



Adolescents' developing awareness of inequality: Racial and ethnic differences in trajectories

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Abstract

To advance knowledge of critical consciousness development, this study examined age-related change in awareness of inequality by race and ethnicity, gender, parent education, generation status, and their interactions. With longitudinal data (2013–2017) from 5019 adolescents in grades 6–12 (55.0% female) from California, Minnesota, and West Virginia, multigroup second-order latent growth curves were estimated for Black (13.7%), Latinx (37.0%), Asian (8.1%), and white (41.3%) youth. Black, Latinx, and Asian adolescents increased awareness of inequality longitudinally; white youth showed no change. Multiracial youth accelerated awareness of inequality in mid-adolescence; changes in race and ethnicity predicted decline, followed by increases. Girls with more educated, immigrant-origin parents started out more aware of inequality. Results signal the need for race-specific and intersectional approaches to studying critical consciousness development.

Systems of oppression such as racism, sexism, classism, ableism, xenophobia, homophobia, and transphobia lead to unequal access to health, wealth, housing, education, and civic opportunities, and thus touch all aspects of human development (Mezey, 2019; Ritchie, 2017). Creating equitable systems begins with becoming aware of inequities and their impacts on historically oppressed communities. Awareness of societal inequality is a developmental foundation of critical consciousness, a process of becoming critically reflective, motivated, and active in challenging systems of inequality and oppression (Watts et al., 2011). Despite growing research on youth critical consciousness (Heberle et al., 2020), few longitudinal studies explore how critical consciousness changes over time or by race and ethnicity. Given that experiences of oppression vary (Rosenbloom & Way, 2004), adolescents from different racial and ethnic groups may show different patterns of age-related change in awareness of inequality—a key aspect of critical consciousness.

By documenting trajectories of awareness of inequality by race and ethnicity, as well as gender, parent education, generation status, and their interactions, we seek to advance theory and research on critical consciousness development.

Critical consciousness definitions and theory

The idea of critical consciousness was first articulated by Paulo Friere (1970) to describe self- and co-constructed processes by which Brazilian farmworkers became critically aware of, and empowered to address, systems of oppression. Critical consciousness is central to liberation movements and key to the psychology of liberation for adolescents who experience oppression (Watts & Flanagan, 2007). In developmental science, critical consciousness is posited to have three interrelated dimensions: (a) critical reflection, or awareness and analysis of

Abbreviations: AIC, Akaike information criterion; BIC, Bayesian information criterion; CFI, comparative fit index; LGM, latent growth model; SES, socioeconomic status.

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systematic inequalities; (b) critical efficacy or motivation, or feeling capable of addressing inequalities; and, (c) critical action, or behaviors that challenge unequal systems (Watts et al., 2011). Given its roots in liberation from oppression, research on youth's critical consciousness has rightly focused on Black and Latinx youth, given their historical and contemporary experiences of racial oppression. Some question whether concepts and processes of critical consciousness apply to youth with racial privilege, such as white youth (Diemer et al., 2016). Yet, dismantling oppression requires that all adolescents develop critical reflection, efficacy, and action—even white youth who do not personally experience racial oppression—and that burdens of dismantling oppression should not be borne by youth of color only (Tyler et al., 2020).

Awareness of inequality is one important component of critical reflection that indicates how individuals “read” or understand social inequality in their environments (Diemer et al., 2016). Other components of critical reflection include egalitarian ideals for an equal society (Diemer et al., 2017), understandings of specific oppressions such as racism (Aldana et al., 2019), and structural attributions for inequalities (Godfrey & Wolf, 2016). Critical reflection and action are theorized to be reciprocally linked and mutually influential (Friere, 1970; Watts & Flanagan, 2007). Several studies show that adolescents' awareness of inequality predicts greater critical political actions (Bañales, Mathews, et al., 2020; Diemer & Rapa, 2016; Hope et al., 2020; Plummer et al., 2021). Thus, youth's developing awareness of inequality is integral to the process of critical consciousness development and may build capacity for critical action.

Awareness of societal inequality captures youth's understanding that the United States is not always fair or equal and certain groups have unequal opportunity and voice in society. We examine a broad three-item measure of awareness of societal inequality used by others (Ballard, 2016; Flanagan et al., 2007; Godfrey et al., 2019; Wray-Lake et al., 2015). When youth endorse beliefs that society is not fair and equal, these beliefs reflect understanding that democracy is not functioning as it should (Flanagan, 2013). This global conceptualization of awareness of inequality is not specific to a certain dimension of inequality, and instead encompasses awareness of any inequality, such as systems of racism, xenophobia, poverty, sexism, and others. Such global measures are useful when doing research with diverse groups who experience inequality differently (Thomas et al., 2014). Other work more specifically examines awareness of racial inequality (e.g., Seider, Clark, et al., 2020) or economic inequality (Flanagan et al., 2014), providing insight into youth's critical reflection on particular types of oppression. Yet, the most common measure of awareness of inequality takes a global approach similar to ours, measuring

perceived inequality in society across gender, class, and racial and ethnic groups, and then combining these items to form a single construct (e.g., Diemer et al., 2017; Rapa et al., 2020).

Age-related change in awareness of inequality

Understanding age-related change in a construct across adolescence is a fundamental endeavor for advancing developmental science, and longitudinal research on critical consciousness development can address a key gap in the field (Heberle et al., 2020). Mapping age-related change can identify whether naturally occurring shifts in awareness of inequality transpire across adolescence, without direct intervention, in response to experiences or biopsychosocial changes. Documenting change in awareness of inequality can inform subsequent research on why changes occur and how to intervene to facilitate growth in youth's awareness.

Prior work offers reasons to expect age-related increases in awareness of inequality for adolescents across racial and ethnic groups. In late childhood and early adolescence, youth express more complex understanding of inequality and its origins (Flanagan et al., 2014; Mistry et al., 2012). Adolescence is often characterized by steady growth in cognitive development, including abstract thinking and perspective-taking, which facilitate critical analysis (Van der Graaff et al., 2014). Adolescents increasingly interact with others in varied community spaces, which can increase exposure to racism and other oppressions for youth from historically marginalized groups (Greene et al., 2006), and increase the understanding of how these systems operate, even among youth not directly experiencing oppression (Hazelbaker et al., 2022). Thus, all adolescents, regardless of race or ethnicity, may become more aware of inequality over time.

A few studies have directly examined age differences in aspects of adolescents' critical reflection. Among urban youth of color, Seider et al. (2017; Seider, Kelly, et al., 2020) found linear increases in structural thinking about racial inequality and poverty over 4 years of high school. In a longitudinal study of Black youth, Bañales, Marchand, et al. (2020) found increases in structural attributions for racial differences in achievement from 10th to 12th grades. These results parallel cross-sectional findings of adolescents' greater structural attributions for economic and racial inequalities at older ages (Flanagan et al., 2014; Hughes & Bigler, 2011). Although measures of critical reflection vary, evidence suggests that awareness of inequality may increase with age. Longitudinal studies of age-related change in awareness of inequality are needed, particularly that consider whether trajectories differ across Black, Latinx, Asian, and white adolescents.

Racial and ethnic differences in trajectories of awareness of inequality

Youth from racialized groups are more apt to recognize forces of oppression based on their group's history, ethnic-racial socialization, and personal experiences of racism and marginalization (Anyiwo et al., 2018), often from a young age. Racism is among the most salient forms of oppression in adolescents' daily lives (Huynh et al., 2016). Youth of color's encounters with racism, whether personal or vicarious, often spark greater awareness that society is unfair and critical reflection on unjust systems; these processes are intertwined with racial identity development and facilitated by racial socialization (Anyiwo et al., 2018; Mathews et al., 2019). Indeed, racial discrimination at interpersonal, institutional, and cultural levels has been linked to greater awareness of inequality for youth of color (Ballard, 2016; Hope et al., 2020). Thus, race is likely a powerful lens through which youth of color understand societal inequality. Because race and racism are organizing forces that shape critical consciousness development, we center race and ethnicity in examining trajectories of awareness of inequality. We examine whether awareness of inequality shows different levels, shapes, or rates of change among Black, Latinx, Asian, and white youth; such group differences in trajectories have not, to our knowledge, been examined, yet cross-sectional evidence is briefly summarized below. To briefly explain our terminology, race and ethnicity are distinct, yet inextricably linked by processes of racialization. Race is a socially constructed system of hierarchies (Fields & Fields, 2014). Ethnicity is connected to culture (Omi & Winant, 2015). Color-blind racism uses culture to justify unjust allocations of resources (Bonilla-Silva, 2008). Using the terms "race and ethnicity" together conveys that race and ethnicity are both social constructs that capture a person's social identity and lead to experiences of discrimination and exclusion.

Black, Latinx, and Asian adolescents may have greater awareness of inequality than white youth, given their more frequent, personal exposure to racial oppression. National research with U.S. adults has shown that Black Americans offer more structural explanations for wealth inequalities than white Americans (Kluegel & Smith, 2017). With adolescents, Thomas et al. (2014) found that critical consciousness (an aggregate score including critical reflection) was higher for Black youth than white youth; similarly, others found that youth of color (Godfrey & Grayman, 2014) or Black youth (Flanagan & Kornbluh, 2019) endorsed lower beliefs that society is equal (i.e., higher awareness of inequality) than white youth. One study found no differences in fair society beliefs (the converse of awareness of inequality) across Black, Arab, Latinx, or white adolescents (Flanagan et al., 2007). Longitudinal analysis may clarify whether or when racial/ethnic group differences in awareness of

inequality are evident across adolescence. White youth's trajectories of awareness of inequality may be particularly important to examine, as allyship and social justice actions of privileged youth are greatly needed to counter oppressions. Yet, because white youth and their families enjoy many societal privileges—such as better resourced schools and neighborhoods, fewer barriers to accumulating wealth, and more protection from structural violence—and are not racially oppressed, white youth's awareness of inequality may not arise as readily from day-to-day experiences and instead may need to be intentionally cultivated (Hazelbaker et al., 2022). White youth may be less likely to use critical reflection as a tool to understand their own experiences because, overall, inequitable systems in the U.S. benefit them (Tyler et al., 2020). We hypothesized that Black, Latinx, and Asian adolescents would have higher and perhaps more accelerated trajectories of awareness of inequality than white youth.

Youth's growing awareness of inequality may differ among Black, Latinx, and Asian adolescents. These groups have historical and contemporary experiences of racial exclusion and discrimination in the United States, yet their histories and experiences differ. Cross-sectionally, the link from awareness of societal inequality to greater sociopolitical action was stronger for Black youth than Latinx youth, albeit significant for both (Bañales, Mathews, et al., 2020). Although level differences in awareness of inequality were not examined, this evidence suggests potentially different processes of critical consciousness between Black and Latinx youth. Studies have shown that Latinx youth endorsed more awareness of inequality than Asian youth (Ballard, 2016; Wray-Lake et al., 2015), and Chinese youth held stronger beliefs that society was fair than Black youth (Godfrey et al., 2019). Asian groups are consistently othered and seen as perpetual foreigners, but have also historically experienced some racial inclusion that may inform beliefs that society is fair (Sánchez-Jankowski, 2002). We thus hypothesized that Latinx and Black youth may have higher or faster growing awareness of inequality than Asian youth.

