

An Unwelcomed Digital Visitor in the Classroom: The Longitudinal Impact of Online Racial Discrimination on Academic Motivation

Brendesha M. Tynes
University of Southern California

Juan Del Toro
New York University

Fantasy T. Lozada
University of Michigan

Abstract. Online racial discrimination experiences often reflect attacks on the humanity and intelligence of members of specific racial groups (e.g., African Americans and Latinos). Such experiences may have detrimental effects on academic outcomes over time. Changes in reports of online racial discrimination and academic motivation were examined among a sample of 418 African American ($n = 257$) and Latino ($n = 161$) youth in Grades 6–12. Latent growth models with parallel processes revealed that adolescents reported increases in online racial discrimination over time yet relative stability in academic motivation. Elevated rates of online racial discrimination were related to decreases in adolescents' academic motivation. This was the case even after adjusting for teacher discrimination and baseline grade point average. In addition, high initial levels of academic motivation were related to increases in adolescents' reports of online racial discrimination. Findings highlight the importance of understanding racial discrimination in online contexts when examining how race-related experiences affect the academic adjustment of adolescents of color.

Racism and discrimination are integral aspects of coming of age for adolescents of color, with the majority reporting at least one racial discrimination experience (Fisher, Wal-

lace, & Fenton, 2000; Niwa, Way, & Hughes, 2014). African American and Latino adolescents experience some of the highest rates of racial discrimination among samples of youth

This work was supported by the Eunice Kennedy Shriver National Institute of Child Health and Human Development of the National Institutes of Health under Award Number R01HD061584. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

Correspondence concerning this article should be addressed to Brendesha M. Tynes, Rossier School of Education, University of Southern California, 3470 Trousdale Pkwy, WPH 600D, Los Angeles, CA 90089; e-mail: btynes@usc.edu

Copyright 2015 by the National Association of School Psychologists, ISSN 0279-6015, eISSN 2372-966x

of color, depending on the source (Greene, Way, & Pahl, 2006). These experiences are associated with lower levels of self-esteem (Seaton & Yip, 2009), more conduct problems (Brody et al., 2006), and higher levels of depressive symptoms (Cogburn, Chavous, & Griffin, 2011; Gaylord-Harden & Cunningham, 2009; Grossman & Liang 2008; Juang & Alvarez, 2010; Lorenzo-Blanco, Unger, Ritt-Olson, Soto, & Baezconde-Garbanati, 2011; Neblett et al., 2008; Umaña-Taylor & Updegraff, 2007) for African American and Latino youth. Perhaps most notable is a consistent link in the literature between racial discrimination and achievement-related outcomes, including lower academic achievement (Neblett, Chavous, Nguyen, & Sellers, 2009; Wang & Huguley, 2012), less positive perceptions of school climate (Niwa et al., 2014), and lower academic engagement (Chavous, Rivas-Drake, Smalls, Griffin, & Cogburn, 2008).

This article focuses on academic motivation, which is widely recognized as foundational to the academic development and success of students (Rowell & Hong, 2013; Steinmayr & Spinath, 2009). Motivation for achievement in school refers to “motivation relevant to performance on tasks in which standards of excellence are operative” (Wigfield, Eccles, Schiefele, Roeser, & Davis-Kean, 2006); in academic domains this may include constructs such as competence-related beliefs, control beliefs, task values, and goal orientations (Wentzel & Wigfield, 1998). Given the importance of motivation for a number of academic outcomes (see Wigfield et al., 2006, for a review), it is important to understand what types of experiences affect its development. We know that experiences of discrimination are associated with a reduction of students’ ability self-concept and utility values (perceived usefulness) (Benner & Graham, 2011; Chithambo, Huey, & Cespedes-Knadle, 2014; Wong, Eccles, & Sameroff, 2003). Studies also link discriminatory incidents with students being less likely to “try hard in school” (Alfaro, Umaña-Taylor, Gonzales-Backen, Bámaca, & Zieders, 2009; Thompson & Gregory, 2011). Although research on the

relations between discrimination incidents and motivation in school contexts is well documented, we know very little about adolescents’ online race-related experiences and how they might be related to motivation. Following this line of research and the fact that self-efficacy is a consistent predictor of achievement for youth of color across grades (Long, Monoi, Harper, Knoblauch, & Murphy, 2007), we focus specifically on self-efficacy and utility values. *Self-efficacy* refers to an individual’s beliefs in his or her ability to learn or perform (Bandura, 1986). Those who are more efficacious are found to persist at a given task longer in the face of difficulty, work harder, and have higher levels of achievement (Bandura, 1997; Klassen & Usher, 2010; Schunk & Pajares, 2002). *Utility values* refer to whether individuals find activities useful (Wentzel & Wigfield, 1998). Students may be efficacious with respect to a task or subject area but not follow through because of perceived unimportance. Both constructs may be inextricably linked in offline climates where racial discrimination sends a message that a person cannot do a given task or succeed in a domain and, moreover, if he or she does have the ability, the deck is stacked against him or her, so why try?

The Internet may be a particularly relevant context to examine relations between discrimination and academic motivation, given that developmental tasks such as identity exploration are now being accomplished through the use of Internet search engines, academic tools, and even social media platforms (Subrahmanyam & Smahel, 2012; Tynes, Garcia, Giang, & Coleman, 2011). Such interactions and the material encountered in these spaces may provide youth with messages about how outgroup and in-group members conceptualize what it means to be a member of a racial-ethnic group and perceived group characteristics such as academic ability or intelligence. African American and Latino youth, in particular, are spending up to four and a half more hours per day with media (for a total of close to 13 hr per day) than their White counterparts (Rideout, Lauricella, & Wartella, 2011) and are more vulnerable to encountering experi-

ences of racial discrimination as well as its mental health consequences in online contexts (Tynes et al., manuscript submitted for publication 2015). Coupled with the fact that academic motivation begins to decline during early adolescence (Eccles & Midgley, 1989; Pintrich, 2000), when many youth gain access to digital media, it is important to examine how discriminatory experiences via social media, games, and text may be associated with achievement-related beliefs among African American and Latino youth.

SCHOOL VERSUS ONLINE CONTEXTS AND DEVELOPMENT OF ACADEMIC MOTIVATION

To understand how online environments may be spaces for the development of academic motivation, we first review literature on the impact of offline contexts. Schools are arguably the most influential contexts in fostering components of student motivation. School policies on academic tracking, emphasis on high-stakes testing, and general social climate around student competition are associated with motivation and other components of school success (Trautwein, Lüdtke, Marsh, Köller, & Baumert, 2006). In addition, teacher practices in the classroom such as ability grouping, rewards or privileges for “smart” children, and the nature of classroom discourse help to socialize youth’s academic motivation. Thus, these beliefs develop in part out of the educational environments created by their respective constituents (National Research Council, 2003). Peers are also important socializers in the school context because they socialize one another into certain academic characteristics through social reinforcement, observations of friends’ opinions about school, teasing, gossip, and joking (Kindermann, 2007; Nelson & DeBacker, 2008; Ryan, 2001). Each of these paths may influence youth’s achievement motivation by shaping norms, standards, and values for academic outcomes.

For ethnic minority youth in particular, scholars suggest that in addition to the academic climate of the school, the racial climate

of the school is relevant in fostering academic motivation in marginalized groups (Brand, Felner, Shim, Seitsinger, & Dumas, 2003; Byrd & Chavous, 2011). For instance, when African American students perceive that there is positive intergroup contact among racial groups in school and that the experiences of all races are valued in school, they also demonstrate higher intrinsic motivation in school (Byrd & Chavous, 2011). However, when the school racial climate is hostile, ethnic minority students may feel a low sense of connection to the academic context even if they think that academics is important (Booker, 2006). Thus, the school climate offers ethnic minority students a variety of messages about who is expected to achieve in school compounded with messages about how their ethnic–racial group is perceived in academic contexts.

