race) on teacher job satisfaction. Our analysis focuses on this influence for three reasons: policy relevance, theoretical underpinnings, and prior empirical research.

Policymakers cannot manipulate the racial identities of currently employed school principals or teachers. However, policymakers and educational agencies can potentially influence how principals and teachers of the same or different race approach principal-teacher interactions through human resource training or by setting expectations concerning the school/work climate. But for such programs/expectations to be effective, educational agencies must understand how principal-teacher race congruence influences teacher job satisfaction. To this end, we explore some mediating mechanisms through which principal-teacher race congruence might affect teacher job satisfaction. For example, we explore if school administrator recognition of a job well done by their teachers is associated with principal-teacher race congruence. If teachers sharing the same race as their principal believe they receive more recognition for their good work than teachers not sharing the same race as their principal, this would suggest a particular course of action for local education agencies.

Our second and third reasons for focusing on principal-teacher race congruence are based on theory and prior empirical research. Similarity-attraction theory, based upon the idea that individuals sharing common characteristics share similar values and therefore desire to associate with one another (Byrne, 1971), suggests racial similarity should positively influence teacher job satisfaction. It is the assumption of common values, not race *per se*, leading to positive affective relationships among racially similar individuals (Tsui and O'Reilly III, 1989). When a principal and teacher share the same race, similarity attraction suggests that the teacher would receive or perceive that their principal provides additional resources ultimately influencing their job satisfaction.

Two prior studies have empirically explored racial or ethnic congruence between principals and teachers as an antecedent of teacher job satisfaction, finding that teachers report greater job satisfaction in schools in which their principal is from their same racial/ethnic background (Fairchild *et al.*, 2011; Grissom and Keiser, 2011). We extend the current literature by examining the influence of racial congruence between a teacher and their principal and teacher job satisfaction over time, by school region, and by the race of the teacher and principal. We examine time trends and regional moderation analyses with respect to the particular race shared by the principal and their teachers in an attempt to provide educational decision-makers with information they can use to efficiently target resources aiming to improve teacher job satisfaction.

To meet our research goals we use the 1999-2000, 2003-2004, 2007-2008, and 2011-2012 waves of the School and Staffing Survey (SASS) and employ school-year fixed effects (FE) to answer the following research questions:

*RQ1.* To what extent do teachers working for principals of the same race express greater job satisfaction, relative to teachers working for racially incongruent principals?

- RQ2. To what degree has this relationship changed over time?
- RQ3. To what extent does this relationship depend on racial/ethnic orientation and/or geographic region?
- RQ4. What are some of the potential mechanisms through which principal-teacher race congruence affects teacher job satisfaction?

### Teacher job satisfaction in the literature

For the purpose of our analysis, teacher job satisfaction refers to a teacher's assessment of their job experience and its effect on their emotional state (Hulpia *et al.*, 2009). Van Maele and Van Houtte (2012) put forth several definitions of satisfaction at work including overall job experience, feelings toward their job, the extent to which the teacher perceives their needs are being met, and the perception that their teaching job has interesting, creative, and challenging aspects.

Many studies have investigated what predicts teacher job satisfaction. For example, Johnson and Birkeland (2003) found when teachers are more satisfied when they described their interactions with students and other faculty as rewarding. As noted in a thorough literature review of the determinants of teacher job satisfaction (see Fairchild *et al.*, 2011), teacher gender, teacher age, teacher experience, and teacher education were all found to determine lower, higher, or null effect on teacher job satisfaction depending on the study. Teacher job satisfaction has been found to be negatively related with the percentage of minority students in a school while being positively related to socio-economic status and academic achievement of their students (Perie and Baker, 1997; Stockard and Lehman, 2004).

