

Black Adolescents' Critical Reflection Development:  
Parents' Racial Socialization and Attributions about Race Achievement Gaps

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### **Abstract**

This research explored the development of Black adolescents' (N = 454) critical reflection, conceived as individual (i.e., blaming Black people) and structural (i.e., blaming systemic racism) attributions for race achievement gaps. In this longitudinal study, adolescents and their parents reported their individual and structural attributions for race achievement gaps and parents' racial socialization. Adolescents' structural attributions increased from Grade 10 to Grade 12. Average levels of individual attributions did not change. Adolescents' reports of parental racial socialization and parents' structural attributions when youth were in Grade 10 predicted increases in adolescents' structural attributions. Findings are applied to future research and efforts to increase adolescent critical reflection.

Keyword: critical consciousness, achievement gap attributions, racial socialization, child and parent reports

### Black Adolescents' Critical Reflection Development:

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To surmount the situation of oppression, men (sic) must first critically recognize its causes, so that through transforming action they can create a new situation, one which makes possible the pursuit of a fuller humanity (Freire, 1970, p. 29, 31-32).

As indicated by the words of Paulo Freire, oppressed people must first critically reflect on the causes of oppression before they take social action and achieve liberation. The process of becoming aware of and acting against oppression is known as critical consciousness (CC) development. CC consists of critical reflection (i.e., an awareness of inequitable sociopolitical conditions), political efficacy (i.e., a sense of agency to participate in social action), and critical action (i.e., engagement in social action) (Diemer, McWhirter, Ozer & Rapa, 2015). This paper focuses on adolescents' critical reflection of race disparities in academic achievement. That is, we examined the reasoning youth use to explain why Black students perform less well in school than White students on average, and the extent to which that reasoning reflected structural attributions (i.e., perceiving that achievement gaps result from systemic racism) and individual attributions (i.e., viewing personal decisions and predispositions as root causes of achievement gaps). The purpose of the study was twofold: to investigate changes in these attributions as youth moved through the last two years of high school, and to examine parents' racial socialization (racial pride and preparation for bias) and parents' achievement gap attributions as predictors of Black adolescents' attribution development.

#### **Critical Reflection as Individual and Structural Attributions for Race Achievement Gaps**

Race/ethnic group differences in academic achievement and educational attainment are pervasive in the United States (U.S.) (Kurtz-Costes, Swinton, & Skinner, 2014). Because of the strong relations between educational attainment and aspects of well-being, such as earning

potential, an understanding of how youth interpret academic success outcomes is an important line of inquiry. Black youth are aware of the racialized nature of achievement disparities, as they are frequently reminded of these disparities in their schools and the popular press (Hope, Skoog, & Jagers, 2015). In the present study, adolescents' critical reflection of race achievement gaps was conceptualized as their individual and structural attributions for these disparities (Watts, Diemer, & Voight, 2011).

Structural attributions point to institutional racism, discrimination, and other systemic impediments to success as causes of social inequities, such as race differences in the quality of public education received by Black and White children. Adolescents who endorse structural attributions might experience negative outcomes if their growing awareness fosters stress and hopelessness (Jost & Hunyady, 2005). However, in general, youth who use structural attributions to explain societal inequality display more positive outcomes related to their occupational, political, and academic success (Hope & Bañales, 2018; Luter, Mitchell & Taylor, 2017; Rapa, Diemer, Bañales, 2018). For instance, youth who participated in a program that raised their awareness of the structural determinants of their neighborhood conditions had improved school attendance, on-time arrival, and reduced suspensions (Luter et al., 2017).

In contrast, individual attributions are causal explanations that credit people's work ethic, attitudes, and merit as the causes of achievement gaps. Examples of these beliefs are perceptions that Black youth are less invested in academic excellence than Whites due to differences in innate ability or effort (Hope et al., 2015). Youth who use individual attributions to explain racial disparities often display lower academic motivation and sociopolitical engagement, underscoring the need to explore how these potentially harmful attributions develop, including the role parents have in shaping the development of youths' beliefs (Hope & Bañales, 2018; Luter et al., 2017).

Because critical reflection refers to the recognition of the structural causes of societal inequality, youths' beliefs about the causes of achievement gaps reflect an aspect of their critical reflection (Watts et al., 2011). The notion that youths' causal attributions regarding social disparities comprise their critical reflection is also represented in measures of critical reflection (Diemer et al., 2015). However, these measures often assess youths' awareness of race, gender, and social class disparities without regard for domain. For example, critical reflection measures assess understanding of racism, classism, and sexism in the same measure (Diemer, Rapa, Park, & Perry, 2014; see "Racism" sub-scale by Shin, Ezeofor, Smith, Welch, & Goodrich, 2016). The

inclusion of multiple types of social disparities in a single critical reflection measure assumes that people make similar causal attributions for different types of social inequities. In fact, Black adolescents could have a greater understanding of one system of oppression (e.g., racism) and a less developed analysis of another (e.g., sexism) (Santos & Toomey, 2018).

Critical reflection development, as well as the larger CC process, is not a destination, but rather is a multi-directional process that changes over time. These developmental changes were highlighted by Seider and colleagues' (2018) longitudinal research on Latinx and Black youths' CC development. In that study, students who attended more progressive high schools evinced more growth in their critical racial and economic reflection across the high school years, whereas youth who attended "no-excuses" high schools demonstrated more growth in their motivation to challenge these inequities through activism.

### **Developmental Change in Critical Reflection During Adolescence**

We explored changes in Black adolescents' achievement gap attributions in late adolescence, a time in which youth are making important decisions about their lives, such as whether to continue formal education versus join the work force. Because of normative developmental increases in abstract thinking and social perspective taking during adolescence, as well as an increased understanding of race in U.S. society, youth may be able to think about racism in more sophisticated ways than in childhood (Brown & Bigler, 2005). Youths' increasing cognitive sophistication, along with greater exposure to race/ethnic differences in achievement indices, such as disparities in Advanced Placement course enrollment, might lead them to develop structural explanations about racial differences as they age (Brown & Bigler, 2005; Hughes & Bigler, 2011). Indeed, cross-sectional research with 7<sup>th</sup> to 12<sup>th</sup> grade adolescents demonstrated that older adolescents provided more complex answers than younger adolescents in describing causes of economic inequality (Flanagan et al., 2014). In the current study, longitudinal data were used to test the hypothesis that Black adolescents' structural attributions about reasons underlying race achievement gaps would increase during late adolescence.