Online spaces may be an increasingly important context for fostering academic motivation. Adolescents use the Internet for educational, entertainment, and social purposes (Ito et al., 2008). As such, there may be many opportunities for students to come across academic messages, in addition to race-related messages. For example, Everett and Watkins (2008) argued that online games are “racialized pedagogical zones,” or spaces that teach and instantiate players into stereotypes about racial groups. They argued that the common framing of games as a gateway to computer literacy and optimal spaces for learning in a wide range of subjects has largely ignored the fact that games can be equally pleasurable tools for teaching racism and intolerance. This is done through the game’s design, narrative structure, dialogue, and settings. Moreover, particularly important is the immersive feel of the game and the ways it may simulate real life. Players are allowed to practice “doing” race (e.g., enact stereotyped notions of others, including robbing or killing someone with a person of color as the avatar) through the characters. This may also be the case with Internet contexts more broadly, such as social network sites where peers and adults model norms and standards around racial issues and send messages about racial group characteristics. Particularly important for this study is the

fact that these settings are purveyors of intellectual-status hierarchies; interactions, symbols, images, and graphic representations produce and maintain which groups are at the top versus the bottom. Adolescents may internalize these ideas, translating into lower motivation in the school context.

We apply the integrative model of developmental competencies in ethnic minority children by Garcia Coll et al. (1996) as a guiding framework for understanding the link between online contexts and academic motivation. This model recognizes the role of social stratification (including social position, racism, and segregation) and argues that it creates unique contexts for developmental processes and outcomes for youth of color that may be promoting or inhibiting. Online contexts, for example, may potentially promote positive outcomes as they have become new spaces for discussions about race that can include constructive intergroup discussions and safe spaces for youth to communicate with same-race peers (Tynes, Reynolds, & Greenfield, 2004; Tynes et al., 2011). At the same time, there are contexts in which youth of color experience racial discrimination and exclusion (Tynes, Giang, Williams, & Thompson, 2008).

DISCRIMINATORY MESSAGES ONLINE AND RACIAL-ETHNIC GROUPS AND THEIR INTELLECTUAL ATTRIBUTES

There has been a general increase in online hate activity associated with the campaign and election of the first African American president of the United States. Despite claims of a postracial America, the Simon Wiesenthal Center (2009, 2012) reported that the numbers of extremist and hate sites rose exponentially from 6,000 to 10,000 from 2006 to 2009 and to 15,000 by 2012. Not only does this fringe element of society contribute to the racial discrimination to which adolescents are potentially exposed, but average Internet users may also be more likely to engage in discriminatory behaviors online (Kahn, Spencer, & Glaser, 2013). Recent studies from the Pew

Research Center showed that the most common online social media spaces for adolescents include Facebook (71%), Instagram (52%), Snapchat (41%), and Twitter (33%) and that, among online populations, 88% have witnessed someone being mean or cruel to another person and 15% have been the target of such cruelty themselves within these spaces (Lenhart, 2015; Pew Research Center, 2011). Many of these experiences may be race related because other studies showed that 29% of African American adolescents and 42% of multiracial or other ethnic minority adolescents (including Latinos) were the victims of online racial discrimination (Tynes et al., 2008). Some investigators have argued that the Internet resembles pre-Civil Rights era race relations (Glaser & Kahn, 2005) with a climate that is quite hostile to people of color.

Youth of color are exposed to a number of racially discriminatory messages through name-calling, saying something rude or mean, or racial joking in social media spaces (Tynes, 2007). In addition, text messages, videos, symbols, graphic representations, Internet memes (where images and text are combined to convey a funny, critical, snarky, and sometimes racist message), and social media profiles and websites can be used to demean individuals and groups. On the basis of preliminary interview data from the current project, adolescents report being consistently exposed to the questioning of African Americans' humanity and Latinos' immigration status, as well as the intellectual abilities of both groups. For example, Internet memes of President Barack Obama and First Lady Michelle Obama have been circulated with the caption "dumb and dumber." Another commonly seen meme depicts an image that is meant to represent a hierarchy of cultural evolution. In the image, Whites are shown evolving from an ape into a thinking human being that uses advanced technology, yet Blacks are depicted as remaining an ape throughout evolution.

Images and videos geared toward Latinos tend to focus on illegal immigration and represent them as less intelligent, primarily because of a belief that undocumented people do not speak English. For example, a video

of some adolescent girls' rant after the passage of Arizona's SB-10 law (Hispanically Speaking News, 2011; <https://www.youtube.com/watch?v=Q4qVjZfPczw>) includes name-calling and use of terms like "moron" and "retard." They also complain about the notion that teachers hold entire classes behind because they have to focus on English language learners. One internet meme attacks Latinos' language abilities by suggesting that the way Latinos pronounce the phrase *you see* is to mistake it for the word *juicy*. In addition, the suggestion is that the way that Latinos would use the phrase in a sentence is in an attempt to look out for the police, likely referencing the stereotype that Latinos are in the United States illegally.

In sum, the racist imagery and racial discrimination related to intellectual ability targeted at African Americans in online spaces primarily tell a narrative that Blacks are less than human, unintelligent, and culturally primitive. In contrast, the racist imagery and racial discrimination targeted at Latinos in online spaces tell a narrative that Latinos are illegal immigrants and cannot speak English. Although each discriminatory narrative encompasses different stereotypes, each narrative contains an attack on the intelligence and aptitude for each group.

ONLINE RACIAL DISCRIMINATION AND ACADEMIC MOTIVATION

In a study examining whether there were associations between online racial discrimination and academic motivation, Tynes, Hiss, Ryan, and Rose (2015) found cross-sectional associations such that higher reports of discrimination were related to lower reports of academic values. In addition, these findings contributed a unique amount of variance over and above offline forms of discrimination. This suggests that online contexts are not merely extensions of offline experiences but that they warrant further study in their own right. Because adolescence is a key developmental period in which contexts offline contribute to declines in academic motivation over time, it is important to highlight how

online experiences relate to its growth and occurrence. Moreover, this study explores how these experiences are associated with motivation beyond offline achievement related experiences such as teacher discrimination and grade point average (GPA).

Given that the increases in racial hate activity online make youth of color more susceptible to experiencing online racial discrimination and being exposed to images and social experiences that demean their intelligence and humanity (Kahn et al., 2013), online racial discrimination experiences are expected to have similar effects on academic motivation for adolescents of color in offline settings. We expect there to be longitudinal associations between these variables such that increases in online racial discrimination will be related to lower academic motivation. Second, we expect findings to hold even after adjusting for discrimination from adults offline and initial academic performance. Because of the differences in the nature of the messages for African American versus Latino adolescents, we will conduct exploratory analyses to determine whether there are differences in associations with academic motivation by ethnic group over time.

METHOD

Data were obtained from a subsample of 418 adolescents from a larger study, the Teen Life Online and in Schools Project (TLOS), a mixed-method, longitudinal study examining the experiences and associated consequences of ethnic-racial minority youth's experiences with online racial discrimination. The larger sample included 1,028 African American, Latino, European American, Asian, and biracial youth. On the basis of observational and interview data, African American and Latino youth are most likely to receive messages related to the study variables. Although they experience racial discrimination online, Asian American youth actually receive messages about being smarter than their peers. Messages of intellectual superiority are also sent to European Americans. Because of these differences and the small sample size for Asian and

biracial youth, the present study focused on African Americans and Latinos.

Among the 418 adolescents (44.3% boys) in the present study, 257 (61.5%) identified as African American and 161 (38.5%) identified as Latino. Close to half the sample came from households in which mothers had bachelor's or more advanced degrees (49.1%). In the first year of the study, there was stratification across adolescents' grade level: 6th graders comprised 9.8%; 7th graders, 14.6%; 8th graders, 18.4%; 9th graders, 6.9%; 10th graders, 17.9%; 11th graders, 20.1%; and 12th graders, 12.2%.

Using school-level data, we assessed for information regarding the ethnic-racial diversity of the adolescents' schools. Across the three waves of data, 14 schools (12 at Wave 1) from a range of communities including rural, small urban, suburban, and urban communities in the Midwest were represented. Approximately 34.2% of the Latino adolescents attended schools in which at least 82% of the student body identified as Latino, whereas 65.2% of the Latino adolescents attended schools in which at most 15% of the student body identified as Latino. In addition, 46.7% of the African American youth in our sample attended schools in which at most a third of the student body identified as African American. The overall participation rate was 49.8%.