A growing proportion of the U.S. population, including adolescents, identifies as multiracial (Jones et al., 2021). Extant research largely considers multiracial a pan-ethnic, monolithic group, in part due to a lack of available data to go beyond a catch-all category (Gaither, 2015). A single multiracial category could lead to vastly overgeneralizing or misinterpreting multiracial youth's experiences, as it is unclear whether specific group experiences drive findings or whether multiracial youth have shared experiences (Charmaraman et al., 2014). In considering how being multiracial relates to awareness of societal inequality, youth likely have different experiences of marginalization based on specific combinations of racial and ethnic backgrounds (Seaton et al., 2018). Youth with multiple marginalized

racial and ethnic identities may experience heightened racism and invalidation (Franco et al., 2021), prompting more growth in awareness of inequality over time than monoracial minoritized youth. Developing awareness of inequality may uniquely vary for Black, Latinx, Asian, and white multiracial youth, and proximity to whiteness, as indicated by being multiracial white, may or may not shape awareness of inequality. In contrast to expecting specificity in multiracial youth's experiences, some argue that multiracial youth similarly experience and navigate multiple racial identities in ways that transcend particular racial and ethnic backgrounds (Nishina & Witkow, 2020). Thus, all multiracial youth may exhibit similar growth in awareness of inequality. Finally, some multiracial youth identify with different monoracial groups across adolescence (Gaither, 2015). Multiracial youth who change their identification over time may be particularly reflective on race and racism, and thus become more aware of societal inequality over time.

In this study, we attempted to move beyond considering multiracial youth in a single, stand-alone category, yet we also lacked sufficient sample sizes to examine each unique multiracial identity, which is a needed next step in research (Seaton et al., 2018). We explored multiracial white and multiracial non-white identifications as predictors of awareness of inequality trajectories, in the context of primary identification with a particular racial and ethnic group: Black, Latinx, Asian, or white. This approach allows us to determine whether being multiracial uniquely shapes trajectories of awareness of inequality for Black, Latinx, Asian, and white youth, or whether being multiracial similarly relates to awareness of inequality across groups. We also examined how changing race and ethnicity over time related to developing awareness of inequality. Although our approach advances understanding of multiracial youth's critical consciousness development, one caveat is that we did not always know youth's primary identification, and had to make some relatively arbitrary decisions (described below), which added some error to our estimation of multiracial youth's developing awareness of inequality.

Other sociodemographic differences in awareness of inequality

Although race is an organizing feature of US society (Omi & Winant, 2015), youth have multiple social identities beyond race, with some identities holding more social privilege than others (Diemer et al., 2021). Experiences with sexism, classism, and xenophobia may overlap with racism in ways that heighten youth's awareness of societal inequalities (Godfrey & Burson, 2018). We examined main effects and interactions of gender, parent education, and generation status to understand whether these factors inform adolescents' developing awareness of inequality within or across racial and ethnic groups.

Exploring how these factors interact to inform awareness of inequality aligns with some premises of intersectionality theory, which argues that systems of oppression are interdependent and overlapping and create unique lived experiences for people who are marginalized by these systems (Collins, 2019; Crenshaw, 1991; The Combahee River Collective, 1974/2015). Our study did not directly measure lived experiences of oppression by social identity, and thus we cannot fully apply intersectionality theory. Identifying interactions among race and ethnicity, gender, parent education, and generation status can inform future theory and research on critical consciousness taking an intersectional lens. Although interactions were exploratory, we broadly hypothesized that adolescents' overlapping experiences in historically marginalized groups would heighten awareness of inequality.

Gender

Gender-based inequalities remain prevalent across societal institutions, affecting adolescent girls and gender minorities (Greene & Patton, 2020). Perhaps based on gendered experiences of inequality, girls and women tend to have greater awareness of societal inequality (Diemer et al., 2006; Flanagan et al., 2014; Kluegel & Smith, 2017). Gender-based experiences of inequality may overlap with racial discrimination. Girls from historically marginalized racial and ethnic groups may have greater awareness of societal inequality due to navigating two oppressive forces. Concepts of intersectionality grew out of experiences of Black women and Black queer women who became critically conscious activists to combat intersecting oppressions (Crenshaw, 1991; The Combahee River Collective, 1974/2015). We expected that adolescent girls would be more aware of inequality than boys, and girls of color—particularly Black girls—may show higher and faster growing awareness of inequality than their peers.

Parental education

Economic inequality in the United States creates disparities in education and jobs, housing, and children's health and well-being, and inequalities have widened over decades (Duncan & Murnane, 2011). Youth from lower socioeconomic status (SES) backgrounds may be more apt to recognize societal inequalities based on lived experiences of disadvantage (e.g., Diemer et al., 2017). Yet, research on SES (as measured by parent education) and awareness of inequality reveals a complex picture. On one hand, youth whose parents were less educated viewed society as more unequal (Flanagan & Kornbluh, 2019), aligning with the idea that lower SES youth are more aware of inequality, yet other work found that youth from more educated families had greater understanding of structural causes of poverty, in part due to family political

discussions (Flanagan et al., 2014). Both studies were conducted with majority white samples; a study with Black youth found no effect of parental education on adolescents' structural attributions for racial achievement gaps (Bañales, Marchand, et al., 2020), a finding similar to research with Black adults (Kluegel & Smith, 2017). Perhaps race and ethnicity and SES interact to inform awareness of inequality. Tyler et al. (2020) found that white youth at low-income schools had lower critical reflection than white youth from middle-income schools, and Black youth from low-income schools had higher critical reflection than all white youth. Given experiences of racial and economic oppression, Black youth from low-income schools may have been better able to recognize and process societal inequality. Additionally, if experiencing overlapping oppressions sparks awareness of inequality, girls from lower SES backgrounds may be more aware of inequality. The role of parent education in youth's developing awareness of inequality may be best understood in concert with other markers of unequal experiences in society.

Generation status

Generation status may relate to youth's awareness of inequality, given that immigrant youth experience anti-immigrant sentiment in everyday contexts and via local and national policies (Ayón, 2016; Wray-Lake et al., 2018). From a critical consciousness perspective, youth who immigrated or whose parents immigrated to the United States would be more aware of societal inequality based on experiences of discrimination. In a largely non-white sample, first- and second-generation immigrant youth were less likely to endorse beliefs that society is fair and equal than other youth (Godfrey et al., 2019). Immigrant youth from different countries and racial and ethnic groups can experience contexts of inclusion or exclusion in U.S. society based on many interlocking systems of oppression (Suárez-Orozco et al., 2018), which may shape critical consciousness development. For example, one study found that Latinx immigrant youth had less belief in fair society (i.e., more awareness of inequality) than Asian immigrant youth (Wray-Lake et al., 2015). Latinx immigrant youth may experience particularly hostile reception in the United States compared to other immigrant groups (Ayón, 2016); perhaps these youth show higher and more increasing awareness of inequality across adolescence.

Study aims

This study examined age-related change in awareness of inequality from 6th to 12th grades using five annual data waves. We examined whether trajectories differed by Black, Latinx, Asian, and white youth using multigroup latent growth curve analysis. Multiracial white,

multiracial non-white, and change in racial and ethnic identification were included as predictors of intercepts (i.e., initial levels) and slopes (i.e., rates of change) for awareness of inequality, as well as gender as a binary (boy vs. girl), parent education, generation status, and their interactions. We expected Black and Latinx adolescents would have higher and more accelerated awareness of inequality and white adolescents would have lower levels and slower growth. Examining multiracial identification was exploratory, given little research and thinking about similar versus unique patterns of awareness of inequality for multiracial youth. Given our exploratory approach with multiracial youth, we did not test interactions with multiracial and other factors. We expected that girls, and especially girls of color, and that first- or second-generation youth, and especially Latinx youth, would show higher levels and faster growth in awareness of inequality. More broadly, we expected that adolescents with multiple marginalized statuses by race and ethnicity, gender, parent education, and/or generation status would be more aware of inequality.

METHOD

Data come from the Roots of Engaged Citizenship Project, a 5-year longitudinal study of youth civic development from 2013 to 2017 that surveyed youth annually in grades 4–12 from 22 schools in three U.S. regions: greater Los Angeles metropolitan area, first-ring suburbs of Minneapolis, and rural West Virginia. In Wave 1, researchers recruited school districts with moderate to high economic vulnerability (free and reduced lunch eligibility from 26 to 95%, $M = 60\%$; National Center for Education Statistics, 2014), and with school administrators, selected classrooms representative of the student body. Youth were surveyed in one class period. In Waves 2–5, youth were recruited for follow-up and new youth were selectively recruited to counter attrition and maximize generalizability. IRB approval was obtained, as was parent consent and youth assent. Youth were compensated modestly for participating.

Sample

We selected middle and high school students (grades 6–12) across waves who reported being Black, Latinx, Asian, or white ($N = 5015$). We excluded 4th and 5th graders, given lower reliability for awareness of inequality. At each wave, youth checked race and ethnicity categories that described them: American Indian or Alaska Native; Asian; Black or African American (hereafter, Black); Hispanic or Latino/Latina (hereafter, Latinx); Native Hawaiian or Other Pacific Islander; white; Other (with space to specify). Youth identifying as American Indian ($n = 92$), Native Hawaiian or Pacific Islander ($n = 51$),

“Other” ($n = 56$), or who were missing on race and ethnicity ($n = 39$) were excluded given insufficient sample sizes (Wänström, 2009). We did not include youth who identified as Native Hawaiian or Pacific Islander in the Asian category, based on American Psychological Association publication manual 7th edition guidelines.

Some ($n = 982$; 19.6% of sample) identified with two or more races or ethnicities. Our goal was to examine multiracial youth in the context of a primary racial/ethnic group to explore specific versus general associations between being multiracial and awareness of inequality. For 678 youth (69% of multiracial sample), we prioritized the most stable self-identification over time as primary. In 304 cases (31% of multiracial youth; 6% of total sample), a primary identification was not evident, and we did not ask this question directly on the survey. We applied imperfect decision rules to assign a primary racial/ethnic group, and as noted below, conducted sensitivity tests to determine whether these decisions affected findings. Of the 304 youth, for those identifying with a minoritized group and white, the minoritized group was coded as primary. Youth from two or more minoritized racial/ethnic groups were coded into the group historically considered the most marginalized and oppressed in U.S. society, as these experiences were expected to relate to awareness of inequality. The racial hierarchy in the United States (Gans, 2012)—deeply rooted in white supremacy and racism—tends to grant the most privilege to white people (the least oppressed), followed by Asian, then Latinx individuals, and Black people tend to experience the most racial oppression. We coded youth identifying as Latinx and Black as Black and youth identifying as Latinx and Asian as Latinx. This coding into primary categories, which is imperfect, was complemented by three multiracial variables that allowed us to examine multiracial variability in awareness of inequality within and across monoracial groups.

Regarding multiracial variables, participants were classified as multiracial white (e.g., youth identifying as Latinx and white) or multiracial non-white (e.g., youth identifying as Latinx and Black), with monoracial as the reference group. Another variable indicated change in racial/ethnic identification across waves ($yes = 1$, $no = 0$). These multiracial variables capture variation in racial and ethnic groups, but cannot capture the full diversity of multiracial experiences in the sample. As Table S1 shows, youth listed over 40 specific multiracial categories, and we lacked power to assess any more specificity.