In contrast to endorsement of structural attributions, Black adolescents' endorsement of individual attributions likely remains stable across adolescence, as adolescents are reared in a societal context that supports these explanations for success (Jost, Banaji, & Nosek, 2004). In the U.S., children learn from an early age that success and failure are due to a strong work-ethic, merit, motivation, and other individual characteristics and behaviors (Jost & Hunyady, 2005).

Although little longitudinal research has examined changes in individual causal attributions for societal disparities, one study with an ethnically diverse sample of early adolescents found that youths' system-justification beliefs (i.e., perceptions that society is fair, and thus individuals who fail do so because of a lack of effort or merit) were similar across grades among all groups except for Latino boys (Godfrey, Santos & Burson, 2017). Although the assessment of age differences in those beliefs was cross-sectional, these results nonetheless lend support to the current study hypothesis that adolescents' individual attributions would not change over time.

### **Parents as Socializing Agents in Adolescents' Attributions for Race Achievement Gaps**

Both research and theory identify parents as critical socializing agents for their children, transmitting their values, behaviors, and beliefs, including those related to academic achievement (Parsons, Adler, & Kaczala, 1982). An emerging body of research also shows that youth incorporate their parents' racial attitudes and beliefs into their own (Kurtz-Costes, Hudgens, Skinner, Adams, & Rowley, in press; Thomas & Blackmon, 2015). For example, in a cross-sectional study of African American families, parents who attributed their daughters' math/science failures to a lack of science/math ability also had daughters who attributed their math/science failures to their lack of science/math ability (Rouland, Rowley, & Kurtz-Costes, 2013). Parents' achievement gap attributions can be transmitted to their children directly through conversations about educational inequalities, including parents' discussion of their own work and educational experiences. Parents' achievement gap attributions may also be expressed in their reactions to their children's school experiences, such as those related to teachers' evaluations and assessments (O'Connor, 1997). These reactions, which are rooted in parents' underlying achievement gap attributions, may simultaneously convey racial messages to youth about the reality of racial bias in the classroom and in society (McKay, Atkins, Hawkins, Brown, & Lynn, 2003). Parents who acknowledge the structural underpinnings of racial/ethnic achievement gaps might also convey messages of racial pride to their Black adolescent, as they are aware of the institutional disadvantages their child or other Black youth may face in the educational system and want to encourage their youth's positive feelings towards their racial/ethnic group (Neblett, Philip, Cogburn, & Sellers, 2006). Thus, parents' conversations about systemic racism and beliefs about achievement disparities might, in turn, shape children's developing attributions for racial/ethnic achievement gaps.

Consistent with these ideas regarding the transmission of beliefs between parents and children, Diemer's (2012) theoretical model for CC development positions the family as one key social actor in adolescents' critical reflection development. Within this research and related work, it is assumed that parents' structural beliefs about societal inequality underlie the political conversations they have with their adolescents (Diemer, 2012; Diemer & Li, 2011). In the current study, parents' critical reflection was operationalized as their structural and individual attributions for race achievement gaps. It was hypothesized that parents' structural and individual attributions regarding race achievement gaps would be positively related to changes in youths' reports of each type of attribution during late adolescence. Moreover, these changes were hypothesized to be driven in part by parents' racial socialization.

In nations that have a history of racial stratification, such as the U.S., a common aspect of parenting in families of color is racial socialization – messages that inform children's knowledge and worldviews about the importance of race, racism, and racial disparities (Hughes et al., 2006). According to recently proposed theory, parents' racial socialization may contribute to adolescents' critical reflection of race disparities (Anyiwo, Bañales, Rowley, Watkins, & Richards-Schuster, 2018). Anyiwo et al. (2018) posited that youths' racial pride and preparation for bias socialization might predict youths' sociopolitical development. For instance, the authors argue that Black adolescents' exposure to racial pride socialization messages that highlight African American culture and the reality of social inequality might increase youths' critical reflection of oppression. Expanding on these ideas, we suggest that racial pride socialization messages that only highlight the successes and cultural traditions of the African American community might not be sufficient in raising youths' critical reflection. Instead, messages that highlight the positive qualities of the African American community and that acknowledge the roles that historical and contemporary racism play in the success and well-being of the African American community might be most effective in increasing youths' critical reflection (Anyiwo et al., 2018). Although those authors did not frame youths' critical reflection as their attributions for race achievement gaps, their theoretical arguments inform an understanding of potential associations between parents' racial socialization messages and the ways youth come to think about and explain their racial world.

In the current study, adolescents' and parents' reports of preparation for bias and racial pride messages were tested as predictors of changes in youths' race gap attributions. Although



researchers have identified other types of racial socialization (e.g., egalitarianism, promotion of mistrust), racial pride and preparation for bias socialization were included in the current study because they are common messages in the households of Black families and have been theoretically linked with youths' CC development (Anyiwo et al., 2018; Hughes et al., 2006). Racial pride socialization stresses the importance of racial/ethnic pride, cultural traditions, and history. Preparation for bias educates adolescents about the reality of racial discrimination and prepares youth to respond to racial bias (see Hughes et al., 2006 for a review). Although both types of socialization practices are theorized to promote Black adolescents' positive outcomes (e.g., academic motivation, psychological well-being), they operate through different mechanisms, are used to achieve different goals, are communicated in different amounts, and are related to unique adolescent outcomes, including youths' critical reflection (Anyiwo et al., 2018; Hughes et al., 2006).

The CC framework and sociopolitical development theory (an area of inquiry related to CC) suggest that parents' preparation for bias socialization might increase Black adolescents' use of structural attributions and decrease individual attributions regarding societal disparities (Anyiwo et al., 2018). Preparation for bias messages might promote increases in Black adolescents' structural attributions because these messages inform youth about the presence and impact of racial discrimination and structural racism in the U.S. (Author Citation). Further, Black adolescents who receive more preparation for bias messages from their parents might be less likely to endorse individual causes of race achievement gaps over time, as they are becoming more cognizant of the structural factors that impede the success of Black students.