Procedure

Research assistants recruited students from classrooms that were selected in collaboration with administrators based on access to laptops or computer laboratories and the representativeness of the school student body. Classes selected for recruitment included technology classes, English classes, and home-rooms, which had a wide range of students with varying levels of academic performance. Parental consent forms and fliers were distributed to approximately 150 students per school with copies available in English and Spanish. During distribution periods, research assistants gave brief presentations to selected classes describing the purpose of the study. On

subsequent dates, the researchers returned to administer surveys via the Internet for students who returned parental consent forms.

Online surveys were administered across three time points that were 1 year apart from 2010–2013. Surveys were sent to e-mail addresses provided by participants, which were accessed during the allotted classroom time. In the event that participants did not have a valid e-mail address prior to survey administration, temporary e-mail addresses were established for survey access. In a small number of cases, surveys were accessed via a Web link. Once access was granted, survey administration occurred over one to two consecutive class periods. Research assistants were present to inform students of confidentiality, explain terms, and troubleshoot any technical difficulties. Prior to beginning the survey, the research team explained that the respondents would be asked about their online experiences and their feelings about themselves. On completion of the survey, all participants were provided with information about local counseling services and Internet safety websites to report online predators. Students who graduated (8th and 12th graders) either were followed to their new schools and surveys were administered there or completed the survey online in their homes. Participants were tracked using e-mails, and postcards were sent to the home in retention efforts. All participants received \$15 Amazon.com gift certificates for their participation during the first year, \$20 during the second year, and \$25 during the third year. Participating schools were also provided with a small stipend.

Measures

Academic motivation was measured as a latent variable using the mean of the following measures as indicators: self-efficacy and utility values. These two subscales were derived from a larger achievement motivation measure (Eccles, 1983; Ryan, 2001). Academic self-efficacy is a five-item measure examining participants' self-evaluations of their abilities to accomplish school tasks (e.g., "Even if the work in school is hard, I can learn it"; 1 = *not*

true at all, 5 = always true). This measure was found to be internally consistent across each wave (α range = 0.93–0.95). Utility values tap into participants' values toward schoolwork using a two-item measure (e.g., "The work we do in school is important"; 1 = *not true at all, 5 = always true*). This measure was found to be reliable across the three waves of the study (r range = 0.79–0.82), indicating that the measure was internally consistent across time. We subsequently tested for construct equivalence for academic motivation across the three waves via multiple-indicator confirmatory factor analyses. The fit of the model to the covariance structure of the data was evaluated using standard criteria including a Root Mean Square Error of Approximation (RMSEA) value of less than .08, a Comparative Fit Index (CFI) value of greater than .95, a Tucker Lewis Index (TLI) value of greater than .95, and a Standardized Root Mean Square Residual (SRMR) value of less than .08. The confirmatory factor analyses indicated that academic motivation with indicators constrained across time fit the data well, $\chi^2(5) = 5.39$, RMSEA = 0.013, CFI = 0.99, TLI = 0.99, SRMR = 0.025, which indicated that academic motivation was represented as the same construct across the waves of the study. Academic self-efficacy was the principal indicator set to 1, and academic values had a factor loading at 0.70, which illustrated both self-efficacy and utility values as significant indicators for academic motivation (standardized coefficient estimates = 0.90 for academic efficacy and 0.65 for academic values).

Individual online racial discrimination was measured as an observed variable using the mean of items used in prior studies (Tynes, Rose, & Williams, 2010). Individual online racial discrimination is a four-item subscale examining adolescents' experiences of direct online racial discrimination over the past year (e.g., "People have excluded me from a site because of my race or ethnic group online" and "People have said mean or rude things about me because of my race or ethnic group online"; 0 = *never*, 4 = *almost daily*). Although the measure was found to have marginal to adequate internal consistency across

time (α range = 0.67–0.78), the measure had limited variation around the mean and the frequency of discrimination was close to zero, consistent with prior studies on general offline racial discrimination (Chavous et al., 2008; Niwa et al., 2014; Rivas-Drake, Hughes, & Way, 2008). To address this limited range, each item was dichotomized to represent a count score on whether or not the participant experienced that type of online racial discrimination, which is a consistent treatment of racial discrimination measures (Benner & Graham, 2013; Rivas-Drake et al., 2008). The new measure represented the count of different types of youth's experiences of individual online racial discrimination (possible scores ranging from 0 to 4). Thus, higher scores indicated that youth had experienced multiple types of individual online racial discrimination.

Racial discrimination from adults in school was measured as an observed variable to account for any confounding factors when examining the association between individual online racial discrimination and academic motivation. Racial discrimination from adults in school was assessed using a subset of five items examining adolescents' experiences of implicit discrimination from adults in school (Way, 1997; e.g., "How often do you feel that adults in school treat you like you're not smart because of your race or ethnicity?" and "How often do you feel adults in school are afraid of you because of your race or ethnicity?"; 0 = *never*, 4 = *all the time*). Although the measure was found to have high internal consistency during the first wave of the study ($\alpha = 0.92$), the measure had limited variation around the mean and the frequency of discrimination was close to zero. To be consistent with our treatment of individual online racial discrimination, we also represented youth's experiences of discrimination from adults in school as count scores (possible scores ranging from 0 to 4).

Academic performance was measured using school-reported grades. Each school reported grades in math, science, English, and social studies along with a cumulative GPA. This analysis included the cumulative

GPA reported in the fall of the first wave of the students' participation. We included school record data on the adolescents' GPAs to account for any variation that may be associated with academic motivation and its association with individual online racial discrimination.

In addition, our analyses adjusted for a wide set of demographic variables, including race, gender, foreign-born status, racial congruence, maternal education, and grade level. Race, gender, and foreign-born status were adjusted as dummy variables (0 = *African American* and 1 = *Latino*, 0 = *female* and 1 = *male*, and 0 = *foreign born* and 1 = *U.S. born*, respectively). Racial congruence, maternal education, and grade level were adjusted as continuous variables. Racial congruence was estimated using school-level data on the racial breakdown of each school's student body. Each participant had a racial congruence score that represented the extent, as a percentage, to which his or her race matched the race of the student body (range = 0–1; French et al., 2000). For example, if a Latino adolescent had a racial congruence score of 0.82, this implied that this adolescent attended a school with a student body composed of 82% Latinos. The purpose of generating racial congruence scores was to adjust for person–context interactions because prior work has evidenced that greater incongruence between one's ethnic group and the ethnic composition of the school has been associated with academic-related developmental domains among youth of color (Benner & Graham, 2007, 2009). We used pan-ethnic labels for racial congruence because school-level data used these labels in their school reports.