Table 1 displays sample demographics for Black ($n = 687$, 13.7%), Latinx ($n = 1855$, 37.0%), Asian ($n = 403$, 8.1%), and white ($n = 2070$, 41.3%) youth. Given the accelerated cohort design, youth entered the study at different ages, and youth were included for any wave they were in grades 6–12. At wave of entry, youth's ages ranged from 10 to 19 ($M_{age} = 14.41$, $SD = 1.99$, 55.0% female) and were fairly evenly split across grades (6th and 9th graders were more represented). Parent education averaged 2.0 or “some college.” In total, 42.7% of youth had a parent

born outside the United States and 8.9% of youth were born outside of the United States; these percentages were higher among Latinx and Asian youth. The West Virginia sample largely identified as white, and the California sample was predominantly Latinx; these patterns reflect the racial and ethnic composition of schools and regions from which we recruited. Data from the 2015 to 2019 American Community Survey Profile provide additional ethnicity information for the four participating school districts (US Department of Education, 2021). Asian-identifying youth in California represent different nationalities (Chinese, Filipino, Other Asian); Asian youth in Minnesota largely identify as Other Asian (likely capturing the large Hmong population). Across all three states, the most common Latinx nationality was Mexican or Other Hispanic/Latino/a.

Missing data

The study has complex missing data patterns including missingness by design and due to attrition. Missing data by design was due to recruiting new samples at later waves and the three-form planned missing design, where youth were randomly given two-thirds of item sets per wave (Little & Rhemtulla, 2013; see Table S2). This design enables asking more questions with less participant burden, and data are missing completely at random. For the awareness of inequality items, participants were missing one item out of three at each wave by design. All demographic variables were in the core set of variables completed by all participants.

Data were also missing due to attrition. Retention rates for the analytic sample from Waves 1 to 2 were 33.2%, from Waves 2 to 3 were 52.5%, from Waves 3 to 4 were 77.7%, and from Waves 4 to 5 were 78.6%. Retention was lowest at Wave 2, given little time or funding to conduct the follow-up and need to re-consent participants. Additional recruitment efforts resulted in higher retention in later waves. We lost contact with 612 youth (12.0% of sample) who moved. In total, 1957 (39.0%) of youth participated in one wave, 1082 (21.6%) in two waves, 1234 (24.6%) in three waves, 589 (11.7%) in four waves, and 153 (3.1%) in five waves. Multiple imputation—a core part of our missing data strategy—can effectively reduce bias in estimates due to attrition, even when the proportion of missing data is large (e.g., Madley-Dowd et al., 2019).

Attrition analyses, using chi-square tests for dichotomous variables and t -tests for continuous variables, identified factors that predicted dropout. At each wave, Black youth were more likely to attrit. Youth who attrited had higher parental education (Wave 2 only). Youth who attrited more highly endorsed the awareness of inequality item that some groups in America do not have equal chances to participate in government (Wave 3 only) and certain groups in America have fewer chances to get ahead (Wave 4 only).

TABLE 1 Sample descriptive statistics

	Black	Latinx	Asian	White	Total
	<i>N</i> = 687	<i>N</i> = 1855	<i>N</i> = 403	<i>N</i> = 2070	<i>N</i> = 5015
Age at first wave					
Mean (SD)	13.9 (2.3)	13.8 (2.0)	13.4 (2.3)	13.7 (2.3)	13.7 (2.6)
Gender					
Boy	296 (43.1%)	802 (43.2%)	198 (49.1%)	941 (45.5%)	2237 (44.6%)
Girl	377 (54.9%)	1044 (56.3%)	200 (49.6%)	1116 (53.9%)	2737 (54.6%)
Non-binary/missing	14 (2.0%)	9 (0.5%)	5 (1.3%)	13 (0.6%)	41 (0.8%)
Race and ethnicity					
Multiracial white	126 (18.3%)	263 (14.2%)	46 (11.4%)	190 (9.2%)	625 (12.5%)
Multiracial not white	124 (18.0%)	176 (9.5%)	57 (14.1%)	0 (0.0%)	357 (7.1%)
Monoracial	436 (63.5%)	1416 (76.3%)	300 (74.4%)	1880 (90.8%)	4032 (80.4%)
Race/ethnicity changed	132 (19.2%)	316 (17.0%)	67 (16.5%)	163 (7.9%)	678 (13.5%)
Parent education					
Mean (SD)	2.2 (0.7)	1.6 (0.7)	2.3 (0.8)	2.2 (0.8)	2.0 (0.8)
Born outside U.S.	92 (13.5%)	222 (12.0%)	79 (19.6%)	50 (2.4%)	443 (8.9%)
Parent born outside U.S.	259 (38.3%)	1390 (75.7%)	335 (82.9%)	138 (6.7%)	2122 (42.7%)
Geography					
California	203 (29.5%)	1641 (88.5%)	233 (57.8%)	108 (5.2%)	2185 (43.6%)
Minnesota	445 (64.8%)	201 (10.8%)	164 (40.7%)	560 (27.1%)	1370 (27.3%)
West Virginia	39 (5.7%)	13 (0.7%)	6 (1.5%)	1402 (67.7%)	1460 (29.1%)
No. waves participated					
Mean (SD)	1.82 (.98)	2.26 (1.14)	2.03 (1.04)	2.26 (1.23)	2.18 (1.16)
Awareness of inequality (<i>N</i> valid at each grade)					
6th	226 (32.9%)	362 (19.5%)	163 (40.2%)	788 (38.0%)	1539 (30.7%)
7th	240 (34.9%)	643 (34.7%)	205 (50.6%)	866 (41.8%)	1954 (38.9%)
8th	227 (33.0%)	699 (37.7%)	172 (42.5%)	865 (41.7%)	1963 (39.1%)
9th	336 (48.9%)	1139 (61.4%)	182 (44.9%)	1006 (48.6%)	2663 (53.1%)
10th	322 (46.9%)	1171 (63.1%)	137 (33.8%)	1005 (48.5%)	2635 (52.5%)
11th	342 (49.8%)	1151 (62.0%)	136 (33.6%)	984 (47.5%)	2613 (52.1%)
12th	283 (41.2%)	913 (49.2%)	138 (34.1%)	871 (42.0%)	2205 (43.9%)

Note: White multiracial youth listed white more often than other group(s) longitudinally. Otherwise, multiracial white youth were coded into another group, based on more frequent identification or decision rules described in the method section.

Missing data were addressed by first developing auxiliary variables using the principal component auxiliary approach (Howard et al., 2015). Principal components are produced from the original data plus polynomials up to cubic and two-way interactions for all observed variables and principal components. In other words, the principal components were vectors that represented the variance from every variable measured in the dataset, their non-linear components, and all two-way interactions in the data. Thus, principal components comprehensively and efficiently encapsulate variance in the data and help account for data missing at random by informing multiple imputation; this strategy is much more efficient than the selection of individual, raw auxiliary variables to inform the multiple imputation (Lang & Little, 2018). We used 50 linear and 15 nonlinear principal components to inform 100 multiply imputed datasets. We only imputed waves for

which participants were eligible, but did not participate. Given our accelerated cohort design, we restructured the data so that time was reflected by grade instead of wave, and no participants were eligible to appear across all seven grades in this five-wave study. As analyses relied on chi-square model comparisons, which are not provided in multiple imputation, we used a pooled approach by averaging across the 100 multiply imputed datasets for analyses.

Measures

Awareness of inequality

Youth reported agreement with three items reflecting awareness of societal inequality: “In America, some groups do not have equal chances to participate in government”;

“In America, political leaders only listen to the opinions of certain groups”; and “In America, certain groups have fewer chances to get ahead” (Flanagan et al., 2007). Items were identical across waves and asked on a 5-point scale: *Strongly disagree* (1), *Disagree* (2), *Somewhat disagree and somewhat agree* (3), *Agree* (4), and *Strongly agree* (5). Omega coefficients (ω) were .77, .66, .61, .68, and .75 for Waves 1–5. Tables S3–S8 show item means and correlations across grades for the full sample and racial and ethnic groups. In Appendix S1, we present evidence from this dataset and one other demonstrating convergent, predictive, and divergent validity for the measure.

Race and ethnicity

Primary analyses are based on the categorical variables of Black, Latinx, Asian, and white, complemented by variables indicating whether participants changed in their racial/ethnic identification across waves (*yes* = 1, *no* = 0) and whether youth were multiracial white or multiracial non-white, with monoracial as the reference group.

Sociodemographics

Gender was included as a binary (*girl* = 1, *boy* = 0); three youth identifying as non-binary were coded as missing on gender due to sample size. Youth reported primary caregivers' education from *High school or less* (1), *Some college* (2), and *College graduate or more* (3). We used the highest reported education across caregivers and waves; “do not know” was coded as missing. Generation status was dichotomous, representing first- and second-generation status compared to other youth (*neither parent was born outside the US* = 0, *either parent was born outside the US* = 1). First-generation status could not be included, given too few youth for certain racial and ethnic groups (Table 1). Geographic site was controlled for by including California and West Virginia as dummy-coded variables, with Minnesota as the reference group due to having the most racial and ethnic diversity.

Analytic technique

Multigroup second-order latent growth models were conducted in Mplus v.8 (Muthén & Muthén, 2017) to examine developmental trajectories for Black, Latinx, Asian, and white youth. Growth was specified as a function of grade, with intercepts estimated at 6th grade. Given the accelerated cohort design, using wave as time does not provide sufficient insight into developmental change. We restructured the data to use grade-as-time, estimating awareness of inequality over seven repeated measures spanning 6th–12th grades. Grade and age

are highly correlated, and we selected grade as time for parsimony and to align with the school-based design. Two variables controlled for design features: As participants entered the study at different grade levels by design, we controlled for grade at study entry (i.e., cohort). As youth participated in varying numbers of waves, we controlled for the number of waves completed.

Multigroup second-order latent growth model involves estimating a longitudinal measurement model at the first-order level and a latent growth model (LGM) at the second-order level (Kim & Wilson, 2014). The second-order LGM provides more precise estimation of growth curves by accounting for measurement error across time and groups. Mean and covariance structures were scaled with effects coding to model latent variable means as growth parameters (Little, 2013). We tested for measurement invariance across time and racial and ethnic groups in a multigroup framework. We first estimated a configural model with parameters freely estimated across waves and racial and ethnic groups. To test for factorial invariance, we constrained factor loadings to equality across time and race and ethnicity, and compared them to an unconstrained model using χ^2 difference test and comparative fit index (CFI) change of .01 or greater to indicate significant differences, with Δ CFI preferred due to lower sample size sensitivity (Cheung & Rensvold, 2002). Modification indices were used to locate differences; parameters were freed one at a time based on largest modification. When similar parameters were freed (i.e., same factor loading at different grades within a group or same loading at one grade across groups), χ^2 comparisons assessed significant differences. The same process was used for scalar invariance, that is, invariance in intercepts.

Using the final measurement model, we fit a multigroup second-order unconditional LGM. We used a build-up approach to compare a nonlinear growth model where the form of change over time is unspecified (also called a “shape” model; Little, 2013), and linear, quadratic, and cubic models. We evaluated model fit using Akaike and Bayesian information criterion where smaller values indicate better fit; the CFI (>.90 as acceptable fit); and the root mean square error of approximation (<.05 as acceptable fit; Little, 2013). We preferred the highest-order model with acceptable fit to best represent growth across groups. After identifying the best fitting model, we examined racial and ethnic differences in growth parameters: A χ^2 difference test compared a model with growth parameters freely estimated across groups to a constrained model with growth parameters fixed to equality across groups. Significant comparisons were followed up with Wald tests to identify growth parameters that differed between groups (Bollen, 1989). The Wald test method provided greater clarity by including all groups in the follow-up testing.