Because parents' racial pride socialization emphasizes the positive qualities of Black people, Black adolescents who receive this socialization might be less likely to believe Black students lack academic ability and motivation (Author Citation). Therefore, we expected a negative association between racial pride socialization and individual attributions. No hypothesis was made about the extent to which parents' racial pride socialization would promote positive or negative changes in adolescents' structural attributions. Although racial pride socialization involves the celebration of Black history and culture, these activities do not necessarily make youth aware of structural oppression and the role of oppression in societal disparities. Results of one cross-sectional study indicated that parents' racial pride messages were positively associated with Black youths' structural analysis of oppression, which was operationalized using measures

of racial centrality, private regard and oppressed minority ideology (Lozada, Jagers, Smith, Bañales, & Hope, 2017). It appears that youths' racial identity represents one manifestation of youths' critical reflection, but the extent to which racial identity components are related to their attributions for race achievement gaps, and how racial socialization might predict youths' attributions, is unclear.

In the current study, parent and adolescent reports of parental racial socialization were considered in adolescents' attribution development. Use of these dual-reports is important because parents and adolescents do not always agree on the content and frequency of parental racial socialization (Hughes, Hagelskamp, Way, & Foust, 2009; Peck, Brodish, Malanchuk, Banerjee, & Eccles, 2014). Youths' reports of parental racial socialization are prioritized in the literature and show a more consistent relation to their psychological outcomes. This might be the case because youths' reports likely represent a more accurate reflection of their received socialization than parents' actual behaviors. Nonetheless, relying only on youth reports could potentially eliminate important parent influences. Therefore, parent and adolescent reports of racial socialization were examined as predictors of changes in adolescents' beliefs about the causes of race achievement gaps.

### **The Current Study**

Using a longitudinal sample of Black adolescents and their parents, we examined changes in youths' individual and structural attributions about race achievement gaps across late adolescence (i.e., from 10<sup>th</sup> to 12<sup>th</sup> grade). Hypotheses were as follows: (1) From Grade 10 to Grade 12, adolescents' structural attributions would increase. (2) Adolescents' individual attributions would remain stable across the two years. (3) Parents' structural attributions when youth were in Grade 10 would predict positive changes in adolescents' structural attributions across the two years. (4) Parents' individual attributions when youth were in Grade 10 would predict positive changes in adolescents' use of individual attributions in Grade 12. (5) Parents' and adolescents' Grade 10 reports of preparation for bias would be positively related to changes in adolescents' structural attributions and (6) would be negatively related to changes in individual attributions. (7) Parent and adolescent reports of racial pride messages in Grade 10 were expected to be negatively related to changes in youths' individual attributions. No prediction was made regarding the association between racial pride socialization and changes in youths' structural attributions.

## Method

### Participants

Data were from 454 (254 girls, 200 boys) Black adolescents and 310 of their parents who participated in the Youth Identity Project, a longitudinal study of academic achievement and identity development. Parent data were missing for 144 parents, who did not participate in the Grade 10 wave, resulting in a sample of 310 parents or primary caregivers. Of the 454 adolescents included in the present study, 290 were recruited as 5<sup>th</sup> graders during the first wave of data collection, which occurred during the 2002-2003, 2003-2004, and 2004-2005 school years. The remaining 164 adolescents were recruited as tenth graders when the study sample was expanded. Grade 10 data were collected in 2007-2008, 2008-2009, and 2009-2010 for three cohorts of youth.

The current investigation used data collected while youth were in the 10<sup>th</sup> (M<sub>age</sub> = 16.0 years, SD = 0.79) and 12<sup>th</sup> grades. Earlier waves of data were not included in analyses because the achievement gap attributions measure was not administered during these waves. Adolescents were enrolled in 16 high schools in a single urban school district in the southeastern region of the U.S. Of these 16 high schools, five schools enrolled just one adolescent in the study, five enrolled fewer than 20 participants each, and the other six schools enrolled over 20 participants. One hundred and seventeen adolescents (27.8% of our sample) went to the high school that enrolled the largest number of our participants.

The school district in which the project was conducted is in a medium-sized city in the southeastern region of the U.S. This city has a long history of prominent and wealthy Black Americans, with a strong representation of Black-owned businesses and Black Americans in city government positions. In the high schools in which data were collected, Black students comprised 31.1% to 89.5% of the student bodies, with a median of 55%. Percentages of students eligible for free or reduced lunch in the participating schools ranged from 10.7% to 81.8%, with a median of 50.1%.

The majority of parents were the biological mothers of adolescents (86.1%). Fathers (6.8%), grandmothers (5.5%), and “other relatives” or legal guardians (1.6%) constituted smaller percentages of the guardians represented. Parents came from a range of educational backgrounds, with approximately one fourth of the sample (23.3%) reporting a college degree or more; 48.1%

had a technical degree or had attended college but did not earn a 4-year degree; 20.2% had a GED or a high school diploma, and 8.4% did not complete high school. The majority of the sample (55.0%) reported an annual income of less than \$40,000, and 25% earned more than \$40,000 but less than \$70,000. One-fifth of the sample (20%) had household incomes greater than \$70,000 per year. According to U.S. Census data, the median income nationwide for Black households in 2010 was \$32,068 (DeNavas-Walt, Proctor, & Smith, 2013), and 20.0% of Blacks who were 25 or older had completed a Bachelor's degree (National Center for Education Statistics, 2014). Thus, the current sample of Black families was roughly representative of Black households nationwide during the years of data collection.

### **Procedure**

Adolescents and their parents were invited to take part in the study with letters distributed at participating schools. Informed consent was obtained during each wave of the study. Youth completed surveys in 30-minute sessions at school or in a public location (e.g., library) with a research assistant present to answer questions. Adolescents received \$10 gift cards upon completion of the survey. Parents received and returned surveys through the mail and were compensated with a gift card to a local grocery store and thank you note.

### **Measures**

Response options, sample items, and reliability statistics (i.e., Cronbach's alpha and inter-item correlations) for scales are described below. Cronbach's alpha may be a misleading estimate of internal consistency, in that it can be biased due to the number of items in a measure (DeVellis, 2003). Therefore, mean inter-item correlations (IIC) are provided as an additional estimate of reliability. An acceptable IIC ranges from .15 to .50, with larger values reflecting higher levels of internal consistency.