In many empirical studies using a diverse range of data sets and models, school administrator support has been identified as positively associated with higher teacher job satisfaction (Boyd *et al.*, 2010; Cerit, 2009; Cha and Cohen-Vogel, 2011; Corbell *et al.*, 2010; Curtis, 2012; Grissom and Keiser, 2011; Hulpia *et al.*, 2009; Johnson and Birkeland, 2003; Kukla-Acevedo, 2009; Nasser-Abu Alhija and Fresko, 2010; Stockard and Lehman, 2004; Tickle *et al.*, 2011). Survey items asking teachers if they feel supported by their principal have been found to predict teacher job satisfaction in surveys from multiple countries including the USA, Israel, and Australia (Cerit, 2009; Cha and Cohen-Vogel, 2011; Corbell *et al.*, 2010; Dinham and Scott, 2000; Hulpia *et al.*, 2009; Nasser-Abu Alhija and Fresko, 2010; Tickle *et al.*, 2011). Johnson *et al.* (2012) used a statewide survey from Massachusetts to examine how working conditions are related to teacher job satisfaction, finding that principal leadership was one of the main determinants of teacher job satisfaction. Grissom (2011) found that while it appears student demographics are highly predictive of teacher job satisfaction, in fact this correlation is primarily explained by the effectiveness of the principal: more effective principals work in schools with less disadvantaged students, and it is possible that the effectiveness of the principal is what leads to the higher teacher job satisfaction. In the teacher job satisfaction literature, principals appear to be an important determinant of teacher satisfaction levels, yet the characteristics of principals that lead to teachers being more satisfied at work are unclear.

We focus on several areas which prior research has found to be associated with teacher job satisfaction. These areas include the principal having a vision for the school and clearly communicating that vision to the teachers (Bogler, 2001; Cerit, 2009; Cha and Cohen-Vogel, 2011; Tickle *et al.*, 2011), consistently enforcing school rules and disciplinary codes (Cha and Cohen-Vogel, 2011, Tickle *et al.*, 2011), recognizing teachers for their performance (Cha and Cohen-Vogel, 2011; Tickle *et al.*, 2011), and providing teachers with adequate materials while also lessening outside responsibilities like paperwork (Corbell *et al.*, 2010).

### Conceptual framework: similarity-attraction theory

There are many reasons why principal-teacher interactions might influence teacher job satisfaction directly or through one of the potential mediators mentioned above. Similarity-attraction theorists posit individuals from similar origins are attracted to one another by shared values and common experiences (Byrne, 1971). We use “origins” in reference to some aspect of social identity such as race, age, residence, religious preferences, etc. Individuals who identify themselves as sharing similar social origins are hypothesized to experience the world in relatively similar ways (Byrne, 1971). Members of the same social groups thus perceive themselves to share common experiences, and experiences are assumed to shape an individual’s value system. Similarity-attraction predicts that individuals with similar value systems will prefer to associate with one another in order to reinforce self-esteem and worldviews (Tsui *et al.*, 2002; Vecchio and Bullis, 2001). Thus, it is not the similarity of origins (e.g. race) by which an individual prejudices another, but the similarity in value systems signaled by these origins. Demographic similarities among individuals do not guarantee a desire to associate since an individual’s value system is influenced by a multitude of social forces. However, prior studies consistently find that racial congruence among individuals is associated with some form of attraction, suggesting that racially related values are deeply tied to social behaviors (Byrne, 1971; Dee, 2005; Devendorf and Highhouse, 2008; Grissom and Keiser, 2011; Tsui and O’Reilly III, 1989). Similarity-attraction thus predicts that teachers who share the same race as their principal would report greater job satisfaction relative to teachers who do not share the same race as their principal, *ceteris paribus*. This theoretical framework undergirds our first hypothesis:

*H1.* Teachers with race-congruent principals will report higher job satisfaction than teachers working for principals of a different race.

In turn, principals may allocate resources in ways that enhance a racially congruent teacher’s work environment and productivity in order to retain the teacher so that they may continue associating with one another:

*H2.* Teachers who are racially congruent with their principal will report more workplace benefits including better working conditions, higher levels of principal effectiveness, and more administrative support compared to teachers who do not share the same racial background as their principal.

Our exploration of *H2* builds on work by Grissom and Keiser (2011), who explored if teacher pay and other workplace benefits within principal discretion could be predicted by whether principals and teachers have the same race. In addition to Grissom and Keiser (2011), others have also found that race congruence plays a role in teacher job satisfaction. Using the 2003-2004 Schools and Staffing Survey, Fairchild *et al.* (2011) found teacher-student race congruence directly influenced teacher job satisfaction. Renzulli *et al.* (2010) utilized the 1999-2000 SASS and also found that teacher-student race congruence predicted teacher job satisfaction: white teachers were predicted to be less satisfied at schools where the student majority was non-white, and black teachers were more satisfied at majority black schools. We extend the logic of previous work by examining if particular racial pairings between teachers and principals have differential influences on teacher job satisfaction:

*H3.* The association between principal-teacher race congruence and teacher job satisfaction will differ based on the race of the principal. In particular, white teachers with black principals are hypothesized to be less satisfied with their job than if they had a same race principal and black teachers with black principals more satisfied with their jobs than if they had a different race principal.