Finally, a conditional model was estimated where intercepts and slopes were regressed on gender, parent education, generation status, and their two- and three-way interactions. Given the multigroup framework, interactions between these factors and race and ethnicity were inherently part of model testing. Exploratory predictors included change in race and ethnicity, multiracial white, and multiracial non-white (monoracial as reference). Controls were cohort, number of waves completed, and West Virginia and California (Minnesota as reference). A χ^2 difference test compared an unconstrained model with structural paths freely estimated across racial/ethnic groups to a model with paths fixed to equality across groups. Wald tests identified which paths significantly differed. Due to number of parameters compared across groups in the conditional model, a p -value of $<.01$ was used to interpret significant structural parameters from Wald tests.

RESULTS

Measurement invariance testing

In first examining measurement invariance of awareness of inequality across grade and racial and ethnic groups, partial invariance was achieved for factor loadings and intercepts (Table 2; Table S9). One factor loading was freed for 7th-grade Asian youth, whose loading was lower for item 3, “certain groups have fewer chances to get ahead” compared to others ($\lambda = .39$ vs. $\lambda = .64$). Partial intercept invariance was achieved. After conducting follow-up tests, five sets of intercepts differed. For item 1, “unequal chances to participate in government,” intercepts were slightly higher for 6th-grade Latinx youth, 7th-grade Black and Latinx youth, and 8th-grade Latinx youth ($M = 3.61$), and slightly lower for 9th-grade white youth ($M = 3.37$) compared to other grades and groups ($M = 3.46$). Compared to the average item 1 standard deviation ($SD = .80$), these differences are less than .20 SD s. For item 2, “political leaders only listen to certain groups,” intercepts were slightly lower for 6th-grade white youth and 8th-grade white, Black,

and Asian youth ($M = 3.28$), compared to other grades and groups ($M = 3.43$), representing .20 SD s for the item (average $SD = .77$). For item 3, “certain groups have fewer chances to get ahead,” intercepts were slightly lower for 7th-grade Asian youth and 11th- and 12th-grade white youth ($M = 3.55$ vs. 3.46), representing .11 SD s (item average $SD = .79$). This intercept was also lower for 6th-grade white youth ($M = 3.29$ or .22 SD s). We could discern no substantive pattern in the freed intercept parameters across grade and racial and ethnic groups, except that freed intercepts for white youth tended to be lower than average. Differences are notably small, with the largest being 1/5th of a standard deviation in size. Five intercept differences of small magnitude were detected out of 84 tested, and one factor loading difference was detected of 84 tested. Given that differences were scattered across racial and ethnic groups and grades with few consistent biases apparent, the very small sizes of intercept differences, and the small number of parameters that were freed, we felt confident to proceed with group comparisons across grades.

Unconditional second-order latent growth models

The nonlinear/shape, linear, and quadratic models showed acceptable model fit (Table 3); the cubic model failed to converge, even after specifying start values. The quadratic model provided the best fit, with significant quadratic effects observed for some groups. Yet, the linear slope variance for Asian youth and quadratic slope variance for Black youth were non-positive definite in this model. A revised quadratic model constrained these parameters to zero and was selected as the best-fitting unconditional growth model (bolded in Table 3).

Next, we compared growth parameters across racial and ethnic groups (Table S10), finding differences across groups ($\Delta\chi^2 = 107.64$, $df = 9$, $p < .001$). Intercepts were higher for Black youth compared to Latinx (Wald = 14.66, CR = 3.83, $p < .001$) and Asian youth (Wald = 5.09, CR = 2.26, $p = .024$) and for white compared to Latinx youth (Wald = 11.98, CR = 3.46, $p < .001$). In other words, 6th-grade awareness of inequality was

TABLE 2 Longitudinal multiple groups measurement invariance tests

	χ^2	df	CFI	Δ CFI	$\chi^2\Delta$	df Δ	p
Configural model	1446.50	604	.945				
Factor invariance model	1694.69	685	.934	.011	248.48	81	<.001
Partial factor invariance model (freed item 3, 7th-grade Asian youth)	1661.05	684	.936	.009	214.55	80	<.001
Intercept invariance model	2118.41	744	.910	.026	457.37	60	<.001
Partial intercept invariance model (freed 5 intercepts) ^a	1856.58	739	.927	.009	195.53	5	<.001

Abbreviation: CFI, comparative fit index.

^aSee Table S9 for a full listing of model tests.

highest for Black youth, followed by white youth. Asian youth showed steeper linear increases in awareness of inequality in early adolescence compared to Black (Wald = 8.11, CR = 2.85, $p = .004$), white (Wald = 7.41, CR = 2.72, $p = .006$), and Latinx youth (Wald = 5.33, CR = 2.32, $p = .021$). Black youth showed greater quadratic growth, that is, increases in awareness of inequality in late adolescence, relative to white (Wald = 4.02, CR = 2.00, $p = .045$) and Asian youth (Wald = 7.56, CR = 2.75, $p = .006$).

Growth parameters from the unconstrained model are shown in Table 4. Growth curves are shown in Figure 1. Black youth started higher than others in 6th-grade awareness of inequality and showed positive quadratic growth in awareness of inequality over time ($B = 0.94$, $p = .008$). Latinx youth started low in awareness of inequality and showed linear ($B = 0.37$, $p = .040$) and quadratic ($B = 0.64$, $p = .01$) increases in awareness of inequality. Asian youth's awareness of inequality increased steadily across adolescence ($B_{\text{linear}} = 1.14$, $p < .001$; $B_{\text{quad}} = -0.71$, $p = .143$). Compared to Latinx and Asian youth, white youth were higher in 6th-grade awareness of inequality, and showed no change over time ($B_{\text{linear}} = 0.25$, $p = .109$; $B_{\text{quad}} = 0.08$, $p = .755$). A sensitivity test was conducted after recoding 304 multiracial youth whose primary racial and ethnic group was determined by decision rules into a different racial and ethnic group. In re-estimating unconditional models, significance levels and interpretation of growth parameters by racial and ethnic group did not change.

Conditional growth models

Effect sizes for significant parameters are shown in Table S11. In testing main effects of gender, parent education, generation status, and multiracial identification on growth parameters, a χ^2 test indicated differences by race and ethnicity, $\Delta\chi^2 = 154.14$, $df = 87$, $p < .001$, yet Wald tests indicated no group differences at $p < .01$. Parent education positively predicted the intercept ($B = 0.13$, $p = .002$). Gender and generation status were not significant. Non-white multiracial identification positively predicted the linear slope ($B = 1.75$, $p = .004$) and negatively predicted the quadratic ($B = -3.08$, $p < .001$). Multiracial white ($B = -2.17$, $p = .006$) negatively

predicted the quadratic slope. As shown in Figure 2, compared to monoracial youth, multiracial youth showed accelerated growth in awareness of inequality in grades 8–10, followed by decline or flattening in grades 11–12. Change in race and ethnicity predicted the quadratic slope ($B = 2.32$, $p = .006$); youth who changed their race and ethnicity declined in awareness of inequality in mid-adolescence, followed by later increases. A sensitivity test was conducted after recoding the 304 youth whose primary racial and ethnic group was determined by decision rules into a different racial and ethnic group. In re-estimating the final model, effects of multiracial white on the quadratic slope ($B = -1.90$, $SE = .81$, $p = .018$) and change in race and ethnicity on the quadratic slope ($B = 2.04$, $SE = .87$, $p = .018$) fell below the .01 cutoff. Direction and interpretation of parameters were the same.

Two- and three-way interactions among parent education, gender, and generation status were tested as predictors of growth parameters, and racial and ethnic group differences were found ($\Delta\chi^2 = 189.80$, $df = 124$, $p < .001$). The parent education $\times$ generation status interaction predicting the intercept differed for Asian youth (Table 5), in being not significant for this group. Across groups, two-way interactions for parent education $\times$ generation status and parent education $\times$ gender were qualified by a significant parent education $\times$ generation status $\times$ gender three-way interaction predicted the intercept, that is, 6th-grade awareness of inequality. As shown in Figure 3, across racial and ethnic groups, simple slopes indicated that girls whose parents were more educated and immigrant origin were higher on 6th-grade awareness of inequality than boys with more educated, immigrant-origin parents ($B = 0.37$, $p = 0.005$) and girls with more educated, US-born parents ($B = 0.37$, $p = 0.005$). For girls with immigrant-origin parents, higher parent education was related to higher 6th-grade awareness of inequality ($B = 0.43$, $p = 0.004$); for boys regardless of generation status, higher parent education was related to higher 6th-grade awareness of inequality.

DISCUSSION

This longitudinal study of awareness of inequality—a key component of critical reflection—contributes to

TABLE 3 Model comparisons for tests of growth parameters in unconditional models

Growth models	AIC	BIC	χ^2	df	CFI	RMSEA	90% CI	Δ CFI	$\chi^2\Delta$	df Δ	p
Shape	96,901.31	97,960.09	1673.82	738	.939	.032	.030, .034				
Linear	96,920.67	97,847.87	1732.20	758	.936	.032	.030, .034	.003	58.37	20	<.001
Quad a	96,842.77	97,874.43	1622.29	742	.943	.031	.029, .033	.004	51.54	4	<.001
Quad b	96,852.21	97,838.16	1645.73	749	.942	.031	.029, .033	.003	28.10	11	.003

Abbreviations: AIC, Akaike information criterion; BIC, Bayesian information criterion; CI, confidence interval; CFI, comparative fit index; RMSEA, root mean square error of approximation.

TABLE 4 Unconditional quadratic growth model results across racial and ethnic groups

	Black			Latinx			Asian			White		
	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>
Means												
Intercept	3.41 ^a	0.04	<.001	3.23 ^c	0.03	<.001	3.29 ^{b,c}	0.04	<.001	3.35 ^{a,b}	0.02	<.001
Linear	0.11 ^a	0.22	.613	0.37 ^a	0.18	.040	1.14 ^b	0.29	<.001	0.25 ^a	0.16	.109
Quadratic	0.94 ^a	0.36	.008	0.64 ^{a,b}	0.25	.011	−0.71 ^b	0.48	.142	0.08 ^b	0.24	.755
Variances												
Intercept	0.21	0.03	<.001	0.30	0.03	<.001	0.10	0.03	.001	0.15	0.04	<.001
Linear	—	—	—	11.60	2.00	<.001	0.38	0.35	.274	5.18	2.43	.033
Quadratic	2.12	0.69	.002	21.14	5.43	<.001	—	—	—	9.33	6.47	.149
Covariances												
Intercept and linear	—	—	—	−1.41	0.24	<.001	−0.02	0.10	.820	−0.25	0.30	.401
Intercept and quad	−0.36	0.12	.003	1.49	0.42	<.001	—	—	—	−0.00	0.52	.996
Linear and quad	—	—	—	−14.79	3.32	<.001	—	—	—	−6.17	4.01	.124

Note: Different superscripts across rows indicate significant differences based on Wald tests. Differences in variances and covariances were not tested.

research on adolescents' critical consciousness development. Awareness of inequality showed upward growth across adolescence for youth of color; findings advance developmental understanding of critical consciousness, as change over time has rarely been examined. Racial and ethnic differences suggest that youth's developing awareness of inequality is shaped by racialized experiences and thus, developmental change in critical consciousness may be race specific. The lack of change in awareness of inequality for white youth illustrates that upward growth is not normative for all, signaling the need for targeted opportunities for white youth to learn about inequality. Although we put forth some hypotheses, the study was also exploratory, particularly in examining multiracial identity and interactions. Multiracial youth accelerated in awareness of inequality across middle adolescence, regardless of racial and ethnic group, yet multiracial youth who changed their racial/ethnic identification over time dipped in awareness of inequality during this period. Girls with more educated, immigrant-origin parents started higher on awareness of inequality than others; parent education, but not generation status, played a role in boys' initial levels of awareness of inequality. This study offers a jumping off point for richer, more in-depth research using an intersectional lens.