Analytic Plan

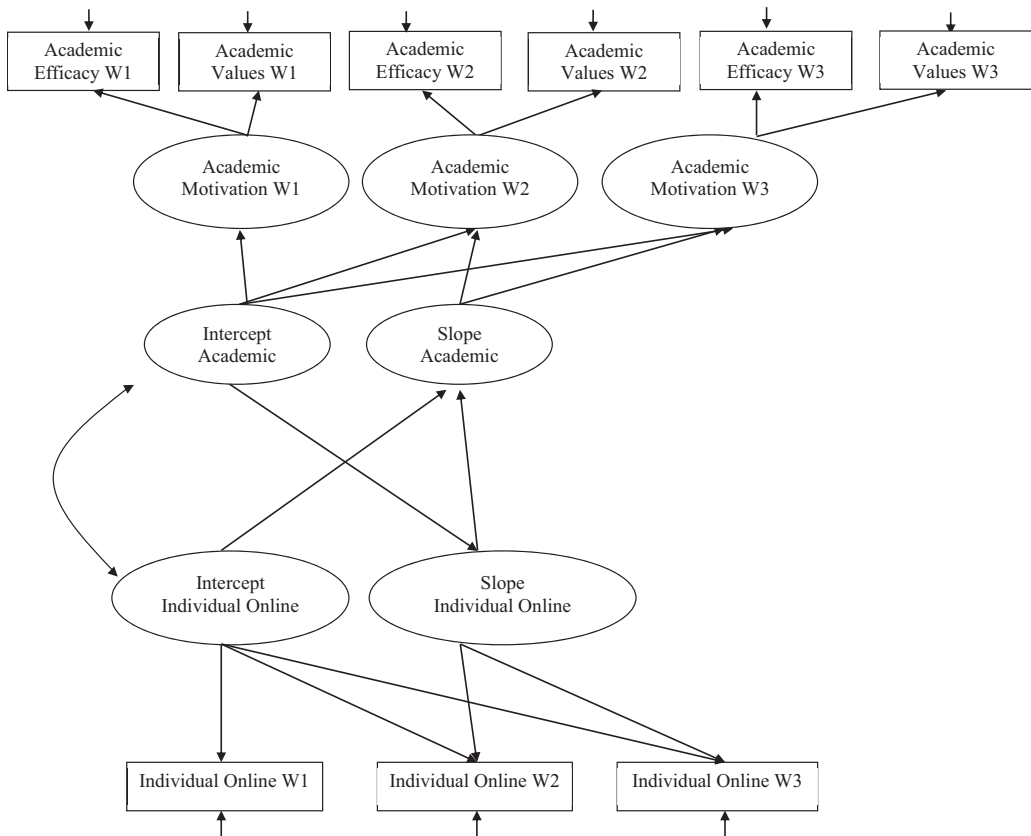
All analyses were estimated using Mplus version 7.3 (Muthén & Muthén, 1998–2012). First, we estimated an unconditional latent growth curve model for perceived individual online racial discrimination. To estimate this model, we estimated a latent intercept to represent youth's initial reports on individual online racial discrimination and a

latent slope to represent change in youth's reports on individual online racial discrimination over time. We separately estimated an unconditional multiple-indicator latent growth curve model for academic motivation. To do so, we estimated a latent intercept and latent slope for the latent variable—academic motivation—at Waves 1, 2, and 3. The estimation of this model was handled differently from the latent growth curve model for discrimination because academic motivation has multiple indicators. The mean of the intercept for the multiple-indicator latent growth curve model was fixed at zero, and the mean of the slope, like that for discrimination, was estimated as the default. Across each model, the time scores of the latent slope were fixed at zero for Wave 1, at one for Wave 2, and at two for Wave 3.

Subsequently, after establishing latent growth models, we estimated growth models with parallel processes. In this model, the latent slope for individual online racial discrimination was regressed on the latent intercept for motivation, and the latent slope for motivation was regressed on the intercept for individual online racial discrimination. These regressions allowed us to test the potential bidirectional associations between online racial discrimination and academic motivation. In addition, to test whether change in individual online racial discrimination predicts change in academic motivation over time, we regressed the latent slope for individual online racial discrimination on the latent slope for academic motivation. See Figure 1 for a visual depiction of the model with these paths.

Missing data represent a concern across all longitudinal studies. In the current sample, the retention rates were 98.2% from Wave 1 to Wave 2 and 88.1% from Wave 2 to Wave 3. To maintain sample diversity and variability, 28 youth (11.9%) recruited in Waves 2 and 3 were kept in the analyses. In total, 236 youth (56.5% of the sample) participated across the three waves of the study, 92 (22%) had one wave of data missing, and 90 (21.5%) had two waves of data missing. All analyses were estimated using

Figure 1. Analytic Model With Hypothesized Regressed Paths Between Each Latent Growth Curve Model



Note. W1 = Wave 1; W2 = Wave 2; W3 = Wave 3.

full information maximum likelihood, which is recognized as an appropriate, unbiased, and efficient method of estimating longitudinal missing data (Enders & Bandalos, 2001); this enabled us to use all available data and accurately estimated youth's trajectories with one or more waves of data (Dodge, Shen, & Ganguli, 2008).

RESULTS

Table 1 presents means, standard deviations, and bivariate correlations of all the study variables. At Wave 1, youth reported an average of less than one experience of direct online racial discrimination over the past year. Yet, by Wave 3, youth reported an average of more than one experience of direct online ra-

cial discrimination over the past year. Across the three waves, youth reported on average above the midpoint on academic self-efficacy and utility values. Regarding the intercorrelations of the study variables, the strength of the bivariate correlations increased over time between individual online racial discrimination, utility values, and academic self-efficacy, which may suggest potential increases in the association between reports of individual online racial discrimination and academic motivation.

Unconditional Growth Curve Models

Table 2 shows the means, variances, and covariances for the latent growth curve models for individual online racial discrimination.

Table 1. Correlations of IORD, Academic Self-Efficacy, and Academic Utility Values

	1	2	3	4	5	6	7	8	9
1. IORD, W1	1								
2. IORD, W2	0.29**	1							
3. IORD, W3	0.30**	-0.42**	1						
4. Self-efficacy, W1	-0.06	-0.01	0.03	1					
5. Self-efficacy, W2	-0.04	-0.01	-0.08	0.47**	1				
6. Self-efficacy, W3	-0.09	-0.18**	-0.22**	0.30**	0.44**	1			
7. Academic values, W1	-0.12*	-0.11†	-0.05	0.58**	0.31**	0.24**	1		
8. Academic values, W2	-0.07	-0.12*	-0.10	0.37**	0.50**	0.34**	0.42**	1	
9. Academic values, W3	-0.04	-0.20**	-0.29**	0.24**	0.32**	0.53**	0.29**	0.38**	1
<i>M (SD)</i>	0.71 (1.05)	0.93 (1.16)	1.14 (1.26)	3.94 (0.94)	3.87 (0.95)	3.92 (0.89)	4.24 (0.90)	4.16 (0.92)	4.17 (0.86)

Note. The means, standard deviations, and bivariate correlations of individual online racial discrimination (IORD), academic self-efficacy, and academic utility values across the three waves of the study are presented. W1 = Wave 1; W2 = Wave 2; W3 = Wave 3.
 † $p < .10$. * $p < .05$. ** $p < .01$.

Table 2. Latent Growth Curve Model Data

	<i>B (SE)</i>	
	IORD	Academic Motivation
Mean		
Intercept	0.71 (0.05)*	—
Slope	0.22 (0.04)*	-0.04 (0.03)
Variance		
Intercept	0.36 (0.06)*	-0.57 (0.09)*
Slope	0.12 (0.04)*	0.14 (0.04)*
Covariance (intercept, slope)	0.00 (0.00)	-0.15 (0.05)*

Note. The means, variances, and covariances of the unconditional latent growth curve models for individual online racial discrimination (IORD) and academic motivation are presented. RMSEA = Root Mean Square Error of Approximation, CFI = Comparative Fit Index, TLI = Tucker Lewis Index, SRMR = Standardized Root Mean Square Residual. The fit of the model was as follows: $\chi^2(27) = 26.96$, RMSEA = 0.000, CFI = 1.00, TLI = 1.00, SRMR = .045.

* $p < .01$.

The mean of the intercept for individual online racial discrimination was significantly different from zero ($\beta = 0.71, p < .001$). The mean of the slope for discrimination was significantly different from zero and was positive ($\beta = 0.22, p < .001$), indicating that youth's reports on discrimination were increasing across the three waves of the study. The covariance between the intercept and the slope, however, was not significantly different from zero ($\beta = 0.00, p = ns$), indicating that youth's initial reports of individual online racial discrimination were unrelated to the rate of change of reported discrimination over time. The variances for the intercept and slope were significant ($\beta = 0.36, p < .001$, for the intercept; $\beta = 0.12, p < .01$, for the slope), indicating that youth differed from one another in their reports of discrimination initially and over time.

Table 2 also shows the means, variances, and covariances for the multiple-indicator latent growth curve model for achievement motivation. The mean of the slope was

nonsignificant ($\beta = -0.04, p = ns$), indicating no linear change over time. The covariance between the intercept and slope was significantly different from zero yet was negative ($\beta = -0.15, p < .05$), which suggests that youth who reported high initial levels of academic motivation had accelerated declines in motivation over time. The variances for the mean and the slope were significant ($\beta = 0.57, p < .001$, for the intercept; $\beta = 0.14, p < .001$, for the slope), showing that youth significantly differed from one another in their reports on achievement initially and over time.