**Parental racial socialization.** Parents and youth completed two measures of parental racial socialization—preparation for bias and racial pride socialization—when youth were in the 10<sup>th</sup> grade. The measure included nine items from the Hughes and Chen (1997) measure and four items from a measure by Lesane-Brown and colleagues (2006). Some of the wording from the original measures was changed to ensure that questions were from the perspective of the adolescent or parent. Youth reported the frequency of their parents' use of racial pride (6 items, e.g., "Taken you to Black cultural events") and preparation for bias socialization (7 items, e.g., "Said people might treat you badly due to race") during the prior year (1 = "never" to 5 = "more

than 10 times”). An exploratory factor analysis (EFA) of the scales suggested that an eleven-item unidimensional measure of racial socialization fit the data best (see Results). These items comprised a reliable measure ( $\alpha = .90$ , IIC = .44). Parents responded to the same items using a 1 (Never) to 5 (Very often) scale. An EFA on parent responses suggested two subscales fit the data best, one measuring preparation for bias (7 items, e.g., “How often have you talked to your child about the fight for equality among Blacks”;  $\alpha = .91$ , IIC = .61) and the other assessing racial pride socialization (5 items, “How often have you done things to celebrate Black history?”;  $\alpha = .83$ , IIC = .50). Based on EFA results, one item regarding getting the child Black clothes or hairstyles was dropped from the adolescent measure.

**Critical reflection: achievement gap attributions.** Parents and adolescents responded to thirteen questions that assessed their causal attributions regarding achievement gaps between White and Black students. This measure was created for the larger longitudinal study and consisted of five items that measured structural attributions (e.g., “White students usually go to schools with more resources than Black students”) and eight items that measured individual attributions (e.g., “Black students don't work as hard as White students”) regarding the Black-White academic achievement gap. The items were preceded by these instructions: “There are many theories about why Black students do less well than Whites in school. Indicate how much you think these differences are caused by each of the following.” Participants rated items on a 5-point Likert scale that ranged from “strongly disagree” to “strongly agree.” The attribution scales were reliable for parents (structural attributions:  $\alpha = .84$ , IIC = .51; individual attributions:  $\alpha = .86$ , IIC = .45) and adolescents (structural attributions<sub>Grade10</sub>:  $\alpha = .82$ , IIC = .47; structural attributions<sub>Grade12</sub>:  $\alpha = .79$ , IIC = .44; individual attributions<sub>Grade10</sub>:  $\alpha = .87$ , IIC = .45; individual attributions<sub>Grade12</sub>:  $\alpha = .86$ , IIC = .44).

**Demographic controls.** Parents indicated their educational attainment on a 10-point scale with responses ranging from “less than high school” to “doctoral or professional degree.” Additionally, parents reported their household income before taxes on an 11-point scale ranging from “under \$10,000 yearly/under \$200 weekly” to “over \$100,000 yearly/over \$2000 weekly.” Adolescents’ self-reported gender (i.e., male, female) and 10th grade cumulative grade point average (GPA) taken from official school transcripts were also used as controls.

### Data Analysis Strategy

Preliminary data analyses, in the form of EFAs and descriptive statistics, were conducted

to explore the nature of study measures and data. To examine potential mean changes in adolescents' structural and individual attributions from 10<sup>th</sup> to 12<sup>th</sup> grade (Hypotheses 1 and 2), a two-way repeated measures analysis of variance (ANOVA) was conducted (N = 454). Next, with the same sample of adolescents, confirmatory factor analysis (CFA) was used to examine how well observed indicators loaded onto their respective latent constructs (see Table 1 in supplemental files). Structural equation modeling (SEM) was used to test hypotheses regarding relations between parental racial socialization and achievement gap attributions and adolescents' achievement gap attributions over time (H<sub>3</sub> – H<sub>7</sub>). SEM was chosen to test these hypotheses because of its ability to estimate the relations among multiple latent factors while accounting for measurement error (Kline, 2010). Although participants were nested in different schools, hierarchical linear modeling was not conducted because small numbers of participants were represented across participating schools.

Descriptive statistics and the two-way repeated measures were conducted in SPSS 24 (IBM Corporation, Armonk, NY, United States). The EFA and CFA were conducted using MPlus Version 7.3 (Muthén & Muthén, 2010). Due to the slightly non-normal distribution of the parental racial socialization variables and the nested nature of data, the maximum likelihood with robust standard errors (MLR) estimator was used. MLR corrects the standard errors of nested data and non-normal items. Full information maximum likelihood (FIML) was used to account for missing data, as this technique maximizes the use of existing data points in analyses without deleting cases listwise or pairwise (Muthén & Muthén, 2010).

Because of the study design, some participants did not receive all measures in each year they participated<sup>1</sup>. For instance, eighty-four parents and eighty-four students had missing data on the Grade 10 achievement gap attributions measure because it was not included in their surveys. Similarly, forty-nine parents and forty-nine adolescents had missing racial socialization data due to the omission of the measure when these adolescents were in 10<sup>th</sup> grade. In addition to the exclusion of measures because of study design, some data were missing because participants did not respond to individual items on their surveys, resulting in higher levels of missingness for some items (15.6% to 44.7% total).

Multiple types of missing data patterns might exist in data, such as missing completely at random (MCAR), missing at random (MAR), and missing not at random (MNAR). MCAR data

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<sup>1</sup> Measures were omitted due to the study's shift in focus to other constructs.

may result from a study's decision to omit certain measures in a given year (i.e., missing data are planned; Enders, 2013). Because the achievement gap attributions and racial socialization measures were purposely omitted from the surveys of participants who completed Grade 10 assessments, the MCAR data assumption for these missing data is tenable. MCAR missing cannot be addressed with techniques that handle missing data (Enders, 2013). MAR refers to missing data that can be partly explained by other observed variables in the data but not by the "would-be" values on the dependent variable (Enders, 2013). MAR data patterns can be addressed with the use of the maximum likelihood estimator and auxiliary variables (Enders, 2013). The MNAR mechanism occurs when missingness is related to observed and unobserved variables. Strategies that address MNAR data require strict assumptions that limit their utility (Enders, 2013). Unfortunately, there is no way to determine if missing data are MAR or MNAR because these missing data patterns cannot be empirically tested (Enders, 2013).