Racial and ethnic differences in trajectories

Black, Latinx, Asian, and white youth showed unique starting points in awareness of inequality in 6th grade and different patterns of age-related change. Our methodological approach accounted for measurement error across race and ethnicity and grades as thoroughly as possible and achieved partial invariance after finding small item-level variations across groups. Findings contribute new insights to an existing literature that has largely neglected to examine age differences (except see Bañales, Marchand, et al., 2020; Seider, Kelly, et al., 2020; Seider et al., 2017), and has not often included Asian or white samples (Heberle et al., 2020). Whereas our study does not directly speak to experiences that undergird changes in awareness of inequality, findings are compatible with thinking on the role of racial oppression in sparking critical consciousness for youth of color (Hope et al., 2020). Race and ethnicity play a powerful role in shaping the development of critical consciousness, likely given the rampant systemic and interpersonal racism that youth of color experience (Anyiwo et al., 2018). Since awareness of inequality is one step in the process of becoming critically conscious (Watts et al., 2011), youth from different racial and ethnic backgrounds may be differentially poised to embrace critical efficacy and action—other dimensions of critical consciousness. Racial and ethnic differences in awareness of inequality were evident in 6th grade, with Black youth showing notable levels of awareness. Middle school may be a particularly

important time to promote critical reflection about inequalities experienced by race, gender, class, and other groups. Awareness of inequality was highest for all youth of color in late adolescence, perhaps indicating advanced development of this aspect of critical consciousness due to age and experience. Notably, the end of our study period coincided with Trump's presidency, which heightened experiences of marginalization and awareness of inequality for youth of color (Dunn et al., 2022).

Black youth were more aware of inequality in 6th grade and showed more rapid growth in awareness of inequality across adolescence than other youth. These findings are compatible with Seider, Clark, et al.'s (2020) reports of upward trajectories in critical reflection across high school among Black and Latinx youth. Through their high and growing awareness of societal inequality, Black youth were illustrating a strength of "second sight," a unique vantage point from which youth of color and youth from other historically marginalized groups observe and understand injustice (Camarota, 2016). Experiences of racial discrimination, parental ethnic-racial socialization, knowledge of Black history, and racial identity development are factors that may explain the heightened levels and more rapid development of awareness of inequality for Black youth (Bañales, Marchand, et al., 2020; Greene et al., 2006; Hope et al., 2020;

Mathews et al., 2019). These and other factors should be further studied to better pinpoint the origins of awareness of inequality. Cammarota (2016) argued that this second sight gives youth of color a strength for understanding power and privilege that can be translated into critical motivation and action to challenge inequalities. This process may be particularly strong for Black youth. Some evidence suggests that critical reflection is more strongly linked to critical action for Black youth than others (Bañales, Mathews, et al., 2020; Diemer & Rapa, 2016), and that Black youth stand out from other racial and ethnic groups in having higher levels and faster growing trajectories of political engagement across the transition to adulthood (Wray-Lake et al., 2020).

Racial and ethnic differences in awareness of inequality are not stable across adolescence. Patterns underscore the importance of taking a longitudinal, developmental lens, as cross-sectional snapshots would have led to limited and mistaken understandings of racial and ethnic group differences. Two notable examples are white youth, who reported higher awareness of inequality than Latinx and Asian youth in 6th grade but showed no growth over time, and Latinx youth, who had lower awareness of inequality in 6th grade but accelerated rapidly across adolescence. Latinx youth showed the same accelerated trajectory as Black youth, but started much lower and never caught up to Black youth's awareness of inequality in our study. We had expected similar trajectories for Black and Latinx youth, as both groups face racism and exclusion that inform awareness of inequality, yet these groups' different sociocultural histories and experiences of oppression could help explain different levels of awareness of inequality. For example, prior generations of Black Americans came to the United States through forced migration due to slavery and colonization; and many Latinx groups' histories entail voluntary migration to the United States with hopes for a better future (Ogbu, 1991). Youth with these very different sociocultural histories may have a

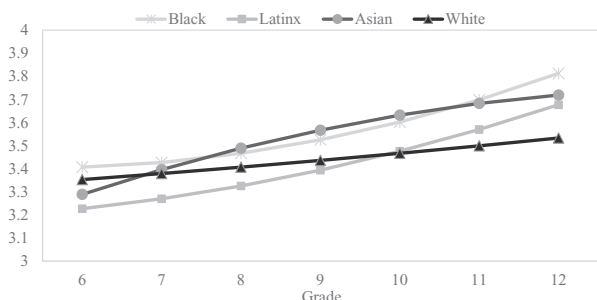


FIGURE 1 Awareness of inequality trajectories by race and ethnicity

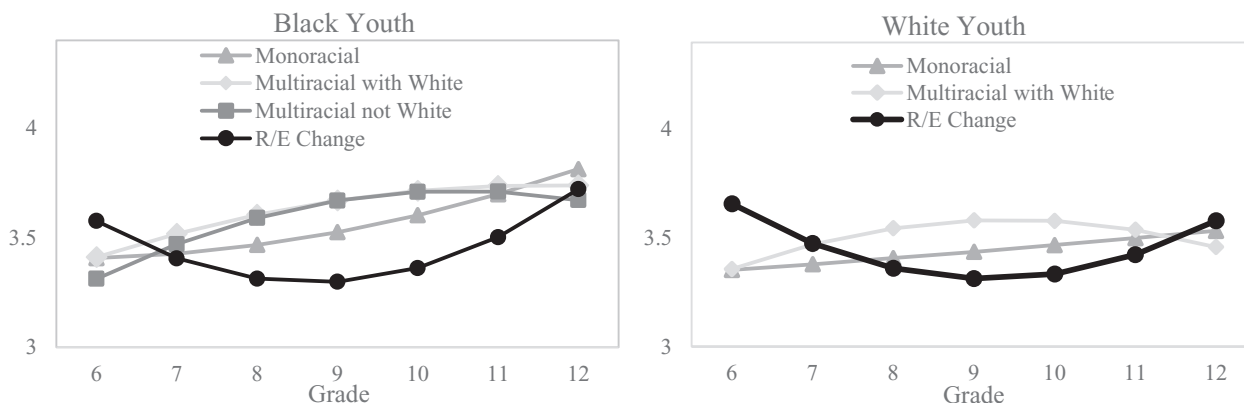


FIGURE 2 Differences in awareness of inequality trajectories for multiracial youth. Multiracial trajectories are only shown for Black and white youth for space reasons. Latinx and Asian multiracial trajectories look the same and are shown in Figure S1. R/E change, longitudinal change in race and ethnicity

TABLE 5 Conditional model results

	Black			Latinx			Asian			White		
	<i>B</i>	SE	<i>p</i>	<i>B</i>	SE	<i>p</i>	<i>B</i>	SE	<i>p</i>	<i>B</i>	SE	<i>p</i>
Intercept on												
Gender (1 = girl)	0.01	0.04	.797	0.01	0.04	.797	0.01	0.04	.797	0.01	0.04	.797
Parent education	0.13	0.04	.002	0.13	0.04	.002	0.13	0.04	.002	0.13	0.04	.002
Generation status	0.05	0.06	.371	0.05	0.06	.371	0.05	0.06	.371	0.05	0.06	.371
ParEd × GS	−0.19	0.07	.005	−0.19	0.07	.005	−0.15[^]	0.09	.077	−0.19	0.07	.005
ParEd × gender	−0.15	0.05	.005	−0.15	0.05	.005	−0.15	0.05	.005	−0.15	0.05	.005
GS × gender	−0.01	0.07	.915	−0.01	0.07	.915	−0.01	0.07	.915	−0.01	0.07	.915
ParEd × GS × Gen	0.23	0.09	.006	0.23	0.09	.006	0.23	0.09	.006	0.23	0.09	.006
Grade at 1st wave	−0.04	0.01	.012	−0.04	0.01	.012	−0.04	0.01	.012	−0.04	0.01	.012
No. of waves	−0.01	0.01	.499	−0.01	0.01	.499	−0.01	0.01	.499	−0.01	0.01	.499
Multiracial Wh.	0.00	0.09	.960	0.00	0.09	.960	0.00	0.09	.960	0.00	0.09	.960
Multiracial NoWh.	−0.09	0.10	.329	−0.09	0.10	.329	−0.09	0.10	.329	—	—	—
Race/ethnicity change	−0.03	0.09	.750	−0.03	0.09	.750	−0.03	0.09	.750	−0.03	0.09	.750
CA	−0.05	0.05	.319	−0.05	0.05	.319	−0.05	0.05	.319	−0.05	0.05	.319
WV	−0.13	0.06	.023	−0.13	0.06	.023	−0.13	0.06	.023	−0.13	0.06	.023
Slope on												
Gender (1 = girl)	0.59	0.28	.038	0.59	0.28	.038	0.59	0.28	.038	0.59	0.28	.038
Parent education	−0.34	0.28	.219	−0.34	0.28	.219	−0.34	0.28	.219	−0.34	0.28	.219
Generation status	0.14	0.37	.701	0.14	0.37	.701	0.14	0.37	.701	0.14	0.37	.701
ParEd × GS	0.47	0.42	.268	0.47	0.42	.268	0.70 [^]	0.44	.117	0.47	0.42	.268
ParEd × gender	0.86	0.35	.016	0.86	0.35	.016	0.86	0.35	.016	0.86	0.35	.016
GS × gender	−0.11	0.43	.793	−0.11	0.43	.793	−0.11	0.43	.793	−0.11	0.43	.793
ParEd × GS × Gen	−1.04	0.55	.058	−1.04	0.55	.058	−1.04	0.55	.058	−1.04	0.55	.058
Grade at 1st wave	0.13	0.07	.08	0.13	0.07	.08	0.13	0.07	.08	0.13	0.07	.08
No. of waves	0.05	0.10	.631	0.05	0.10	.631	0.05	0.10	.631	0.05	0.10	.631
Multiracial Wh.	1.15	0.54	.032	1.15	0.54	.032	1.15	0.54	.032	1.15	0.54	.032
Multiracial NoWh.	1.75	0.60	.004	1.75	0.60	.004	1.75	0.60	.004	—	—	—
Race/ethnicity change	−1.25	0.57	.028	−1.25	0.57	.028	−1.25	0.57	.028	−1.25	0.57	.028
CA	−0.39	0.34	.253	−0.39	0.34	.253	−0.39	0.34	.253	−0.39	0.34	.253
WV	−0.04	0.37	.909	−0.04	0.37	.909	−0.04	0.37	.909	−0.04	0.37	.909
Quadratic on												
Gender (1 = girl)	−0.54	0.43	.211	−0.54	0.43	.211	−0.54	0.43	.211	−0.54	0.43	.211
Parent education	0.26	0.41	.523	0.26	0.41	.523	0.26	0.41	.523	0.26	0.41	.523
Generation status	−0.10	0.57	.868	−0.10	0.57	.868	−0.10	0.57	.868	−0.10	0.57	.868
ParEd × GS	−0.35	0.62	.570	−0.35	0.62	.570	−0.35	0.62	.570	−0.35	0.62	.570
ParEd × gender	−0.90	0.53	.090	−0.90	0.53	.090	−0.90	0.53	.090	−0.90	0.53	.090
GS × gender	0.08	0.64	.896	0.08	0.64	.896	0.08	0.64	.896	0.08	0.64	.896
ParEd × GS × Gen	1.01	0.81	.213	1.01	0.81	.213	1.01	0.81	.213	1.01	0.81	.213
Grade at 1st wave	−0.09	0.10	.346	−0.09	0.10	.346	−0.09	0.10	.346	−0.09	0.10	.346
No. of waves	0.09	0.15	.528	0.09	0.15	.528	0.09	0.15	.528	0.09	0.15	.528