Table 3 presents parameter estimates for the latent growth curve models with parallel processes while adjusting for the set of covariates. Before discussing findings from the parallel-process model and our hypotheses, we will discuss findings from the covariates. Youth who were born abroad reported higher initial levels of individual online racial discrimination than youth born in the United States ($\beta = -0.37, p < .05$). Youth who experienced more racial discrimination from adults in school also reported higher initial levels of individual online racial discrimination than youth who experienced less discrimination from these adults ($\beta = 0.24, p < .001$). Boys reported higher initial levels of academic motivation than girls ($\beta = 0.19, p < .05$). Youth at higher racially congruent schools reported lower motivation than youth at lower racially congruent schools ($\beta = -0.31, p < .05$). Youth who experienced more racial discrimination from adults in school also reported lower initial levels of academic motivation than youth who experienced less racial discrimination from these adults ($\beta = -0.09, p < .01$). Youth with higher GPAs initially reported higher initial levels of motivation than youth with lower GPAs ($\beta = 0.22, p < .001$). Youth with higher GPAs reported less accelerated declines in academic motivation over time ($\beta = 0.04, p < .10$).

With regard to our hypotheses, we predicted that African American and Latino youth's elevated rates of online racial discrimination would be related to accelerated decreases in youth's academic motivation. As expected, youth who reported accelerated in-

Table 3. Unstandardized Parameter Estimates of Conditional Latent Growth Curve Models

	Estimate (SE)
Intercept for IORD	
Latino	0.16 (0.11)
Boys	0.05 (0.10)
Racial congruence	0.17 (0.18)
Grade level	0.04 (0.03)
Maternal education	-0.01 (0.06)
Born in United States	-0.36 (0.16)*
Discrimination by adults in school	0.24 (0.03)***
Grades	0.07 (0.06)
Slope for IORD	
Latino	-0.11 (0.10)
Boys	-0.02 (0.09)
Racial congruence	0.27 (0.17)
Grade level	0.03 (0.02)
Maternal education	0.01 (0.06)
Born in United States	0.16 (0.14)
Discrimination by adults in school	-0.05 (0.03)
Grades	-0.08 (0.06)
Intercept for motivation	0.18 (0.08)*
Intercept for motivation	
Latino	-0.30 (0.10)**
Boys	0.19 (0.09)*
Racial congruence	-0.31 (0.16)*
Grade level	-0.01 (0.02)
Maternal education	-0.03 (0.05)
Born in United States	-0.19 (0.14)
Discrimination by adults in school	-0.09 (0.03)**
Grades	0.22 (0.05)***
Slope for motivation	
Latino	0.10 (0.09)
Boys	-0.09 (0.08)
Racial congruence	0.16 (0.15)
Grade level	0.03 (0.02)†
Maternal education	0.05 (0.05)
Born in United States	0.17 (0.13)
Discrimination by adults in school	-0.03 (0.04)
Grades	-0.03 (0.05)
Intercept for IORD	0.01 (0.10)
Slope for IORD	-0.69 (0.23)**
Covariance: intercepts (IORD, motivation)	
	-0.05 (0.04)

Note. IORD = individual online racial discrimination; RMSEA = Root Mean Square Error of Approximation, CFI = Comparative Fit Index, TLI = Tucker Lewis Index, SRMR = Standardized Root Mean Square Residual. The model fit was as follows: $\chi^2(68) = 97.59$, RMSEA = 0.032, CFI = 0.96, TLI = 0.94, SRMR = 0.040.

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

creases in discrimination over time also reported accelerated decreases in academic motivation over time ($\beta = -0.69$, $p < .01$). However, we also found that youth who reported high initial levels of academic motivation reported accelerated increases in individual online racial discrimination over time ($\beta = 0.18$, $p < .05$). We found no difference in the longitudinal relations between racial discrimination and motivation among African American youth in comparison to Latino youth ($\beta = -0.11$, $p = ns$), although Latino youth reported lower levels of academic motivation initially than their African American peers ($\beta = -0.30$, $p < .05$). All other findings were nonsignificant, and fit indexes illustrated that the final model fit the data well, $\chi^2(57) = 99.72$, RMSEA = 0.040, CFI = 0.94, TLI = 0.91, SRMR = 0.043.

DISCUSSION

The goal of this study was to determine whether there were longitudinal associations between online racial discrimination and academic motivation and whether these associations held after accounting for achievement-related variables such as GPA and teacher discrimination. The results showed that after adjustment for covariates, adolescents who reported increases in online racial discrimination over time also experienced decreases in academic motivation. That is, on average, for every 1-unit increase in change in individual online racial discrimination over time, students' motivation decreased by 0.69 units. An interesting finding was that it was youth who had high initial levels of academic motivation who also reported accelerated increases in experiences of online racial discrimination. On average, for every 1-unit increase in initial academic motivation, students' individual online racial discrimination increased by 0.18 units over time. In addition, despite the differences in the types of messages participants received (i.e., persistent dehumanization of African Americans and the questioning of their intelligence versus the questioning of intelligence through language ability for Latinos), exploratory analyses revealed no longi-

tudinal differences in motivation between these groups. Nonetheless, this study shows the importance of online settings in shaping African American and Latino adolescents' academic motivation.

This study's findings are consistent with previous research that has shown that discrimination offline is related to student motivation (Wong et al., 2003). They are also aligned with previous cross-sectional research on online racial discrimination and academic motivation (Tynes et al., 2015). It is important to note that, in this cross-sectional study, the online context was uniquely related to adolescent motivation beyond discriminatory experiences in school. The present study builds on these findings to show these relationships over a 3-year period.

The mechanisms for these changes can be drawn from previous literature on how academic motivation may be altered over time. For example, self-efficacy develops through the perceptions that individuals have about four sources of information: observation of successful others, mastery experiences, physiological and affective states, and social persuasion (Bandura, 1977). Individuals appraise these sources of information and determine whether they are diagnostic of their abilities. It is through the complex interaction of these cognitions, affect, biological events, behavior, and environmental influences that self-efficacy is changed (Klassen & Usher, 2010). For example, adolescents of color may have been exposed to commentary and images that question and demean the intelligence of successful people of color (e.g., President Barack Obama and First Lady Michelle Obama). Exposure to such messages about people an individual admires or identifies with may, as previously noted, lead youth of color to internalize stereotypes about the inferiority of the intellectual capabilities of people of color. Moreover, the sheer ubiquity of the images and the fact that messages remain potentially in perpetuity may lend credence to the idea that the messages have some truth. Findings provide possible evidence for the extension of the idea of *racialized pedagogical zones* to other aspects of the Internet. These spaces may be addi-

tional powerful socializing agents into ways of thinking about one's intellectual abilities.

Related to the fact that the messages remain in perpetuity is the fact that they are easily accessible from adolescents' phones and may be stored on their devices and carried with their personal belongings (e.g., pockets, backpacks) on a daily basis. This increases the potential for rumination, repeated viewing, rehearsal, and ultimate endorsement of these messages. It should be noted, however, that there are a number of potential cultural assets that may protect youth from experiencing decrements in achievement motivation over time. Those for whom race is more central to their personal identities may be buffered against these negative outcomes (Chavous et al., 2008). A strong racial-ethnic identity may provide youth with a toolkit with strategies to counter the negative messages they receive online.

An alternative explanation for the changes in academic motivation might be provided by stereotype threat (Steele & Aronson, 1995). In this case the messages would not necessarily be internalized, but the fear of confirming the stereotypes might lead participants to report that school is less important or that they feel less academically efficacious. A persistent threat might cause adolescents to redefine their conceptions of self such that achievement in school contexts ceases to be a basis for self-evaluation and is no longer an important aspect of personal identity (Steele & Aronson, 1995). To protect their self-esteem, those vulnerable to the anxieties related to stereotype threat might disidentify with a given domain over time (Aronson & Steele, 2005). More research is needed to determine which might be the more plausible mechanism for how messages online affect student motivation.