Parents' education status was included as an auxiliary variable to address the possibility of MAR data. As observed variables, auxiliary variables predict missing data by predicting the residual terms of variables in the model, without serving as a predictor or outcome variable. Auxiliary variables are a powerful missing data strategy because they make the MAR assumption more tenable and improve the precision of standard errors, thereby increasing statistical power (Enders, 2013).

## Results

### Preliminary Analyses

Descriptive statistics (see Tables 1 and 2) and EFAs were used to assess the nature of scales and data. EFA results can be obtained from the first author. The EFA for the achievement gap attributions measure indicated a two-factor structure that represented parents' and adolescents' individual and structural attributions. For adolescents' reports of parental racial socialization, the EFA suggested a single-factor that included reports of racial pride and preparation for bias messages together fit the data well and was the most interpretable solution. In addition, the strong correlation between adolescents' reports of racial pride and preparation for bias messages suggested these scales might represent a single factor ( $r(384) = .82, p < .001$ ). These scales were also significantly correlated for parent reports ( $r(259) = .85, p < .001$ ). However, EFA results suggested a two-factor solution for parent reports that consisted of separate preparation for bias and racial pride subscales, thus this solution was retained.

### **Repeated Measures Analysis of Variance**

To determine whether structural attributions increased over time (Hypothesis 1) and if individual attributions remained unchanged (Hypothesis 2), a 2(Attribution) x 2(Time) repeated measures ANOVA was conducted (see Table 1 for means). The assumptions of this test were met: observations were independent (youths' school could not be accounted for due to small samples of students across each school); data were normally distributed as indicated by histograms; and data did not violate sphericity. The within-subjects factors were Attribution type (structural or individual) and Time (Grade 10, Grade 12) with no between-subjects variable.

The main effect of Time was significant,  $F(1, 233) = 32.6, p < .001$ , and was qualified by a significant Attribution x Time interaction,  $F(1, 233) = 6.14, p = .01$ . Paired-samples t-tests indicated that adolescents' endorsement of structural attributions increased from 10<sup>th</sup> to 12<sup>th</sup> grade,  $t(233) = -2.28, p = .02$ , whereas individual attributions did not change over time,  $t(233) = 0.11, p = .87$ . Thus, findings indicated that youth demonstrated an increasing awareness of structural attributions and stability in individual attributions for race achievement gaps during late adolescence. Paired-samples t-tests were conducted to examine differences between structural and individual attributions in Grade 10 and Grade 12. These tests indicated that adolescents more strongly endorsed structural than individual attributions at both time points,  $t(349) = 3.36, p < .001$  and  $t(324) = 8.14, p < .001$ , respectively.

### **Confirmatory Factor Analysis**

A CFA was conducted to assess how well observed items loaded onto hypothesized latent constructs. Because adolescents responded to the same achievement gap attributions measure in the 10<sup>th</sup> and 12<sup>th</sup> grades, repeated items likely shared sources of error variance. To account for this, the residuals of repeated items were correlated in the CFA and SEM (Kline, 2010). Model fit was assessed using goodness-of-fit indices: the comparative fit index (CFI), the Tucker–Lewis index (TLI), the standardized root mean square residual (SRMR), and the root mean square error of approximation (RMSEA). Models with a CFI and TLI of .90 are an adequate fit to the data, with values of .95 and above indicating a very good fit. SRMR and RMSEA values at or below .08 are considered a good fit (Hu & Bentler, 1999; Kline, 2010). According to these indices, the CFA fit the data well (CFI = 0.92, TLI = 0.91, RMSEA = .03, SRMR = .06). All observed items significantly and positively loaded on to their latent constructs (see supplemental materials).

### **Structural Equation Modeling**



SEM was used to test Hypotheses 3-6 (see Figure 1). In SEM, a standardized coefficient ( $\beta$ ) represents an effect size estimate. An estimate between .10 and .30 is considered small, .30 to .50 is considered medium, and above .50 is considered a large effect size (Kline, 2010). Model fit was assessed using the same fit indices as in the CFA analysis. Adolescents' gender and 10<sup>th</sup> grade GPA and parents' reported education and household income at Grade 10 were included as controls. None of these variables was significantly related to any of the study constructs; therefore, they were excluded from the final model for parsimony. The final model was a good fit to the data (CFI = 0.92, TLI = 0.91, RMSEA = .03, SRMR = .06).

The autoregressive relation between adolescents' individual attributions at Grade 10 and Grade 12 was significant, whereas the autoregressive relation between adolescents' structural attributions across time was nonsignificant. Autoregressive paths act as a lagged control and are "specified as the predictors of later measurements on the same variable" (Kline, 2010, pg. 316), providing estimates of the stability of constructs over time.

Adolescents' individual attributions predicted positive changes in structural and individual attributions across late adolescence. However, Grade 10 structural attributions predicted negative changes in individual attributions. Adolescents' individual and structural attributions in Grade 12 were significantly and positively associated.

Testing Hypotheses 3-4, results indicated parents' structural attributions at Grade 10 were positively associated with youths' Grade 12 structural attributions, and parents' achievement gap attributions, both individual or structural, were unrelated to adolescents' individual attributions two years later. However, parents' individual attributions while youth were in Grade 10 were negatively associated with adolescents' structural attributions in Grade 12. Pertaining to Hypotheses 5-8, adolescents' reports of racial socialization in Grade 10 were positively associated with their structural attributions in Grade 12 but not with their Grade 12 individual attributions. Parents' reports of racial pride and preparation for bias messages in 10<sup>th</sup> grade were unrelated to adolescents' structural or individual attributions two years later<sup>2</sup>.

## Discussion

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<sup>2</sup> Because of collinearity between parent and adolescent reports of parental racial socialization, a model that omitted adolescent reports of racial socialization was tested. Results showed nonsignificant paths between parents' reports of racial socialization in Grade 10 and adolescents' Grade 12 achievement gap attributions. An additional model tested parents' reports of racial pride and preparation for bias socialization as a single latent predictor of youths' achievement gap attributions. Parents' reports of racial socialization did not predict youths' attributions.