(Continues)

TABLE 5 (Continued)

	Black			Latinx			Asian			White		
	<i>B</i>	SE	<i>p</i>	<i>B</i>	SE	<i>p</i>	<i>B</i>	SE	<i>p</i>	<i>B</i>	SE	<i>p</i>
Multiracial Wh.	-2.17	0.78	.006	-2.17	0.78	.006	-2.17	0.78	.006	-2.17	0.78	.006
Multiracial NoWh.	-3.08	0.90	.001	-3.08	0.90	.001	-3.08	0.90	.001	—	—	—
Race/ethnicity change	2.32	0.85	.006	2.32	0.85	.006	2.32	0.85	.006	2.32	0.85	.006
CA	0.24	0.52	.643	0.24	0.52	.643	0.24	0.52	.643	0.24	0.52	.643
WV	-0.62	0.54	.252	-0.62	0.54	.252	-0.62	0.54	.252	-0.62	0.54	.252

Note: Significant differences across groups indicated by superscript [^]. Significant parameters at $p < .01$ are bolded. The same parameters across groups demonstrate they were constrained to equality. Parent education was centered at the sample average. Minnesota was the reference group.

Abbreviations: CA, California; Gen, gender; GS, parental generation status; NoWh, non-white; ParEd, parent education; Wh, white; WV, West Virginia.

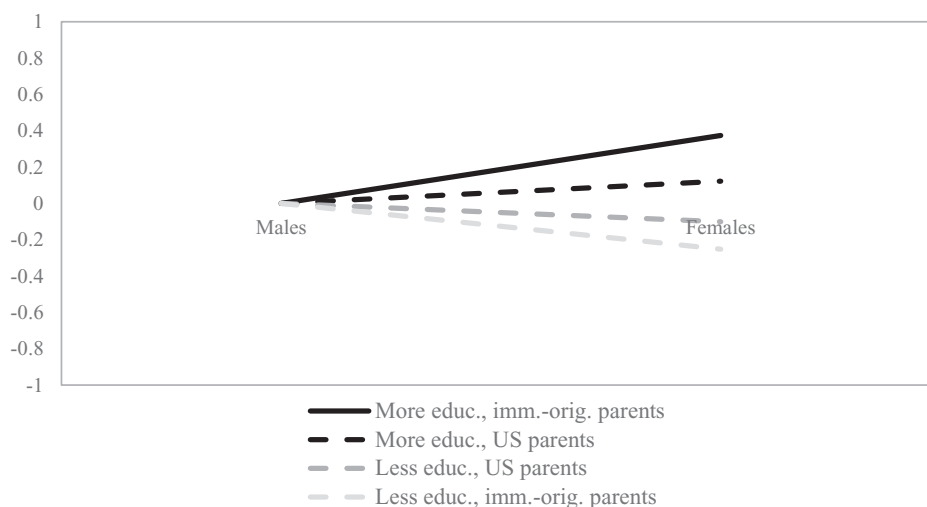


FIGURE 3 Parent education $\times$ generation status $\times$ gender predicting awareness of inequality intercept. Plots indicate the amount of change in the initial intercept. For clarity, effects are centered at 0. Dashed lines represent non-significant effects

different orientation toward societal fairness and equality. Variation in ethnic-racial socialization could also explain differences in Black and Latinx youth's awareness of inequality. Ethnic-racial socialization and political socialization are often closely interconnected among Black families (Bañales et al., 2021), and can also be for many Latinx families, yet other Latinx families may emphasize equality but avoid discussing race or ethnicity (Ayón, 2016). Future research could also examine critical consciousness development of Black and Latinx youth in relation to the racial and ethnic composition of their everyday contexts. In our study, many Latinx youth were in majority-minority schools and neighborhoods, whereas Black youth were in the minority across schools. Youth who are minorities in their schools experience more discrimination (Seaton & Yip, 2009), and these painful experiences can prompt awareness of inequality (Hope et al., 2020).

Asian youth showed a distinct pattern of starting lower than other groups in awareness of inequality and

steadily increasing over time. Across most grade levels, Asian youth showed fairly high awareness of inequality compared to other groups. This pattern contrasts with other studies' findings that Asian adolescents more strongly endorsed beliefs that American society is fair and reported less awareness of societal inequality than Latinx or Black youth (Ballard, 2016; Godfrey et al., 2019; Wray-Lake et al., 2015). Again, our longitudinal analysis was key to identifying nuanced racial and ethnic group differences that may not be as evident cross-sectionally. Our results counter the model minority stereotype, which, applied to civic engagement, assumes that Asian youth are apolitical, unlikely to challenge existing systems, and do not emphasize shared histories of racial inequality (see Wray-Lake et al., 2017). Growth in Asian youth's awareness of inequality may reflect the realities that Asian youth are perpetually treated as un-American and experience discrimination, experiences that have been increasing during the COVID-19 pandemic (Gover et al., 2020). Research is needed into specific factors

that lead to critical consciousness development among Asian adolescents. Our sample likely included Asian youth from different ethnic backgrounds and nationalities across Minnesota and California. Prior research has shown that marginalizing experiences faced by Chinese or Korean communities differ from those of Filipino or Hmong communities (e.g., Nguyen et al., 2019). We were unable to capture any group variations given our pan-ethnic measure of Asian groups, and future studies would benefit from adopting best practices in measuring within-group variation within Asian American children and families, recommendations that can also apply to other racial and ethnic groups (Yoshikawa et al., 2016).

The lack of change in awareness of inequality, on average, for white youth is concerning from a developmental perspective and for its social justice implications. Existing developmental research offers reasons to anticipate increases in awareness of inequality for all adolescents, including enhanced cognitive and reasoning capacities and more interaction with others in more varied community spaces, which should coincide with increasing awareness of inequality (e.g., Flanagan, 2013; Van der Graaff et al., 2014). Thus, the lack of growing awareness of inequality for white youth runs counter to normative developmental expectations, and we tentatively conclude that white adolescents do not have a normative experience of becoming aware of inequality. White youth often do not have everyday opportunities to discuss inequalities and often are specifically taught not to acknowledge some inequalities, especially with regard to race (Tyler et al., 2020). In fact, understandings of societal inequality may be actively countered with messages about meritocracy and the American dream, which frame individuals as responsible for their own problems and suggest that hard work is an equal path to success for everyone (Flanagan, 2013). Given that awareness of inequality is a precursor to addressing societal inequalities (Watts et al., 2011), white youth may be less apt to challenge societal inequities if they lack awareness of inequality, and may instead passively or actively uphold systems of oppression. Some scholars question whether critical consciousness can develop among youth who do not experience oppression (e.g., Diemer et al., 2016). Our study does not resolve this issue, but clarifies that white youth—who do not experience racial oppression—do not show the kind of growth in awareness of inequality evident for youth of color across adolescence. Of course, as our study shows, multiracial identification, parent education, combinations of gender, parent education, and generation status, and geographic region, are other factors that predict variation in white youth's awareness of inequality. Other research has identified individual differences among white youth in how much they attribute racial inequalities to racism, and these views predict support for anti-racist policies (Hughes & Bigler, 2011). Better understanding what leads to growth in white youth's awareness of inequality is a key task for the field, and white youth urgently need more intentional

opportunities to understand racial and other inequalities to develop the motivations and capacities to fight against the oppression of others (Hazelbaker et al., 2022).

Our study underscores the importance of moving beyond single monoracial categories and investigating how multiracial identity informs critical consciousness development. Multiracial white and non-white youth across racial and ethnic groups showed heightened awareness of inequality across middle adolescence compared to monoracial youth. These patterns did not vary by primary identification as Black, Latinx, Asian, or white, supporting the idea that multiracial youth from diverse backgrounds share experiences of navigating multiple racial and ethnic identities (e.g., Nishina & Witkow, 2020), which in this case may prompt multiracial youth to become more aware of societal inequality. Multiracial adolescents may engage in more racial and ethnic identity exploration, and experience less affirmation, compared to monoracial adolescents from marginalized groups (Franco et al., 2021; Nishina et al., 2010). Perhaps navigating dual racial and ethnic identities and different experiences of societal exclusion or inclusion makes multiracial youth more attuned to societal inequalities. However, counter to this pattern and to our expectations, multiracial youth who changed their racial or ethnic identification over time dipped in awareness of inequality in mid-adolescence. Perhaps youth who have more clarity about their racial and ethnic identity are also further along in developing critical consciousness, including awareness of inequality (Mathews et al., 2019). It was plausible that multiracial identity flexibility, as indicated by shifting racial and ethnic identity over time, would lead youth to grapple more with race and racism, leading to more awareness of inequality (Gaither, 2015), and in our study, this appeared to occur in early and late adolescence only. Given that the majority of multiracial youth in our sample shifted their identities across the study, future research should seek to understand much more about the dynamics of multiracial identity and experiences in relation to critical consciousness development.

Parent education, gender, and generation status

Parent education was related to higher initial levels of awareness of inequality for youth across racial and ethnic groups, but as extant work and our findings suggest, the role of SES and developing awareness of inequality is complex and layered. Girls whose parents were educated and immigrant origin had higher awareness of inequality early on than other gender, parent education, and generation status combinations. This pattern was found from exploratory analyses, and tentatively suggests that highly educated parents born outside of the United States may have the resources and lived experiences to emphasize critiques of fair society and awareness of systems that create unequal conditions. We could find no other known work examining these dimensions together in relation to critical

consciousness development. One study found that parent education was more positively related to critical political actions at age 18 for women than men (Wray-Lake et al., 2020), and suggested that highly educated parents may emphasize the importance of equality and exercising voice, which could spark daughters' greater awareness of inequality and political action. Youth of any gender in more educated families may have more resources available to process and learn about inequalities. Further research is needed to better determine how development varies based on youth's backgrounds and experiences of marginalization. Recent reviews highlight the urgent need for an intersectional approach to advance knowledge of critical consciousness (Godfrey & Burson, 2018; Heberle et al., 2020; Jemal, 2017). An obvious limitation of our study is that using demographic categories precluded formal tests of intersectionality (Cole, 2009); directly measuring experiences of oppression is essential for future research on intersectionality.