We also investigate if there are differing levels of job satisfaction among Southern black teachers relative to non-southern black teachers. While the history of why we would expect

the south to have greater racial divisiveness is far from recent, evidence suggests that race continues to play more of a role in the south than in other regions of the country (Valentino and Sears, 2005; Kuklinski *et al.*, 1997). Specifically investigating regional effects in the education field, Grissom *et al.* (2009) found that black teachers show more preferential treatment (less suspensions, more gifted and talented placement) for black students in the south as compared to black teachers not in the south. When these findings are interpreted within a similarity attraction paradigm, they imply in-group similarities among Southern black or white teachers/principals are predicted to be greater than in-group similarities among non-southern black or white teachers/principals:

- H4. The association between principal-teacher race congruence and teacher job satisfaction will be larger in magnitude if the school is in the southern region of the country.

### **Analytic strategy**

#### *Data and sample*

The SASS is administered by the National Center for Education Statistics and the Census Bureau. SASS has been administered to a nationally representative stratified random sample of schools, districts, and principals as well as a random sample of teachers within those schools every few years since 1988, for a total of seven waves of data collection. SASS asks teachers, principals, school representatives, and district representatives a series of questions on several key areas of teaching and working in schools (Goldring *et al.*, 2013). For the purposes of this study, we include the teacher, principal, and school surveys from the 1999-2000, 2003-2004, 2007-2008, and 2011-2012 school years for public schools only. The SASS is a cross-sectional survey, so each wave of data collection includes an independent random sample of schools and teachers within schools. By using multiple cross-sections of the SASS, we have data over time, but the sample itself is not longitudinal. The final sample size is 141,850 teachers at 16,070 schools, as shown in Table I. All estimates in the analysis use teacher level survey weights in order to make our results generalizable to all public school teachers in the 1999-2000, 2003-2004, 2007-2008, and 2011-2012 school years.

*Dependent variables.* Teacher job satisfaction is our first dependent variable. Teachers were asked to identify the extent to which they agreed with the statement, "I am generally satisfied being a teacher at this school" by selecting strongly disagree, somewhat disagree, somewhat agree, or strongly agree. We coded these four responses on a scale from 1 to 4, with 4 indicating strongly agree. The mean response from the pooled data sets is 3.46 with standard deviation 0.72 indicating that teachers in our data set are, on average, satisfied with being a teacher at their school. Prior work with teacher job satisfaction as the dependent variable has utilized this exact measure for teacher job satisfaction (Grissom, 2011; Grissom and Keiser, 2011; Grissom *et al.*, 2012).

We also explore many possible mediators through which principals sharing the same race as their teachers might influence teacher job satisfaction. These mechanisms are all treated as dependent variables in our analyses. The mechanisms we investigate are teacher perceptions concerning: the support and encouragement of their school administration ("Supportive administration"); the recognition staff members at that school receive for doing a good job ("Recognition for a job well done"); the provision of necessary materials and supplies ("Necessary materials available"); the interference of routine duties and paperwork with teaching ("Paperwork and duties interfere with job"); the extent to which the principal adequately communicates their vision for the school ("Principal communicates vision"); and the enforcement of school rules ("Principal enforces rules"). The "Paperwork and duties interfere with job" variable is reverse coded so that a higher value indicates less agreement.

	Mean	SD	Teacher satisfaction over time, region
Race congruence, all teachers	0.78		
Race congruence, white teachers only	0.83		
Race congruence, black teachers only	0.43		
<i>School characteristics (n = 16,070)</i>			
Percentage black Students	19.32	26.20	
Percentage Hispanic Students	18.84	25.84	
Percentage Asian/PI Students	4.17	9.36	
Percentage American Indian students	1.31	6.58	
Percentage free, reduced price lunch	46.12	30.32	
Enrollment in 100s	6.86	5.12	
Elementary schools	0.62		
Middle schools	0.17		
Special education school	0.01		
Vocational/technical school	0.01		
Alternative school	0.02		
Urban schools	0.33		
Rural schools	0.18		
<i>Teacher characteristics (n = 141,850)</i>			
Female teacher	0.76		
Black	0.07		
Hispanic	0.07		
Asian or Pacific Islander	0.02		
American Indian	0.01		
Total experience	15.81	11.18	
Holds regular teaching certificate	0.89		
Holds MA	0.50		
Holds BA in education	0.67		
<i>Principal characteristics (n = 16,070)</i>			
Black	0.11		
Hispanic	0.06		
Asian or Pacific Islander	0.01		
Indian	0.01		
Female	0.46		
Holds MA	0.49		
Holds doctorate	0.08		
Total principal experience	7.79	6.88	
<b>Notes:</b> Estimated using survey weights; Sample sizes rounded to nearest ten per NCES nondisclosure rules; Standard deviations (SD) only calculated for continuous variables			