The purposes of this study were to explore the extent to which Black adolescents' individual and structural attributions for race achievement gaps change during late adolescence, and to measure relations between parents' racial socialization and achievement gap attributions and changes in adolescents' attributions about the achievement gap. This research contributes to the CC and racial socialization literatures in numerous ways. First, its conceptualization of adolescents' beliefs about causes of race achievement gaps as a form of critical reflection is notable, as most measures of CC assess youths' analysis of multiple disparities at once (see Diemer et al., 2015). The current approach allows for a refined understanding of how Black youth explain a specific social disparity—educational opportunity—that is relevant to their lives. In an era when public discussions of race achievement gaps are ubiquitous, the current study explored the ways in which Black parents and adolescents explained the causes of academic disparities between White and Black students. Second, despite theoretical links between parental racial socialization and adolescents' CC development, this is the first empirical investigation to explore such links. Third, the current study's longitudinal design permitted measurement of changes in adolescents' achievement gap attributions across the last two years of high school, as well as the ways parents' attributions related to changes in youths' race gap attributions.

### **Stability and Change in Adolescents' Structural and Individual Attributions**

Supporting Hypotheses 1 and 2, Black adolescents' structural attributions increased from 10<sup>th</sup> to 12<sup>th</sup> grade, whereas individual attributions neither increased nor decreased on average. These results suggest that as Black adolescents age, their structural explanations of the achievement gap are more susceptible to change than their individual attributions. Additionally, adolescents reported a stronger endorsement of structural attributions than individual attributions at both time points. Previous research indicates that disadvantaged groups (e.g., people of color) tend to make fewer individual and more structural attributions than advantaged groups (Jost et al., 2004). However, in a qualitative study, low-income African American, Dominican, and Mexican women made more individual attributions than structural attributions to explain causes of poverty (Godfrey & Wolf, 2015). It is likely that the extent to which people endorse structural versus individual causes of disparities depends on the domain (e.g., poverty versus academic achievement) as well as characteristics of the individuals.

Black adolescents' increased endorsement of structural attributions might be due to their

exposure to race-related information in their communities and the popular press. Although such causes were not explored in the current study, increased news coverage of police shootings of Black Americans, a resurgence of the visibility of White supremacist groups, and the prevalence of race-focused social movements (e.g., Black Lives Matter) during the past decade are all likely to lead to an increased awareness of racism as Black youth progress through adolescence. From exposure to these race-related events and experiences, Black youth might have extracted the U.S.'s contempt towards the Black community and their community's struggle for equality, potentially informing their structural analysis of race achievement gaps (Brown & Bigler, 2005).

Unlike structural explanations of success, maxims such as "pulling oneself up by one's bootstraps," and "if at first you don't succeed, try, try again" exemplify the cultural belief that individuals, not structures, are responsible for their successes and failures. The pervasiveness of these beliefs in the U.S. might explain why individual attributions were less susceptible to change than structural attributions across late adolescence. People are exposed to multiple system-justifying ideologies (e.g., the Protestant work ethic, just-world beliefs, etc.) across the lifespan (Godfrey et al., 2017; Jost & Hunyady, 2005). Unless targeted by critical social intervention, adolescents' endorsement of individual attributions of success is likely to remain stable across adolescence (Aldana & Byrd, 2015; Freire, 1970).

Although not a central research question of the current study, the association between adolescents' individual and structural attributions warrants discussion. The positive correlations between youths' individual and structural attributions at Grade 10 and Grade 12 suggest that adolescents might believe there are multiple causes (i.e., individual and structural causes) of race achievement gaps. These findings are congruent with previous research showing that adolescents and adults attribute the success and failure of people to both individual and structural factors (Flanagan et al., 2014; Godfrey & Wolf, 2015; Watts et al., 2011). Youth with a more complex analysis of societal inequality recognize multiple causes of disparities (Flanagan et al., 2014). Due to this ability to integrate different perspectives, youth who are aware of individual causes of race achievement gaps might be better able with age to recognize how these factors are connected to structural factors, as indicated in the positive relation between youths' Grade 10 individual attributions and their Grade 12 structural attributions. Adolescents' understanding and acknowledgement that both structural and individual factors predict people's success may be most adaptive for their psychological development, as endorsing only individual attributions for

success reflects a less developed critical reflection (Watts et al., 2011). Person-oriented approaches can be used in future research to better model the dual use of individual and structural attributions.

### **Relations between Parents' and Adolescents' Structural and Individual Attributions**

Consistent with study hypotheses, parents' structural attributions predicted adolescents' increased endorsement of structural attributions. This finding contributes to a small body of research showing that parents' racial attitudes and beliefs inform the racial attitudes and beliefs of their children (Kurtz-Costes et al., in press). Additionally, this research addresses assumptions about the nature of parents' beliefs about sociopolitical issues and the extent to which these beliefs are transmitted to youth. Without directly examining parents' beliefs and behaviors, CC researchers have assumed that parents who support political conversations in their homes are likely to endorse structural perspectives towards sociopolitical issues (Diemer, 2012; Diemer & Li, 2011). Our research provides evidence that parents' structural attributions for race achievement disparities, the attributions that possibly undergird their political discussions with their children, influence youths' causal beliefs about race achievement gaps.

Contrary to Hypothesis 4, parents' individual attributions did not predict increases in adolescents' individual attributions. This finding might have occurred for developmental and/or statistical reasons. As mentioned above, there are strong reasons to expect that individual attributions are heavily shaped by input from the broader society, and also that they are likely to remain more stable over time than structural attributions – a pattern found in our results. Both the strength of non-parental influences as well as this stability would weaken the impact of parents' beliefs on changes in adolescents' individual attributions. Another (related) explanation for this finding is statistical: The autoregressive relation for individual attributions over time was high ( $\beta = .69$ ), leaving little variance to be explained by other variables.

### **Parents' Racial Socialization and Adolescents' Race Achievement Gap Attributions**

Results were mixed regarding relations between parents' racial socialization and adolescents' achievement gap attributions. Partly supporting hypotheses, adolescents' reports of parental racial socialization predicted their increased endorsement of structural attributions. Study hypotheses were informed by Anyiwo and colleagues' (2018) theoretical framework on potential relations between Black youths' exposure to sociocultural factors (e.g., parental racial socialization) and critical consciousness development, suggesting that adolescents' exposure to

parental racial socialization messages have the potential to inform youths' critical reflection of social injustice, in particular. The current study is the first empirical study to provide support for this theoretical assertion. Moreover, Hope and Bañales (2018) speculated that African American early adolescents' critical reflection of social inequality might have been informed by their parents' preparation for bias socialization, although adolescents did not explicitly attribute their analysis to their parents' racial messages. Thus, if parents talk more about the relevance of racism in U.S. society, youth may become more aware of structural causes of inequalities.