Limitations and future directions

When this study began in 2013, we employed a then common measurement tool to understand awareness of societal inequality. Our measure is broad, and some advocate for framing critical consciousness measures broadly when studying diverse groups who can experience inequality in many ways (Thomas et al., 2014). Yet since this study's inception, newer and more elaborate measures of critical reflection have been published (e.g., Diemer et al., 2017; Rapa et al., 2020). Notably, despite using different measures of critical reflection, our findings align with work showing similar upward trajectories among youth of color (Bañales, Marchand, et al., 2020; Seider, Kelly, et al., 2020; Seider et al., 2017). New thinking argues for conceptualizing critical reflection around distinct aspects of inequality, such as race, economics, gender, sexuality, and generation (Godfrey & Burson, 2018). Examining trajectories of awareness of specific types of inequality could better determine whether racial and ethnic groups have unique developmental trajectories of awareness of inequalities most relevant to their personal identities and experiences, and when and how adolescents' understandings of inequality become more integrated. Measures that go beyond awareness and include structural attributions of problems and beliefs that inequalities should be remedied should be prioritized in future work (Godfrey & Wolf, 2016). Studies are also needed that consider multiple dimensions of critical consciousness simultaneously to examine whether and how critical reflection, motivation, and action develop in tandem and inform each other dynamically over time.

Although a large, racially and ethnically diverse longitudinal sample is useful for informing racial-ethnic specific patterns of development, our data are not

representative of youth from these groups. A nationally representative sample would have avoided the confounding of race and ethnicity in our study with geographic site. Controlling for site in conditional models and finding no evidence of the role of site on trajectories should allay this concern, yet this design feature may have limited generalizability of findings. Although we attempted to robustly address missing data due to attrition, attrition could have further limited generalizability of findings or left the study underpowered to test certain parameters for certain racial and ethnic groups. We utilized broad racial and ethnic categories, but these groups are not monolithic, and our findings with multiracial identification show that variation matters for awareness of inequality. Future research should aim for more specificity in racial and ethnic identification and greater capacity to examine nuances among multiracial youth's experiences. Additionally, the form or type of longitudinal change in racial and ethnic identification may have mattered for critical consciousness development, a question that was outside of the scope of our study and represents a direction for future research. Racial and ethnic differences in awareness in inequality should be understood in the context of our partially invariant measurement model. Measurement invariance tests can often detect quite small differences, particularly with larger sample sizes, as in this study. Although measure variations across racial and ethnic groups were quite small, the lack of full intercept invariance may limit the degree to which the latent means across time and groups are comparable or the degree to which findings replicate in other samples (Putnick & Bornstein, 2016; Sakaluk et al., 2021). We did not test for measurement invariance in subgroups reflected in interaction tests, which would be important to do in more robust work on intersectionality. This study did not capture other important markers of marginalization. For example, there were too few non-binary youth and no data on sexual orientation. These and other experiences likely inform critical consciousness development.

Implications and conclusions

Awareness of inequality is malleable and capable of change across adolescence, and race and ethnicity appear to be powerful informants of developmental change in awareness of inequality. Youth of color become more rapidly aware of inequality over time. As awareness of inequality is an important step in becoming critically conscious, youth from different racial and ethnic groups may be differentially poised to embrace critical motivation and critical action across adolescence. Since these data were collected, national crises have laid bare the long-standing racial, economic, and social inequalities in the United States and their devastating consequences for individuals and society: the COVID-19 pandemic has disproportionately impacted communities of color,

police violence enacted on Black Americans continues unabated, white supremacists openly attacked the U.S. capital on January 6, 2021, Asian communities increasingly targeted with violence, and immigrants and people who identify as transgender still struggle for basic human rights. As many kinds of societal inequalities persist and grow, understanding who becomes aware of inequality—as well as when and how across adolescence—is a useful step toward determining how to increase awareness of societal inequality and move toward solutions that address inequalities. Although not nationally representative, this knowledge of levels and rates of change for awareness of inequality over time for different groups of youth can provide a useful baseline for school or community-based interventions to increase awareness of inequality beyond what is expected from naturally occurring experiences. Middle schools in particular should consider curricula that allow students to learn about societal inequalities and the differential impact of inequality across racial and ethnic groups, as youth have different levels of understanding of inequality by sixth grade (e.g., Cammarota, 2016; Seider & Graves, 2020). Importantly, direct experience with inequality should not have to be the primary way that adolescents gain awareness of inequality. We need to more widely adopt evidence-based practices in schools that ensure that societal inequalities are better understood by all.

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REFERENCES

- Aldana, A., Bañales, J., & Richards-Schuster, K. (2019). Youth anti-racist engagement: Conceptualization, development, and validation of an Anti-Racism Action Scale. *Adolescent Research Review*, 4, 369–381. <https://doi.org/10.1007/s40894-019-00113-1>
- Anyiwo, N., Bañales, J., Rowley, S. J., Watkins, D. C., & Richards-Schuster, K. (2018). Sociocultural influences on the sociopolitical development of African American youth. *Child Development Perspectives*, 12(3), 165–170.
- Ayón, C. (2016). Talking to Latino children about race, inequality, and discrimination: Raising families in an anti-immigrant political environment. *Journal of the Society for Social Work and Research*, 7(3), 449–477. <https://doi.org/10.1086/686929>
- Ballard, P. J. (2016). Longitudinal links between discrimination and civic development among Latino and Asian adolescents. *Journal of Research on Adolescence*, 26(4), 723–737. <https://doi.org/10.1111/jora.12221>
- Bañales, J., Aldana, A., Richards-Schuster, K., Flanagan, C. A., Diemer, M. A., & Rowley, S. J. (2021). Youth anti-racism action: Contributions of youth perceptions of school racial messages and critical consciousness. *Journal of Community Psychology*, 49(8), 3079–3100. <https://doi.org/10.1002/jcop.22266>
- Bañales, J., Marchand, A. D., Skinner, O. D., Anyiwo, N., Rowley, S. J., & Kurtz-Costes, B. (2020). Black adolescents' critical reflection development: Parents' racial socialization and attributions about race achievement gaps. *Journal of Research on Adolescence*, 30(S2), 403–417. <https://doi.org/10.1111/jora.12485>
- Bañales, J., Mathews, C., Hayat, N., Anyiwo, N., & Diemer, M. A. (2020). Latinx and Black young adults' pathways to civic/political engagement. *Cultural Diversity and Ethnic Minority Psychology*, 26(2), 176–188. <https://doi.org/10.1037/cdp0000271>
- Bollen, K. A. (1989). *Structural equations with latent variables*. John Wiley and Sons.
- Bonilla-Silva, E. (2008). *Racism without racist: Color-blind racism and the persistence of racial inequality in America* (5th ed.). Rowman and Littlefield.
- Cammarota, J. (2016). The praxis of ethnic studies: Transforming second sight into critical consciousness. *Race Ethnicity and Education*, 19(2), 233–251.
- Charmaraman, L., Woo, M., Quach, A., & Erkut, S. (2014). How have researchers studied multiracial populations? A content and methodological review of 20 years of research. *Cultural Diversity and Ethnic Minority Psychology*, 20(3), 336–352. <https://doi.org/10.1037/a0035437>
- Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling*, 9(2), 233–255.
- Cole, E. R. (2009). Intersectionality and research in psychology. *American Psychologist*, 64(3), 170–180. <https://doi.org/10.1037/a0014564>
- Collins, P. H. (2019). *Intersectionality as critical social theory*. Duke University Press.
- Crenshaw, K. (1991). Mapping margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review*, 43, 1241–1299.
- Diemer, M. A., Kauffman, A., Koenig, N., Trahan, E., & Hsieh, C. A. (2006). Challenging racism, sexism, and social injustice: Support for urban adolescents' critical consciousness development. *Cultural Diversity and Ethnic Minority Psychology*, 12(3), 444–460.
- Diemer, M. A., Pinedo, A., Bañales, J., Mathews, C. J., Frisby, M. B., Harris, E. M., & McAlister, S. (2021). Recentring action in critical consciousness. *Child Development Perspectives*, 15(1), 12–17. <https://doi.org/10.1111/cdep.12393>
- Diemer, M. A., & Rapa, L. J. (2016). Unraveling the complexity of critical consciousness, political efficacy, and political action among marginalized adolescents. *Child Development*, 87(1), 221–238. <https://doi.org/10.1111/cdev.12446>
- Diemer, M. A., Rapa, L. J., Park, C. J., & Perry, J. C. (2017). Development and validation of the critical consciousness scale. *Youth & Society*, 49(4), 461–483.
- Diemer, M. A., Rapa, L. J., Voight, A. M., & McWhirter, E. H. (2016). Critical consciousness: A developmental approach to addressing marginalization and oppression. *Child Development Perspectives*, 10(4), 216–221.
- Duncan, G. J., & Murnane, R. J. (Eds.). (2011). *Whither opportunity? Rising inequality, schools, and children's life chances*. Russell Sage Foundation; Spencer Foundation.
- Dunn, D., Wray-Lake, L., & Plummer, J. A. (2022). Youth are watching: Adolescents' sociopolitical development in the Trump era. *Child Development*. <https://doi.org/10.1111/cdev.13762>