**Table I.**  
Descriptive statistics

*Independent variables.* Both teacher and principal respondents identify their race using one of five categories on the 2003-2004, 2007-2008, and 2011-2012 SASS: white, black, American Indian/Alaska Native, Asian, or Native Hawaiian or other Pacific Islander. On the 1999-2000 SASS respondents could only select four categories: white, black, American Indian/Alaska Native, or Asian or Pacific Islander. A separate question on all surveys asked participants to identify whether they are from Hispanic origins. Teachers and principals are race congruent if they match race and ethnicity on every category listed above. Table I shows that about 78 percent of the teachers in the sample are race congruent with their principal. About 83 percent of white teachers are race congruent with their principals, and 43 percent of black teachers are race congruent with their principals.

*Control variables.* In an effort to be consistent with the literature and replicate prior findings, we selected the same covariates utilized as control variables as Grissom and Keiser (2011).

At the school level, we include the percentage of students of each racial category as well as the percent of students eligible for free or reduced price lunch. We also control for enrollment (in 100s), urbanicity, school type (special education, vocational, or alternative), and school level (elementary or middle). For principals, we include gender, degrees (Master's or doctorate), and principal experience. The teacher control variables are gender, whether or not the teacher is certified by the state, and degrees (master's degree, has a BA in education). Years of teaching experience is included with each year of experience as a separate binary variable to allow for the effect of each year of experience to have a different slope. For more information and a full list of controls, see Table I.

### *Estimation strategy*

This study employs ordinary least squares (OLS) and school-year FE methodologies to examine the relationship between race congruence and job satisfaction. The unexplained variance in the school-year FE model, arising from extraneous variables, is split between teachers within the same school in the same year and idiosyncratic error. By controlling for the unexplained variance of all teachers within the same school, the model allows us to account for the influence of unobserved school-level effects on the relationships between key independent variables and teacher outcomes. In the SASS, there is only one principal per school such that a school FE is also a principal FE. The model we estimate is:

$$Y_{ijn} = \beta_1(\text{Race\_Congruence})_{ijn} + \beta_p X_{ijn} + \alpha_j \gamma_n + u_{ijn}. \quad (1)$$

$Y_{ijn}$  represents job satisfaction of teacher  $i$  in school  $j$  in year  $n$  in the main specifications. The potential mediator variables, explained above, are the dependent variables in further analyses.

The independent variables of interest in the model are race congruence with the coefficient of interest being  $\beta_1$ . The vector of teacher characteristics is represented by  $X_{ijn}$ . Refer to Table I and the Measures section above for a full list of what is part of  $X_{ijn}$ . In the FE model, we replace the school and principal characteristics noted in the Measures section with the FE  $\alpha_j \gamma_n$ , where  $\alpha_j$  represents the  $j$ th school and  $\gamma_n$  the  $n$ th year. With the school-year FE, the  $\beta_1$  coefficient represents predicted magnitude of higher or lower job satisfaction a teacher reports if they are race congruent with their principal as compared to other teachers within their same school that are not race congruent with the principal.

Since our preferred specification is the school-year FE, we cannot perform a traditional moderation analysis using interactions to explore differentiation in the effects of racial congruence by principal race, and school region, and time since these covariates do not vary within the school-year. Instead, we re-run the same base models estimating the effect of teacher-principal race congruence on subsamples of schools based on the schools' location, principal race, and/or school year. The subsamples on which we run models include schools in specific school years, schools with white principals, schools with black principals, schools in the south, and/or schools not in the south.

## **Empirical findings**

### *Teacher job satisfaction and race congruence*

Table II shows the results of models testing whether principal-teacher race congruence is associated with higher teacher job satisfaction. Each cell of Table II shows the race congruence coefficient,  $\beta_1$ , from a separate model. Results from models without school-year FE are shown in column 1, while column 2 adds school-year FE. Although not shown, all models control for teacher characteristics; models without school FE also include principal and school characteristics as controls.