Most studies of racial socialization consider youths' reports of racial pride and preparation for bias as separate constructs (Hughes et al., 2006). Because of this tendency, factor analysis on the scales is often not pursued. However, as informed by EFA results in the current study, adolescents' reports of racial pride and preparation for bias socialization were best captured in a single measure. This novel finding could be explained by parents' approach to racial socialization. For example, some studies find that parents deliver multiple socialization messages at once (Neblett et al., 2008; Scottham, 2003). Thus, adolescents might interpret parental racial pride and preparation for bias messages as general discussions about race as opposed to distinct racial socialization messages (Neblett et al., 2008). In addition, adolescents' reports of their parental racial pride and preparation for bias messages are often highly correlated (correlations range between .52-.67) suggesting that racial socialization messages might come in a "package" (Neblett et al., 2008; Peck et al., 2014; Tran & Lee, 2010). This idea of a racial socialization package was underscored by results showing that racial pride and preparation for bias messages were highly correlated in both parent and youth reports. Despite the high correlations, parents may intend to convey distinct racial messages to their child, in order to achieve unique goals in their child's development, and therefore their own reports vary reliably on these dimensions (Thomas & Blackmon, 2015). Regardless of parents' intentions, in the current study, youths' reports of racial pride and preparation for bias socialization, and not their parents' reports of socialization, were positively related to their increased endorsement of structural causes of race achievement gaps.

Contrary to study hypotheses, parents' reports of racial socialization did not predict youths' structural and individual attributions. At face value, these findings were surprising given the modest correlations between parents' and youths' reports of racial socialization. Modest correlations between parent and youth reports of parental racial socialization are common in the

racial socialization literature (Hughes et al., 2009; Peck et al., 2014; Tran & Lee, 2010). Despite these correlations, youths' reports of parental racial socialization, not parents' reports, are related to youths' psychological outcomes such as racial identity (Hughes et al., 2009; Peck et al., 2014). This disconnect might exist because youths' interpretation of their parents' racial socialization, rather than their parents' reported engagement in racial socialization, might be a more accurate reflection of their received socialization than parents' actual behaviors (Peck et al., 2014).

### **Study Limitations and Future Directions**

Although this study significantly contributes to the CC and racial socialization literatures, it is not without limitations. First, an analysis of the extent to which Black adolescents' achievement gap attributions are related to other dimensions of CC (i.e., political efficacy and critical action) is needed (Diemer et al., 2015). This research is especially needed because the current achievement gap attributions measure was not originally created to assess critical reflection. In addition to sociopolitical outcomes, there is a need to connect Black adolescents' understanding of inequality to their academic motivation and school success (Luter et al., 2017). An understanding of relations between Black adolescents' beliefs about the causes of race achievement gaps and their academic outcomes has the potential to inform school curricula that highlights race disparities between youth of color and White students.

Future research would also benefit from exploring Black adolescents' achievement gap attribution development with more extensive longitudinal data. Due to the two time-point nature of the current data, complex longitudinal questions that consider achievement gap attribution trajectories, bi-directional relations between parent variables and youths' achievement gap attributions, and cross-lagged panel models of study constructs were unexplored. A noted limitation of the current study was our inability, given the study design, to draw firm conclusions about the direction of causality between adolescents' reports of parental racial socialization and their achievement gap attributions. Although a strong theoretical case can be made for parental socialization shaping adolescents' attributions (Anyiwo et al., 2018), it is also possible that the causal path operated in the other direction. This issue is particularly important for future research because the association between youth-reported parental racial socialization and youths' structural attributions was the only significant pathway in associations between parent and youth reports of parental socialization and youths' achievement gap attributions. It is possible that youths' causal explanations for racial achievement gaps shape their perceptions of the racial

socialization they receive from their parents. For example, adolescents who are aware of systemic bias and who highly endorse structural attributions might have a greater tendency than peers with low structural attributions to remember and report that their parents have used preparation for bias socialization. It is also possible that adolescents who are aware of systemic causes of achievement gaps are more likely than peers to initiate conversations with their parents about race, including discussion of topics related to racial pride and racial bias. In light of this possibility, there is strong reason to believe that youth reports of parental racial socialization predict their achievement gap attributions, as Grade 10 attributions were controlled for in analysis on effects of parental racial socialization on changes in youths' attributions at Grade 12 – a strong test of causal direction. Future research should use more rigorous longitudinal designs to continue to examine relations between parental racial socialization and youths' structural and individual achievement gap attributions.

Finally, the external validity of these findings is another goal for future research. The current findings might not be generalizable to families in rural or urban contexts, or to youth who attend racially diverse or predominately White schools, as the current study's participants were from schools in a small city in the South that were, on average, predominately Black. Additionally, future research should examine whether links between adolescents' parental racial socialization and achievement gap attribution development hold when other racial socialization messages are considered. For instance, parents who emphasize egalitarian principles to their children (e.g., communicate that all people belong to one racial group, the human race) or avoid talking about racial issues might have adolescents who are less aware of the role structural racism has in achievement (Hughes et al., 2006).

### **Conclusions**

Results from the current study indicated that adolescents' endorsement of structural causes of race achievement gaps increased over time, whereas their individual attributions remained stable. Parents' structural attributions were positively associated with increases in youths' structural attributions, and no association was detected between parents' and adolescents' reports of individual attributions over time. Unlike parents' reports of their racial socialization, adolescents' reports of parental racial socialization, which included reports of preparation for bias and racial pride messages, were associated with increases in youths' structural attributions, but not their individual attributions.

The findings advance the CC and racial socialization literatures. The CC literature gains more insight into the ways in which parents' racial socialization messages and race achievement gap attributions inform youths' beliefs about causes of race achievement gaps. Additionally, the current study's domain-specific measure of youths' critical reflection, which focused on youths' causal attributions regarding achievement gaps between Black and White students, offers a more fine-grained assessment of youths' critical reflection as compared to broader measures of the construct (Diemer et al., 2015). Furthermore, the racial socialization literature benefits from this research for its analysis of the ways in which parent and youth reports of racial socialization messages contribute to an aspect of youths' positive development, their critical reflection of race achievement gaps.