Online racial discrimination was measured using counts rather than means or frequencies and instances that were directed at the individual participant. The results reflect the fact that experiencing even one type of individual racially discriminatory incident can lead to decrements in achievement motivation. The findings do not account for the fact that

some participants may have experienced the one type of discrimination almost daily. They also do not account for experiences of others that may have been witnessed. Nonetheless, participants may have perceived a general climate online where they are not fully accepted as equals. Findings from studies offline have shown how the broader climate can affect individual motivation (Byrd & Chavous, 2011; see Eccles & Roeser, 2009, for a review). For example, students showed positive motivation and learning outcomes when schools emphasized mastery, understanding, and enhancing skills over ability and competition for grades (Meece, Anderman, & Anderman, 2006). School mastery goals were associated with personal mastery goals, which were, in turn, predictive of self-efficacy and positive affect in school (Roeser, Midgley, & Urdan, 1996). The general climate of White intellectual supremacy might have the same trickle-down effect, ultimately affecting multiple motivation constructs.

Our findings also address the need to examine bidirectional associations between racial discrimination and youth's adjustment outcomes that prior studies have suggested (Alfaro et al., 2009; Benner & Graham, 2011). Among the adolescents in our study, youth who reported higher levels of academic motivation reported accelerated increases in their experiences of individual online racial discrimination than youth who reported lower levels of academic motivation. Consistent with this finding, Wodtke (2012) found education to be predictive of increases in awareness of racial discrimination among an ethnically diverse sample of adults. Wodtke (2012) argued how education allows individuals to be more attuned to their social environments, especially when these environments may be exclusive to one's own ethnic group. In our sample, youth who have more academic motivation may be critical of their surroundings, allowing them to be more aware of the racial inequality and unfair treatment that are pervasive in online settings, especially online racial discrimination experiences that are directed toward them. This finding may also allude to how youth of color with higher utility values

and self-efficacy are in more advanced and accelerated courses, which positions these adolescents in opposition to stereotypes of youth of color as academically underperforming (e.g., Rosenbloom & Way, 2004; Way, Hernandez, Rogers, & Hughes, 2013). These youth may perceive more harmful incidences of racial stereotyping that stem from the classroom into online contexts"? This may also be the result of being targeted in courses where they are an ethnic minority.

Although African Americans had marginally higher initial reports of academic motivation than Latinos, we did not find differences in academic motivation over time. Intuitively, it may appear that attacks on aspects of a person that are fixed (e.g., being a member of the human race) versus malleable (e.g., language ability) may have different outcomes, but this was not the case. Perhaps the power of the messages online to affect adolescent academic motivation is not dependent on whether the target has the ability to change but is dependent on the multimodal (video, text, image, audio), persistent, and ubiquitous nature of the messages themselves.

Limitations and Future Research

Despite the use of the most comprehensive measure, to date, on online racial discrimination, the measure did not capture specifics about the nature of messages about intelligence. Other limitations of the study include the fact that counts of the types of messages were used rather than actual reports of the frequency of the messages. This, as previously noted, could mask the number of times participants might have experienced certain types of discrimination. Nonetheless, the study highlights the fact that online experiences can have long-term implications for adolescents' achievement motivation. Future research should assess both the nature and frequency of the messages and how they may change over time. The study also focused on direct experiences rather than those that are vicarious. However, vicarious experiences may also have an impact on adolescents' achievement motivation because they are more prevalent

and also contribute to the climate in digital spaces. Future studies should determine how vicarious messages might contribute to adjustment outcomes for youth of color beyond those that are direct. Because we know mental health outcomes have been linked to decrements in achievement motivation (Roeser, Stroebel, & Quihuis, 2002) and academic functioning (Schwartz, Gorman, Nakamoto, & Toblin, 2005), studies are also needed to assess whether there are mediating factors such as depressive symptoms that may account for the association between online racial discrimination and achievement motivation.

Conclusion and Implications

The cyberbullying literature has neglected race-related experiences, and the discrimination and motivation literature has largely been silent on online experiences. This is despite the fact that there is now mounting evidence that shows online experiences to be related to adjustment above offline factors. Because self-efficacy has been one of the most consistent predictors of academic outcomes and because self-efficacy beliefs determine how much effort someone will expend (Bandura, 1977), as well as resilience and perseverance with particular tasks (Klassen & Usher, 2010), it is more important than ever that educators and psychologists monitor the types of messages youth receive about their race and their intelligence online. Moreover, because as children age, their motivation and behavior become more closely aligned (Wigfield & Eccles, 2002), developmentally appropriate curricula, therapeutic activities, and comprehensive programs that teach youth to critique the messages they receive about race are also needed.

REFERENCES

- Alfaro, E. C., Umaña-Taylor, A. J., Gonzales-Backen, M., Bámaca, M. Y., & Zieders, K. H. (2009). Latino adolescents' academic success: The role of discrimination, academic motivation, and gender. *Journal of Adolescence*, 32, 941–962.
- Aronson, J., & Steele, C. (2005). Stereotypes and the fragility of academic competence, motivation, and self-concept. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 436–456). New York, NY: Guilford Press.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191–215.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1997). Self-efficacy: The exercise of control. New York: Freeman.
- Benner, A. D., & Graham, S. (2007). Navigating the transition to multi-ethnic urban high schools: Changing ethnic congruence and adolescents' school-related affect. *Journal of Research on Adolescence*, 17, 207–220. doi:10.1111/j.1532-7795.2007.00519.x
- Benner, A. D., & Graham, S. (2009). The transition to high school as a developmental process among multi-ethnic urban youth. *Child Development*, 80, 356–376.
- Benner, A. D., & Graham, S. (2011). Latino adolescents' experiences of discrimination across the first 2 years of high school: Correlates and influences on educational outcomes. *Child Development*, 82, 508–519.
- Benner, A. D., & Graham, S. (2013). The antecedents and consequences of racial/ethnic discrimination during adolescence: Does the source of discrimination matter? *Developmental Psychology*, 49, 1602–1613. doi:10.1037/a0030557
- Booker, K. C. (2006). School belonging and the African American adolescent: What do we know and where should we go? *The High School Journal*, 89, 1–7. doi:10.1353/hjsj.2006.0005
- Brand, S., Felner, R., Shim, M., Seitsinger, A., & Dumas, T. (2003). Middle school improvement and reform: Development and validation of a school-level assessment of climate, cultural pluralism, and school safety. *Journal of Educational Psychology*, 95, 570–588. doi:10.1037/0022-0663.95.3.570
- Brody, G. H., Chen, Y., Murry, V. M., Ge, X., Simons, R. L., Gibbons, F. X., & Cutrona, C. E. (2006). Perceived discrimination and the adjustment of African American youths: A five-year longitudinal analysis with contextual moderation effects. *Child Development*, 77(5), 1170–1189. doi:10.1111/j.1467-8624.2006.00927.x
- Byrd, C. M., & Chavous, T. (2011). Racial identity, school racial climate, and school intrinsic motivation among African American youth: The importance of person–context congruence. *Journal of Research on Adolescence*, 21(4), 849–860.
- Chavous, T. M., Rivas-Drake, D., Smalls, C., Griffin, T., & Cogburn, C. (2008). Gender matters, too: The influences of school racial discrimination and racial identity on academic engagement outcomes among African American adolescents. *Developmental Psychology*, 44(3), 637–654. doi:10.1037/0012-1649.44.3.637
- Chithambo, T. P., Huey, S. J., & Cespedes-Knadle, Y. (2014). Perceived discrimination and Latino youth adjustment: Examining the role of relinquished control and sociocultural influences. *Journal of Latina/o Psychology*, 2, 54–66. doi:10.1037/lat0000012
- Cogburn, C. D., Chavous, T. M., & Griffin, T. M. (2011). School-based racial and gender discrimination among African American adolescents: Exploring gender variation in frequency and implications for adjustment. *Race and Social Problems*, 3(1), 25–37. doi:10.1007/s12552-011-9040-8
- Dodge, H. H., Shen, C., & Ganguli, M. (2008). Application of the pattern-mixture latent trajectory model in an