	Method	
	OLS (1)	School-year FE (2)
Race congruence all years	0.025 (0.015) $n = 141,850$	0.049* (0.020) $n = 142,790$
Race congruence 1999-2000	0.059* (0.028) $n = 35,510$	0.103** (0.037) $n = 36,440$
Race congruence 2003-2004	0.018 (0.028) $n = 38,730$	0.069 (0.037) $n = 38,730$
Race congruence 2007-2008	0.047 (0.027) $n = 33,400$	0.041 (0.035) $n = 33,410$
Race congruence 2011-2012	-0.001 (0.030) $n = 34,210$	-0.003 (0.042) $n = 34,210$

**Table II.**  
Results from models  
with teacher job  
satisfaction as the  
dependent variable for  
the race congruence  
coefficient only

**Notes:** OLS models include the teacher, principal, and school level control variables; School-year FE models include teacher controls; All models estimated with survey weights. Standard errors in parentheses, clustered at the school level. \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$

The first row shows results for models that pool across all waves of data. With and without school-year FE, the race congruence coefficient is positive. For the school-year FE models in column 2, the race congruence coefficient is 0.049 ( $p < 0.05$ ), indicating that the job satisfaction level of a public school teacher who is race congruent with their principal is predicted to be approximately 0.049 points higher on a four-point scale, about a tenth of a standard deviation higher, than a similar teacher in the same school who is not of the same race as the principal.

The remaining rows of Table II re-estimate these results separately for each survey wave to provide some evidence for whether the association between race congruence and job satisfaction may be changing over time. Both with and without school-year FE, the patterns are generally consistent – the relationship between principal-teacher race congruence and teacher job satisfaction is attenuating. The race congruence coefficient is only statistically distinguishable from zero in the first wave (1999-2000). In the models using more recent waves of data, the coefficient is no longer statistically significant and decreases to a coefficient that is very small and negative.

#### *Teacher satisfaction by region and principal race*

Table III shows results for the race congruence variable from the full school-year FE models by region and principal race. The first two columns represent the results for schools based on their location – either in the south or not in the south. The race congruence coefficient for schools in the south is statistically significant and about 37 percent larger than the non-significant race congruence coefficient for schools not in the south.

In Table III, the third and fourth columns represent the school-year FE model results for race congruence by principal race. The third column represents only schools with white principals, and the coefficient for race congruence is not statistically significant. The fourth column of Table III represents the results for schools with black principals. The coefficient in this model is statistically significant and indicates that black teachers with black principals are predicted to be about a quarter of a standard deviation more satisfied with their job than non-black teachers at their same school.

Figure 1 shows the predicted job satisfaction levels of teachers based on their race and the race of their principal, restricted to white or black racial categories as very few principals and teachers in the sample are non-black, non-white, and race congruent. Figure 1 is constructed using the school-year FE models reported in columns three and four of Table III and displays the predicted level of job satisfaction based on teacher race and principal race. The 95 percent confidence interval is only displayed around the predicted job satisfaction levels for white teachers with black principals to simplify interpretation of the graph and highlight this group as the key area of difference among the four different combinations of teacher and principal race.

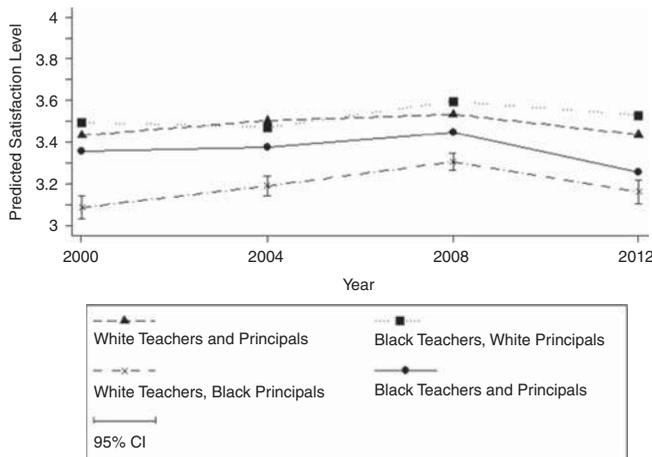
White teachers are predicted to be significantly more satisfied when they have a white principal than when they have a black principal although this difference attenuates over time. The predictions for white teachers with black principals are clear outliers compared to the other groups since the other three racial combinations all cluster together. It appears that black teachers are slightly more satisfied when they have white principals than if they have black principals, contrary to our hypothesis, but this difference is not statistically significant at the five percent level. This graph suggests that it is the lowered job satisfaction of white teachers with black principals that leads to a significant coefficient in Table III, column four, as opposed to the higher job satisfaction of black teachers with black principals.