As articulated by Paulo Freire, Black adolescents' critical reflection, or, their achievement gap attributions, is not necessarily guaranteed: Parents of Black youth contribute to their children's beliefs that racism and institutional discrimination are root causes of the Black-White achievement gap. This awareness of oppression may provide Black adolescents with the ability to "make possible the pursuit of a fuller humanity" (Freire, 1970, p. 29, 31-32).

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Table 1  
Descriptive Statistics for Scales

Scale	Parent Reported Grade 10		Child Reported Grade 10		Child Reported Grade 12	
	M	SD	M	SD	M	SD
Structural Attributions	2.73	.91	2.60	.91	2.89	.92
Individual Attributions	2.05	.74	2.46	.84	2.49	.83
Child Reported Racial Socialization			2.79	.93		
Parent Reported Preparation for Bias	2.91	1.11				
Parent Reported Racial Pride	3.27	1.03				

Note. M = Mean, SD = Standard Deviation

Table 2  
Correlations between Latent Constructs at Grade 10

	1	2	3	4	5	6	7
1. Child Racial Socialization (W3)	-	-0.03	0.16*	0.29***	0.32***	0.01	0.10
2. Child Individual Attributions (W3)		-	0.70***	0.17*	0.19*	0.35***	0.20**
3. Child Structural Attributions (W3)			-	0.19**	0.18*	0.18*	0.28***
4. Parent Preparation for Bias (W3)				-	0.85***	-0.03	0.48***
5. Parent Racial Pride (W3)					-	-0.10	0.33***

6. Parent Individual Attributions (W3)

- 0.54<sup>\*\*\*</sup>

7. Parent Structural Attributions (W3)

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Note. \*p <.05, \*\*p <.01, \*\*\*p<.001.

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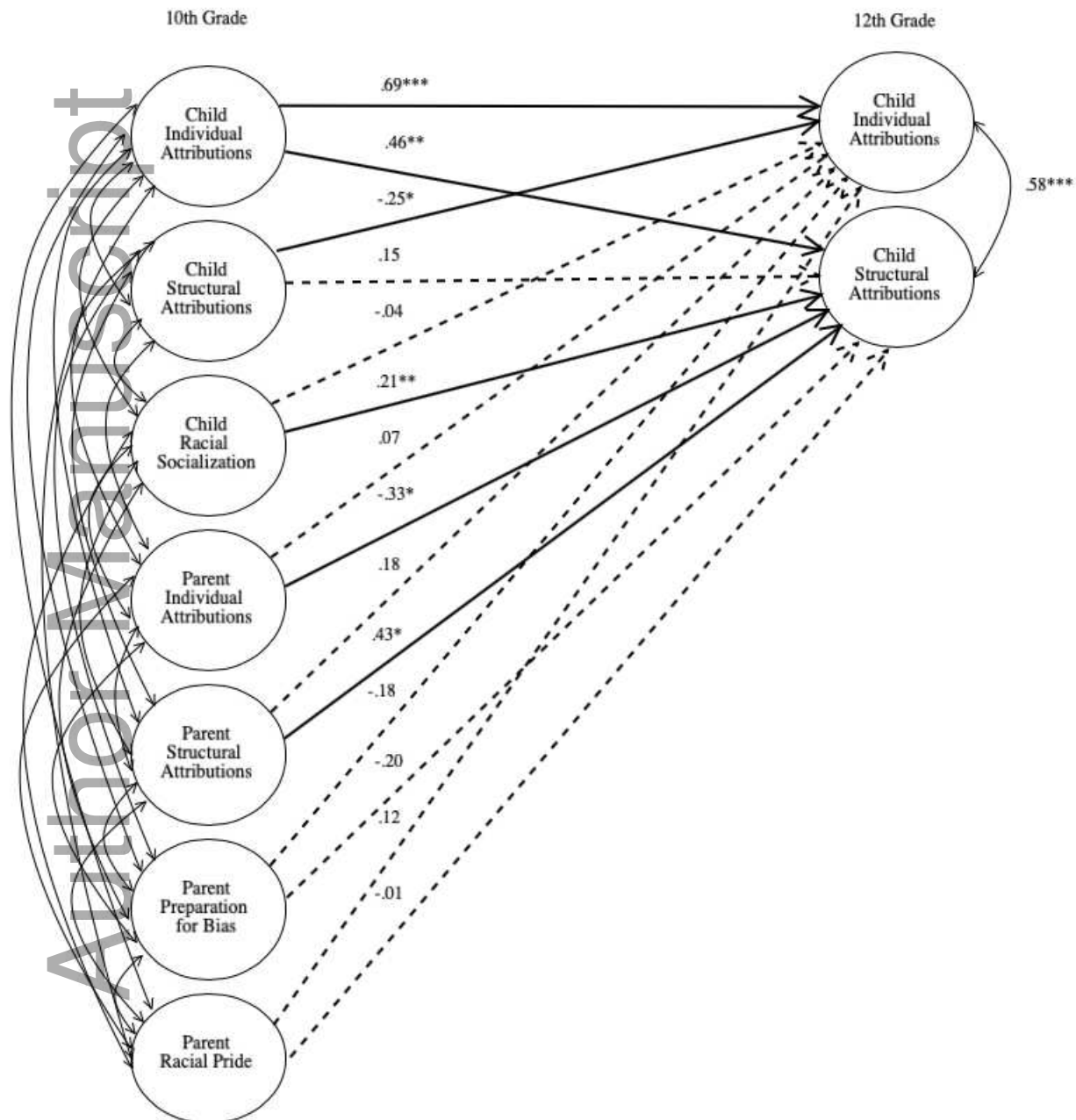


Figure 1. Standardized Coefficients of Black Youths' Development of Achievement Gap Attributions ( $N = 454$ ).

Note.  $\chi^2 = 2465.14, p < .001, CFI = 0.92, TLI = 0.91, SRMR = .06, RMSEA = 0.03$ . \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ . Grade 10 covariance coefficients are not depicted for simplicity. Solid lines represent significant paths and dashed lines indicate non-significant paths.