- epidemiological study with non-ignorable missingness. *Journal of Data Science*, 6, 231–246.
- Eccles, J. D. (1983). Courses for gifted young writers. *Gifted Education International*, 2(1), 49–51. doi: 10.1177/026142948300200113
- Eccles, J. D., & Midgley, C. (1989). Stage-environment fit: Developmentally appropriate classrooms for early adolescents. In R. Ames & C. Ames (Eds.), *Research on motivation in education* (Vol. 3). New York, NY: Academic Press p 13–44.
- Eccles, J. S., & Roeser, R. W. (2009). Schools, academic motivation, and stage-environment fit. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology: Individual bases of adolescent development* (3rd ed., Vol. 1, pp. 404–434). Hoboken, NJ: John Wiley & Sons.
- Enders, C. K., & Bandalos, D. L. (2001). The relative performance of full information maximum estimation for missing data in structural equation models. *Structural Equation Modeling*, 8(3), 430–457.
- Everett, A., & Watkins, C. (2008). The power of play: The portrayal and performance of race in video games. In K. Salen (Ed.), *The ecology of games: Connecting youth, games, and learning* (pp. 141–164). Cambridge, MA: MIT Press.
- Fisher, C. B., Wallace, S. A., & Fenton, R. E. (2000). Discrimination distress during adolescence. *Journal of Youth and Adolescence*, 29, 679–695. doi:10.1023/A:1026455906512
- French, S. E., Seidman, E., Allen, L., & Aber, J. L. (2000). Racial/ethnic identity, congruence with the social context, and the transition to high school. *Journal of Adolescent Research*, 15, 587–602.
- Garcia Coll, C., Lamberty, G., Jenkins, R., McAdoo, H. P., Crnic, K., Wasik, B. H., & Garcia, H. V. (1996). An integrative model for the study of developmental competencies in minority children. *Child Development*, 67, 1891–1914. doi:10.2307/1131600
- Gaylord-Harden, N. K., & Cunningham, J. A. (2009). The impact of racial discrimination and coping strategies on internalizing symptoms in African American youth. *Journal of Youth and Adolescence*, 38(4), 532–543. doi:10.1007/s10964-008-9377-5
- Glaser, J., & Kahn, K. B. (2005). Prejudice, discrimination, and the Internet. In Y. Amichai-Hamburger (Ed.), *The social psychology of the internet*. Oxford, England: Oxford University Press.
- Greene, M. L., Way, N., & Pahl, K. (2006). Trajectories of perceived adult and peer discrimination among Black, Latino, and Asian American adolescents: Patterns and psychological correlates. *Developmental Psychology*, 42, 218–238. doi:10.1037/0012-1649.42.2.218
- Grossman, J. M., & Liang, B. (2008). Discrimination distress among Chinese American adolescents. *Journal of Youth and Adolescence*, 37, 1–11.
- Hispanically Speaking News. (2011, March 15). *Racist girls in Arizona* [Video File]. Retrieved from <https://www.youtube.com/watch?v=Q4qVjZfPczw>
- Ito, M., Horst, H., Bittanit, M., Boyd, D., Herr-Stephenson, B., Lange, P. G., . . . Robinson, L. (2008). *Living and learning with new media: Summary of findings from the Digital Youth Project*. Cambridge, MA: MIT Press.
- Juang, L. P., & Alvarez, A. A. (2010). Discrimination and adjustment among Chinese American adolescents: Family conflict and family cohesion as vulnerability and protective factors. *American Journal of Public Health*, 100, 2403–2409.
- Kahn, K. B., Spencer, K., & Glaser, J. (2013). Online prejudice and discrimination: From dating to hating. In Y. Amichai-Hamburger (Ed.), *The social net: Understanding our online behavior* (2nd ed., pp. 201–219). Oxford, England: Oxford University Press. doi: 10.1093/acprof:oso/9780199639540.003.0011
- Kindermann, T. A. (2007). Effects of naturally existing peer groups on changes in academic engagement in a cohort of sixth graders. *Child Development*, 78, 1186–1203. doi:10.1111/j.1467-8624.2007.01060.x
- Klassen, R. M., & Usher, E. L. (2010). Self-efficacy in educational settings: Recent research and emerging directions. In T. C. Urdan & S. A. Karabenick (Eds.), *The decade ahead: Theoretical perspectives on motivation and achievement* (Vol. 16A, pp. 1–33). Bingley, England: Emerald Group.
- Lenhart, A. (2015, April). *Teens, social media & technology overview 2015*. Pew Research Center. Retrieved from http://www.pewinternet.org/files/2015/04/PI_TeensandTech_Update2015_0409151.pdf
- Long, J. F., Monoi, S., Harper, B., Knoblauch, D., & Murphy, P. K. (2007). Academic motivation and achievement among urban adolescents. *Urban Education*, 42, 196–222. doi:10.1177/0042085907300447
- Lorenzo-Blanco, E. I., Unger, J. B., Ritt-Olson, A., Soto, D., & Baezconde-Garbanati, L. (2011). Acculturation, gender, depression, and cigarette smoking among U.S. Hispanic youth: The mediating role of perceived discrimination. *Journal of Youth and Adolescence*, 40(11), 1519–1533. doi:10.1007/s10964-011-9633-y
- Meece, J. L., Anderman, E. M., & Anderman, L. H. (2006). Classroom goal structure, student motivation, and academic achievement. *Annual Review of Psychology*, 57, 487–503. doi:10.1146/annurev.psych.56.091103.070258
- Muthén, L. K., & Muthén, B. O. (1998–2012). *Mplus user's guide* (7th ed.). Los Angeles, CA: Author.
- National Research Council. (2003). *Engaging schools: Fostering high school students' motivation to learn*. Washington, DC: National Academies Press.
- Neblett, E. J., Chavous, T. M., Nguyễn, H. X., & Sellers, R. M. (2009). 'Say it loud—I'm Black and I'm proud': Parents' messages about race, racial discrimination, and academic achievement in African American boys. *Journal of Negro Education*, 78, 246–259.
- Neblett, E. W., White, R. L., Ford, K. R., Philip, C. L., Nguyễn, H. X., & Sellers, R. M. (2008). Patterns of racial socialization and psychological adjustment: Can parental communications about race reduce the impact of racial discrimination? *Journal of Research on Adolescence*, 18(3), 477–515. doi:10.1111/j.1532-7795.2008.00568.x
- Nelson, R. M., & DeBacker, T. K. (2008). Achievement motivation in adolescents: The role of peer climate and best friends. *Journal of Experimental Education*, 76, 170–189. doi:10.3200/JEXE.76.2.170-190
- Niwa, E. Y., Way, N., & Hughes, D. L. (2014). Trajectories of ethnic-racial discrimination among ethnically diverse early adolescents: Associations with psychological and social adjustment. *Child Development*, 85, 2339–2354. doi:10.1111/cdev.12310
- Pew Research Center. (2011). *Teens, kindness and cruelty on social network sites*. Retrieved from <http://>