**Table III.**

Results from models with teacher job satisfaction as the dependent variable estimated by region and principal race for the race congruence coefficient only

	In the south (1)	Not in the south (2)	With white principals (3)	With black principals (4)	With black principals in the south (5)	With black principals not in the south (6)	With white principals in the south (7)	With white principals not in the south (8)
Race congruence	0.065* (0.031)	0.041 (0.025)	-0.025 (0.017)	0.184*** (0.042)	0.217*** (0.060)	0.160** (0.060)	-0.048 (0.028)	-0.015 (0.020)
Observations	31,010	111,780	127,130	12,340	5,830	6,510	24,950	102,180
Adjusted R <sup>2</sup>	0.177	0.171	0.156	0.202	0.171	0.228	0.166	0.154

**Notes:** All models contain school-year FE and are estimated with survey weights; All models include the teacher control variables, except in models (3)-(8) where teacher race is excluded from the controls. Standard errors in parentheses, clustered at the school level. \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$



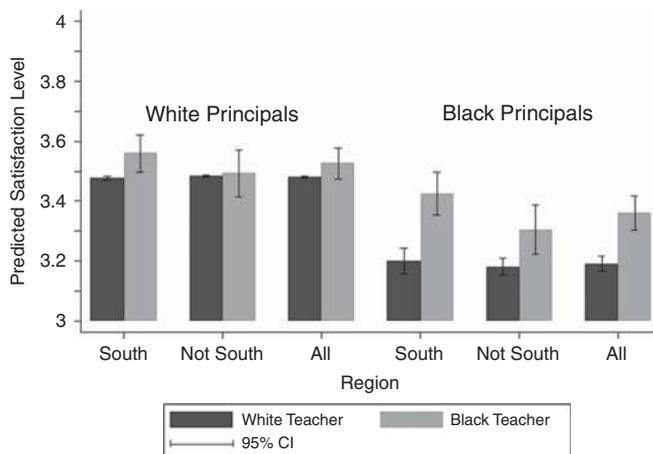
**Figure 1.** Predicted job satisfaction levels based on teacher and principal race over time from school-year FE models

The fifth and sixth columns of Table III represent schools that have black principals either in the south (column 5) or not in the south (column 6). For black teachers with black principals in the south, they are predicted to be about 0.217 levels more satisfied than similar non-black teachers at their school. Black teachers not in the south with black principals are predicted to be about 0.160 levels more satisfied than similar non-black teachers in their school. Although these coefficients differ by approximately 0.057 units, a Chow test indicates that these two coefficients are not statistically different from one another.

Figure 2 further explores the race congruence coefficients from Table III, columns three through eight, by teacher race. The predicted job satisfaction level of black teachers is significantly higher than it is for white teachers except for in schools not in the south with white principals. For schools with black principals, black teacher job satisfaction levels are highest at schools in the south. In other words, the difference between the job satisfaction levels of white and black teachers peaks at southern schools with black principals.

*Teacher job satisfaction by race, region, and over time*

Table IV shows the race congruence coefficient from school-year FE models by time, principal race, and region. The first four columns represent the sample of schools that are in



**Figure 2.** Predicted job satisfaction levels based on teacher race, principal race, and region from school-year FE models

Region Year	In the south				Not in the south			
	2000 (1)	2004 (2)	2008 (3)	2012 (4)	2000 (5)	2004 (6)	2008 (7)	2012 (8)
Race congruence:	0.343***	0.253**	0.213**	0.118	0.180	0.195	0.143	0.060
black principals	(0.099)	(0.084)	(0.077)	(0.171)	(0.098)	(0.113)	(0.123)	(0.124)
Observations	1,500	1,620	1,480	1,230	1,700	1,910	1,350	1,550
Adjusted R <sup>2</sup>	0.202	0.191	0.246	0.155	0.268	0.205	0.246	0.318
Race congruence:	-0.066	0.040	-0.031	-0.140**	-0.004	-0.032	0.029	-0.046
white principals	(0.060)	(0.054)	(0.055)	(0.053)	(0.035)	(0.040)	(0.041)	(0.042)
Observations	6,680	6,860	5,800	5,620	25,460	27,270	24,050	25,400
Adjusted R <sup>2</sup>	0.153	0.158	0.174	0.194	0.133	0.154	0.145	0.179

**Notes:** All models contain school-year FE, teacher control variables (except teacher race), and are estimated with survey weights. Standard errors in parentheses, clustered at the school level. \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$

**Table IV.** Results from models with teacher job satisfaction as the dependent variable estimated by year, region and principal race for the race congruence coefficient only

the south, with columns five through eight representing schools not in the south. The first panel represents schools with black principals and the second panel represents schools with white principals.

The second panel has no statistically significant results for white principals except for schools in the south in the 2011-2012 school year where white teachers with white principals are predicted to be less satisfied than their non-white colleagues. Overall, these results are consistent with previous results from Table III in which teacher job satisfaction in schools with white principals was not predicted by race congruence. Further, none of the race congruence coefficients are significant for schools with black principals that are not in the south.

The models using data from schools with black principals in the south have large and statistically significant coefficients. The coefficients for race congruence retain statistical significance until the 2011-2012 school year. For the 1999-2000 school year, the coefficient on race congruence in schools with black principals in the south represents a half of a standard deviation increase in teacher job satisfaction for black teachers with black principals as compared to their similar non-black colleagues. The coefficients remain large and statistically significant in the 2003-2004 and 2007-2008 school years.

#### *Possible mediators of race congruence on teacher job satisfaction*

Table V reports the coefficients for the race congruence variable for school-year FE models specified in the same manner as previous analyses. Each column represents a different sample. The first column represents the results for all schools, the second and third columns are only schools in or not in the south, the fourth and fifth columns are schools with black or white principals, and the sixth through ninth columns are black or white principals at schools in and not in the south. Each row of coefficients in Table V represents a different panel of results for the race congruence variable for models with the dependent variable being the six possible mechanisms for teacher job satisfaction.

In column one of Table V, all of the coefficients on the race congruence variable are statistically significant except on "Paperwork and duties interfere with job." This implies that teachers with a race congruent principal are predicted to state that their principal's behaviors and/or work environment are more desirable than within-school peers who do not share the same race as the principal. These results only differ slightly for schools in and not in the south.

For schools with black principals, overall and in the south, the coefficients on the race congruence variable are statistically significant for all of the six possible mechanisms for teacher job satisfaction. In the models for schools with white principals, there are no statistically significant and positive coefficients on the race congruence variable. In addition, many of the coefficients for southern schools with white principals have statistically significant coefficients on the race congruence variable but in the opposite direction indicating that white teachers with white principals in the south agree less with these mediating factors than the similar non-white teachers in their school, contrary to both theory and our hypotheses.

#### **Conclusion**

While previous studies have examined the influence of race-related factors on teacher job satisfaction, few examine the influence of working for administrators of the same race. Fewer, if any, have examined how this relationship has changed over time using nationally representative data sets or how this relationship is moderated by the race shared by teachers and administrators or geographic region. Our study fills these gaps by identifying the influence of teacher-principal race congruence on teacher job satisfaction between the 1999-2000 and 2011-2012 school years and examining the moderating effects of principal

Sample is schools Dependent variable	All schools (1)	In the south (2)	Not in the south (3)	With black principals (4)	With white principals (5)	With black principals in the south (6)	With black principals not in the south (7)	With white principals in the south (8)	With white principals not in the south (9)
Supportive administration	0.048* (0.022)	0.032 (0.029)	0.058 (0.030)	0.209*** (0.043)	-0.028 (0.019)	0.194*** (0.049)	0.232** (0.073)	-0.089** (0.031)	-0.004 (0.023)
Necessary materials available	0.081*** (0.022)	0.055 (0.032)	0.097*** (0.029)	0.254*** (0.047)	-0.029 (0.018)	0.269*** (0.057)	0.248*** (0.074)	-0.117*** (0.032)	0.004 (0.021)
Paperwork and duties interfere with job	0.014 (0.023)	0.003 (0.034)	0.022 (0.031)	0.122** (0.044)	-0.046* (0.021)	0.187*** (0.054)	0.053 (0.068)	-0.122** (0.038)	-0.017 (0.025)
Principal communicates vision	0.067*** (0.020)	0.066* (0.029)	0.070** (0.026)	0.215*** (0.041)	-0.026 (0.017)	0.190*** (0.050)	0.253*** (0.066)	-0.057* (0.028)	-0.014 (0.021)
Principal enforces rules	0.063** (0.022)	0.045 (0.032)	0.073** (0.028)	0.201*** (0.042)	-0.010 (0.019)	0.153** (0.051)	0.268*** (0.065)	-0.045 (0.033)	0.005 (0.023)
Recognition for a job well done	0.061** (0.022)	0.063* (0.031)	0.063* (0.029)	0.303*** (0.044)	-0.050* (0.019)	0.296*** (0.051)	0.319*** (0.072)	-0.144*** (0.033)	-0.015 (0.024)
Observations	142,790	31,010	111,780	12,340	127,130	5,830	6,510	24,950	102,180