- www.pewinternet.org/files/old-media/Files/Reports/2011/PIP_Teens_Kindness_Cruelty_SNS_Report_Nov_2011_FINAL_110711.pdf
- Pintrich, P. R. (2000). Multiple pathways, multiple goals: The role of goal orientation in learning and achievement. *Journal of Educational Psychology, 92*, 554–555.
- Rideout, V., Lauricella, A., & Wartella, E. (2011). *Children, media and race: Media use among White, Black, and Hispanic, and Asian American children*. Evanston, IL: Center on Media and Human Development School of Communication, Northwestern University.
- Rivas-Drake, D., Hughes, D., & Way, N. (2008). A closer look at peer discrimination, ethnic identity, and psychological well-being among urban Chinese American sixth graders. *Journal of Youth and Adolescence, 37*, 12–21. doi:10.1007/s10964-007-9227-x
- Roeser, R. W., Midgley, C. M., & Urdan, T. C. (1996). Perceptions of the school psychological environment and early adolescents' psychological and behavioral functioning in school: The mediating role of goals and belonging. *Journal of Educational Psychology, 88*, 408–422.
- Roeser, R. W., Stroebel, K. R., & Quihuis, G. (2002). Studying early adolescents' academic motivation, social-emotional functioning, and engagement in learning: Variable- and person-centered approaches. *Anxiety, Stress & Coping, 15*(4), 345–368.
- Rosenbloom, S., & Way, N. (2004). Experiences of discrimination among African American, Asian American, and Latino adolescents in an urban high school. *Youth and Society, 35*, 420–451. doi:10.1177/0044118X03261479
- Rowell, L., & Hong, E. (2013). Academic motivation: Concepts, strategies, and counseling approaches. *Professional School Counseling, 16*, 158–171. doi:10.5330/PSC.n.2013-16.158
- Ryan, A. M. (2001). The peer group as a context for the development of young adolescent motivation and achievement. *Child Development, 72*, 1135–1150. doi:10.1111/1467-8624.00338
- Schunk, D. H., & Pajares, F. (2002). The development of academic self-efficacy. In A. Wigfield & J. S. Eccles (Eds.), *Development of achievement motivation* (pp. 15–31). San Diego, CA: Academic Press. doi:10.1016/B978-012750053-9/50003-6
- Schwartz, D., Gorman, A. H., Nakamoto, J., & Toblin, R. L. (2005). Victimization in the peer group and children's academic functioning. *Journal of Educational Psychology, 97*, 425–435. doi:10.1037/0022-0663.97.3.425
- Seaton, E. K., & Yip, T. (2009). School and neighborhood contexts, perceptions of racial discrimination, and psychological well-being among African American adolescents. *Journal of Youth and Adolescence, 38*, 153–163.
- Simon Wiesenthal Center. (2009). *iReport. Online terror + hate: The first decade*. Retrieved from <http://www.wiesenthal.com/aff/cf/%7BD5FD2AAC1-2ADE-428A-9263-35234229D8D8%7D/IREPORT.PDF>
- Simon Wiesenthal Center. (2012). *SWC Capitol Hill briefing unveils new internet tool to combat online hate*. Retrieved from <http://www.wiesenthal.com/site/apps/nlnet/content2.aspx?c=IsKWLbPJLnF&b=4441467&ct=11658595#.VhXRJEsx10s>
- Steele, C. M., & Aronson, J. (1995). Stereotype threat and intellectual test performance of African Americans. *Journal of Personality and Social Psychology, 69*, 797–811. doi:10.1037/0022-3514.69.5.797
- Steinmayr, R., & Spinath, B. (2009). The importance of motivation as a predictor of school achievement. *Learning and Individual Differences, 19*, 80–90. doi:10.1016/j.lindif.2008.05.004
- Subrahmanyam, K., & Smahel, D. (2012). *Digital youth: The Role of media in development*. New York, NY: Springer.
- Thompson, A. R., & Gregory, A. (2011). Examining the influence of perceived discrimination during African American adolescents' early years of high school. *Education and Urban Society, 43*, 3–25. doi:10.1177/0013124510379827
- Trautwein, U., Lüdtke, O., Marsh, H. W., Köller, O., & Baumert, J. (2006). Tracking, grading, and student motivation: Using group composition and status to predict self-concept and interest in ninth-grade mathematics. *Journal of Educational Psychology, 98*, 788–806. doi:10.1037/0022-0663.98.4.788
- Tynes, B., Reynolds, L., & Greenfield, P. M. (2004). Adolescence, race, and ethnicity on the Internet: A comparison of discourse in monitored vs. unmonitored chat rooms. *Journal of Applied Developmental Psychology, 25*, 667–684. doi:10.1016/j.appdev.2004.09.003
- Tynes, B. M. (2007). Role taking in online "classrooms": What adolescents are learning about race and ethnicity. *Developmental Psychology, 43*, 1312–1320. doi:10.1037/0012-1649.43.6.1312
- Tynes, B. M., Garcia, E., Giang, M., & Coleman, N. (2011). The racial landscape of social network sites: Forging identity, community & civic engagement. *I/S: A Journal of Law and Policy for the Information Society*, p. 71–100.
- Tynes, B. M., Giang, M. T., Williams, D. R., & Thompson, G. N. (2008). Online racial discrimination and psychological adjustment among adolescents. *Journal of Adolescent Health, 43*, 565–569. doi:10.1016/j.jadohealth.2008.08.021
- Tynes, B. M., Hiss, S., Ryan, A., & Rose, C. (2015). In school versus online discrimination: Effects on mental health and academic motivation among diverse adolescents in the United States. In Christine Rubie-Davies, Jason Stephens, and Penelope Watson (Eds.) *The Routledge International Handbook of Social Psychology of the Classroom*. New York, NY: Routledge, p. 112–121.
- Tynes, B. M., Rose, C., Hiss, S., Cogburn, C., Umaña-Taylor, A., Mitchell, K., & Williams, D. (manuscript submitted for publication, 2015). Online racial discrimination and mental health among a diverse school-based sample of youth.
- Tynes, B. M., Rose, C. A., & Williams, D. R. (2010). The development and validation of the Online Victimization Scale for Adolescents. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 4*, 1–15.
- Umaña-Taylor, A. J., & Updegraff, K. (2007). Latino adolescents' mental health: Exploring the interrelations among discrimination, ethnic identity, cultural orientation, self-esteem, and depressive symptoms. *Journal of Adolescence, 30*(4), 549–567. doi:10.1016/j.adolescence.2006.08.002

- Wang, M. T., & Huguley, J. P. (2012). Parental racial socialization as a moderator of the effects of racial discrimination on educational success among African American adolescents. *Child Development, 83*, 1716–1731. doi:10.1111/j.1467-8624.2012.01808.x
- Way, N. (1997). 'Adult and peer discrimination measure', Unpublished Document.
- Way, N., Hernandez, M. G., Rogers, O., & Hughes, D. (2013). "I'm not going to become no rapper": Stereotypes as a context of ethnic and racial identity development. *Journal of Adolescent Research, 28*, 407–430. doi:10.1177/0743558413480836
- Wentzel, K. R., & Wigfield, A. (1998). Academic and social motivational influences on students' academic performance. *Educational Psychology Review, 10*, 155–175. doi:10.1023/A:1022137619834
- Wigfield, A., & Eccles, J. S. (2002). The development of competence beliefs, expectancies for success, and achievement values from childhood through adolescence. In A. Wigfield & J. S. Eccles (Eds.), *Development of achievement motivation* (pp. 91–120). San Diego, CA: Academic Press. doi:10.1016/B978-012750053-9/50006-1
- Wigfield, A., Eccles, J. S., Schiefele, U., Roeser, R. W., & Davis-Kean, P. (2006). Development of achievement motivation. In N. Eisenberg, W. Damon, & R. M. Lerner (Eds.), *Handbook of child psychology: Social, emotional, and personality development* (6th ed., Vol. 3, pp. 933–1002). Hoboken, NJ: John Wiley & Sons.
- Wodtke, G. T. (2012). The impact of education on intergroup attitudes. A multiracial analysis. *Social Psychology Quarterly, 75*, 80–106.
- Wong, C. A., Eccles, J. S., & Sameroff, A. (2003). The influence of ethnic discrimination and ethnic identification on African American adolescents' school and socioemotional adjustment. *Journal of Personality, 71*, 1197–1212.
- Date Received: August 1, 2015
Date Accepted: October 27, 2015
Guest Editor: Melissa Stormont

Brendesha M. Tynes, PhD, is an associate professor of education and psychology at the University of Southern California and the Director of the Digital Learning and Development Lab. Her research focuses on adolescent learning and development via the Internet and the design of digital tools to empower underrepresented youth. She is the recipient of the 2015 American Educational Research Association Early Career Award and the Spencer Foundation Midcareer Award.

Juan Del Toro is a doctoral student in developmental psychology at New York University. His research explores associated antecedents and consequences of youth's ethnic-racial identity and their experiences with ethnic-racial discrimination concurrently and over time.

Fantasy T. Lozada, PhD, is a postdoctoral researcher at the Center for the Study of Black Youth in Context in the Psychology Department at the University of Michigan. Her work explores predictors of social and emotional development among ethnic minority children, such as familial emotion and racial socialization, school experiences, and social interactions in online spaces.

Copyright of School Psychology Review is the property of National Association of School Psychologists and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.