**Notes:** All models contain school-year FE, teacher control variables, and are estimated with survey weights. Standard errors in parentheses, clustered at the school level.  
\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$

**Table V.**  
Results from models  
with potential  
mediators as the  
dependent variable for  
the race congruence  
coefficient only

race and geographic location. Additionally, our analyses suggest some of the workplace practices and processes through which teacher-principal race congruence might influence job satisfaction.

We find that racial congruence is associated with increased job satisfaction when pooled over all racial categories although this relationship is attenuating over time. Additionally, benefits related to race congruence are more than perceptual. In the case of teacher-principal race congruence, it seems that increased job satisfaction could be related to allocations of social capital and physical resources. For example, teachers working for principals of the same race reported receiving greater degrees of administrative support, recognition for a job well done, and receipt of materials necessary to teaching.

Moderating analyses concerning the influence of racial congruence on particular racial/ethnic combinations and regions yielded some surprising results. While we correctly predicted that white teachers with black principals would be less satisfied with their job than if they had a white principal, further analyses showed that black teachers with black principals are not more satisfied with their job than if they had a white principal (see Figures 1 and 2). We also hypothesized the influence of racial congruence for Southern black teachers would be greater than the influence on Non-Southern black teachers given the relatively stronger presence of racial divisiveness in the south and the historical importance of race to identity for southerners. While the predicted influence of racial congruence of southern black teachers was greater in magnitude and statistical significance than the estimate for non-southern black teachers, the difference was not statistically significant. These findings suggest that race might be a meaningful aspect of social identity within white teacher, black principal dyads with the experiences of southern and Non-Southern black teachers being slightly, although not substantially different, within the analytical context.

Our moderating analyses of white teachers working for black principals indicated the job satisfaction of white teachers was lowest when working for black principals. These findings are consistent with previous studies which have found that the influence of racial mismatches on employee job satisfaction depends on the configuration of the mismatch (Giuliano *et al.*, 2009; Vecchio and Bullis, 2001).

We also found that the influence of racial congruence on teacher job satisfaction among black teacher-principal dyads is diminishing over time. This trend in the relationship between black teacher-principal race congruence can be explained in a variety of ways. For example, principal or teacher preparation and/or professional development programs may be doing a better job of addressing racial sensitivity than in the past, which could increase the lower levels of job satisfaction reported by white teachers working for a black principal in earlier waves of SASS administration. Additionally, more policies may have been implemented between 2000 and 2012 curtailing racially related principal discretions impacting teacher job satisfaction.

### *Implications*

In some ways, the results of this paper have identified an issue that has dissipated over time. However, without data from the last five years, it is difficult to say if this issue has continued to lessen or bounced back. For practitioners aiming to increase teacher job satisfaction, it might be helpful to pay special attention to racial congruence between teachers and principals in schools with black principals where we see the majority of our significant findings. Since race congruence predicts teacher job satisfaction and workplace conditions/benefits in schools with black principals, district or state officials who mentor or train principals and teachers might want to be particularly cognizant of addressing racial barriers or tensions in schools with black principals. At the same time, our results suggest that practitioners should be wary of policy solutions that encourage black teachers to work

at schools with black principals in order to increase black teacher job satisfaction, as we find that it is not the higher job satisfaction of black teachers at schools with black principals but the lower job satisfaction of white teachers at these schools that drives our results.

### Limitations

Our findings should be interpreted with caution as this is correlational research with a high likelihood of spuriousness. Any factor correlated with principal assignment to school based on race that also influences teacher job satisfaction, such as the systematic assignment of black principals to lower performing schools, will bias our results. While our results call attention to relationships between teacher-principal race congruence, principal race, region, and teacher job satisfaction, we are not asserting that our findings indicate that race congruence causes higher teacher job satisfaction.

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