- Fields, K. E., & Fields, B. J. (2014). *Racecraft: The soul of inequality in American life*. Verso.
- Flanagan, C., & Kornbluh, M. (2019). How unequal is the United States? Adolescents' images of social stratification. *Child Development*, 90(3), 957–969. <https://doi.org/10.1111/cdev.12954>
- Flanagan, C., Syvertsen, A., & Wray-Lake, L. (2007). Youth political activism: Sources of public hope in the context of globalization. In R. K. Silbereisen & R. M. Lerner (Eds.), *Approaches to Positive Youth Development* (pp. 243–256). <https://doi.org/10.4135/9781446213803.n13>
- Flanagan, C. A. (2013). *Teenage citizens: The political theories of the young*. Harvard Press.
- Flanagan, C. A., Kim, T., Pykett, A., Finlay, A., Gallay, E. E., & Pancer, M. (2014). Adolescents' theories about economic inequality: Why are some people poor while others are rich? *Developmental Psychology*, 50(11), 2512–2525. <https://doi.org/10.1037/a0037934>
- Franco, M., Durkee, M., & McElroy-Heltzel, S. (2021). Discrimination comes in layers: Dimensions of discrimination and mental health for multiracial people. *Cultural Diversity and Ethnic Minority Psychology*, 27(3), 343–353. <https://doi.org/10.1037/cdp0000441>
- Friere, P. (1970). *Pedagogy of the oppressed*. Continuum.
- Gaither, S. E. (2015). “Mixed” results: Multiracial research and identity explorations. *Current Directions in Psychological Science*, 24(2), 114–119. <https://doi.org/10.1177/0963721414558115>
- Gans, H. (2012). “Whitening” and the changing American racial hierarchy. *Du Bois Review: Social Science Research on Race*, 9(2), 267–279. <https://doi.org/10.1017/S1742058X12000288>
- Godfrey, E. B., & Burson, E. (2018). Interrogating the intersections: How intersectional perspectives can inform developmental scholarship on critical consciousness. *New Directions for Child and Adolescent Development*, 2018(161), 17–38. <https://doi.org/10.1002/cad.20246>
- Godfrey, E. B., Burson, E. L., Yanisch, T. M., Hughes, D., & Way, N. (2019). A bitter pill to swallow? Patterns of critical consciousness and socioemotional and academic well-being in early adolescence. *Developmental Psychology*, 55(3), 525–537.
- Godfrey, E. B., & Grayman, J. K. (2014). Teaching citizens: The role of open classroom climate in fostering critical consciousness among youth. *Journal of Youth and Adolescence*, 43(11), 1801–1817. <https://doi.org/10.1007/s10964-013-0084-5>
- Godfrey, E. B., & Wolf, S. (2016). Developing critical consciousness or justifying the system? A qualitative analysis of attributions for poverty and wealth among low-income racial/ethnic minority and immigrant women. *Cultural Diversity and Ethnic Minority Psychology*, 22(1), 93–103. <https://doi.org/10.1037/cdp0000048>
- Gover, A. R., Harper, S. B., & Langton, L. (2020). Anti-Asian hate crime during the COVID-19 pandemic: Exploring the reproduction of inequality. *American Journal of Criminal Justice*, 45(4), 647–667. <https://doi.org/10.1007/s12103-020-09545-1>
- Greene, M. E., & Patton, G. (2020). Adolescence and gender equality in health. *Journal of Adolescent Health*, 66(1), S1–S2. <https://doi.org/10.1016/j.jadohealth.2019.10.012>
- 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(2), 218–236.
- Hazelbaker, T., Brown, C. S., Nenadal, L., & Mistry, R. S. (2022). Fostering anti-racism in white children and youth: Development within contexts. *American Psychologist*, 77(4), 497–509. <https://doi.org/10.1037/amp0000948>
- Heberle, A. E., Rapa, L. J., & Farago, F. (2020). Critical consciousness in children and adolescents: A systematic review, critical assessment, and recommendations for future research. *Psychological Bulletin*, 146(6), 525–551. <https://doi.org/10.1037/bul0000230>
- Hope, E. C., Smith, C. D., Cryer-Coupet, Q. R., & Briggs, A. S. (2020). Relations between racial stress and critical consciousness for black adolescents. *Journal of Applied Developmental Psychology*, 70, 101184. <https://doi.org/10.1016/j.appdev.2020.101184>
- Howard, W. J., Rhemtulla, M., & Little, T. D. (2015). Using principal components as auxiliary variables in missing data estimation. *Multivariate Behavioral Research*, 50(3), 285–299. <https://doi.org/10.1080/00273171.2014.999267>
- Hughes, J. M., & Bigler, R. S. (2011). Predictors of African American and European American adolescents' endorsement of race-conscious social policies. *Developmental Psychology*, 47(2), 479–492. <https://doi.org/10.1037/a0021309>
- Huynh, V. W., Guan, S. S. A., Almeida, D. M., McCreath, H., & Fuligni, A. J. (2016). Everyday discrimination and diurnal cortisol during adolescence. *Hormones and Behavior*, 80, 76–81. <https://doi.org/10.1016/j.yhbeh.2016.01.009>
- Jemal, A. (2017). Critical consciousness: A critique and critical analysis of the literature. *The Urban Review*, 49(4), 602–626. <https://doi.org/10.1007/s11256-017-0411-3>
- Jones, N., Marks, R., Ramirez, R., & Rios-Vargas, M. (2021). Improved race, ethnicity measures reveal U.S. population is much more multiracial. US Census Report. <https://www.census.gov/library/stories/2021/08/improved-race-ethnicity-measures-reveal-united-states-population-much-more-multiracial.html>
- Kim, E. S., & Wilson, V. L. (2014). Testing measurement invariance across groups in longitudinal data: Multigroup second-order latent growth model. *Structural Equation Modeling: A Multidisciplinary Journal*, 21(4), 566–576.
- Kluegel, J. R., & Smith, E. R. (2017). *Beliefs about inequality: Americans' views of what is and what ought to be*. Routledge. <https://doi.org/10.4324/9781351329002>
- Lang, K. M., & Little, T. D. (2018). Principled missing data treatments. *Prevention Science*, 19, 284–294. <https://doi.org/10.1007/s11212-016-0644-5>
- Little, T. D. (2013). *Longitudinal structural equation modeling*. Guilford Press.
- Little, T. D., & Rhemtulla, M. (2013). Planned missing data designs for developmental researchers. *Child Development Perspectives*, 7(4), 199–204.
- Madley-Dowd, P., Hughes, R., Tilling, K., & Heron, J. (2019). The proportion of missing data should not be used to guide decisions on multiple imputation. *Journal of Clinical Epidemiology*, 110, 63–73. <https://doi.org/10.1016/j.jclinepi.2019.02.016>
- Mathews, C. J., Medina, M. A., Bañales, J., Pinetta, B. J., Marchand, A. D., Agi, A. C., Miller, S. M., Hoffman, A. J., Diemer, M. A., & Rivas-Drake, D. (2019). Mapping the intersections of adolescents' ethnic-racial identity and critical consciousness. *Adolescent Research Review*, 5(4), 1–17.
- Mezey, S. G. (2019). *Transgender rights: From Obama to trump*. Routledge.
- Mistry, R. S., Brown, C. S., Chow, K. A., & Collins, G. S. (2012). Increasing the complexity of young adolescents' beliefs about poverty and inequality: Results of an 8th grade social studies curriculum intervention. *Journal of Youth and Adolescence*, 41(6), 704–716.
- Muthén, L. K., & Muthén, B. O. (2017). *Mplus: Statistical analysis with latent variables: User's guide (Version 8)*. Authors.
- National Center for Education Statistics. (2014). National center for education statistics. <http://nces.ed.gov/ipeds/data/ipedssearch/>
- Nguyen, B. M. D., Noguera, P., Adkins, N., & Teranishi, R. T. (2019). Ethnic discipline gap: Unseen dimensions of racial disproportionality in school discipline. *American Educational Research Journal*, 56(5), 1973–2003. <https://doi.org/10.3102/0002831219833919>
- Nishina, A., Bellmore, A., Witkow, M. R., & Nylund-Gibson, K. (2010). Longitudinal consistency of adolescent ethnic identification across varying school ethnic contexts. *Developmental Psychology*, 46(6), 1389–1401.
- Nishina, A., & Witkow, M. R. (2020). Why developmental researchers should care about biracial, multiracial, and multiethnic

- youth. *Child Development Perspectives*, 14(1), 21–27. <https://doi.org/10.1111/cdep.12350>
 Ogbu, J. U. (1991). Minority coping responses and school experience. *The Journal of Psychohistory*, 18(4), 433. <https://www.proquest.com/scholarly-journals/minority-coping-responses-school-experience/docview/1305586802/se-2?accountid=14512>
 Omi, M., & Winant, H. (2015). *Racial formation in the United States* (3rd ed.). Routledge.
 Plummer, J. A., Wray-Lake, L., Alvis, L., Metzger, A., & Syvertsen, A. K. (2021). Assessing the link between adolescents' awareness of inequality and civic engagement across time and racial/ethnic groups. *Journal of Youth and Adolescence*, 51, 428–442. <https://doi.org/10.1007/s10964-021-01545-6>
 Putnick, D. L., & Bornstein, M. H. (2016). Measurement invariance conventions and reporting: The state of the art and future directions for psychological research. *Developmental Review*, 41, 71–90. <https://doi.org/10.1016/j.dr.2016.06.004>
 Rapa, L. J., Bolding, C. W., & Jamil, F. M. (2020). Development and initial validation of the Short Critical Consciousness Scale (CCS-S). *Journal of Applied Developmental Psychology*, 70, 101164. <https://doi.org/10.1016/j.appdev.2020.101164>
 Ritchie, A. J. (2017). *Invisible no more: Police violence against Black women and women of color*. Beacon Press.
 Rosenbloom, S. R., & Way, N. (2004). Experiences of discrimination among African American, Asian American, and Latino adolescents in an urban high school. *Youth & Society*, 35(4), 420–451. <https://doi.org/10.1177/0044118X03261479>
 Sakaluk, J. K., Fisher, A. N., & Kilshaw, R. E. (2021). Dyadic measurement invariance and its importance for replicability in romantic relationship science. *Personal Relationships*, 28(1), 190–226. <https://doi.org/10.1111/pere.12341>
 Sánchez-Jankowski, M. (2002). Minority youth and civic engagement: The impact of group relations. *Applied Developmental Science*, 6(4), 237–245.
 Seaton, E. K., Gee, G. C., Neblett, E., & Spanierman, L. (2018). New directions for racial discrimination research as inspired by the integrative model. *American Psychologist*, 73(6), 768–780. <https://doi.org/10.1037/amp0000315>
 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(2), 153–163.
 Seider, S., Clark, S., & Graves, D. (2020). The development of critical consciousness and its relation to academic achievement in adolescents of color. *Child Development*, 91(2), e451–e474. <https://doi.org/10.1111/cdev.13262>
 Seider, S., & Graves, D. (2020). *Schooling for critical consciousness: Engaging black and Latinx youth in analyzing, navigating, and challenging racial injustice*. Harvard Education Press.
 Seider, S., Kelly, L., Clark, S., Jennett, P., El-Amin, A., Graves, D., Soutter, M., Malhotra, S., & Cabral, M. (2020). Fostering the sociopolitical development of African American and Latinx adolescents to analyze and challenge racial and economic inequality. *Youth & Society*, 52(5), 756–794. <https://doi.org/10.1177/0044118X18767783>
 Seider, S., Tamerat, J., Clark, S., & Soutter, M. (2017). Investigating adolescents' critical consciousness development through a character framework. *Journal of Youth and Adolescence*, 46(6), 1162–1178. <https://doi.org/10.1007/s10964-017-0641-4>
 Suárez-Orozco, C., Motti-Stefanidi, F., Marks, A., & Katsiaficas, D. (2018). An integrative risk and resilience model for understanding the adaptation of immigrant-origin children and youth. *American Psychologist*, 73(6), 781–796. <https://doi.org/10.1037/amp0000265>
 The Combahee River Collective. (1974/2015). The Combahee river collective statement. [Web Archive] Retrieved from the Library of Congress. <https://www.loc.gov/item/lcwaN0028151/>
 Thomas, A. J., Barrie, R., Brunner, J., Clawson, A., Hewitt, A., Jeremie-Brink, G., & Rowe-Johnson, M. (2014). Assessing critical consciousness in youth and young adults. *Journal of Research on Adolescence*, 24(3), 485–496. <https://doi.org/10.1111/jora.12132>
 Tyler, C. P., Olsen, S. G., Geldhof, G. J., & Bowers, E. P. (2020). Critical consciousness in late adolescence: Understanding if, how, and why youth act. *Journal of Applied Developmental Psychology*, 70, 101165. <https://doi.org/10.1016/j.appdev.2020.101165>
 U.S. Department of Education. (2021). *2015–2019 American Community Survey-ED Public School and School District tables*. Institute of Education Sciences, National Center for Education Statistics. <https://nces.ed.gov/programs/edge/TableView/acsPrfile/2019>
 Van der Graaff, J., Branje, S., De Wied, M., Hawk, S., Van Lier, P., & Meeus, W. (2014). Perspective taking and empathic concern in adolescence: Gender differences in developmental changes. *Developmental Psychology*, 50, 881–888.
 Wänström, L. (2009). Sample sizes for two-group second-order latent growth curve models. *Multivariate Behavioral Research*, 44(5), 588–619.
 Watts, R. J., Diemer, M. A., & Voight, A. M. (2011). Critical consciousness: Current status and future directions. *New Directions for Child and Adolescent Development*, 134, 43–57. <https://doi.org/10.1002/cd.310>
 Watts, R. J., & Flanagan, C. (2007). Pushing the envelope on youth civic engagement: A developmental and liberation psychology perspective. *Journal of Community Psychology*, 35(6), 779–792. <https://doi.org/10.1002/jcop.20178>
 Wray-Lake, L., Arruda, E. H., & Schulenberg, J. E. (2020). Civic development across the transition to adulthood in a national US sample: Variations by race/ethnicity, parent education, and gender. *Developmental Psychology*, 56(10), 1948–1967. <https://doi.org/10.1037/dev0001101>
 Wray-Lake, L., Rote, W., Gupta, T., Godfrey, E., & Sirin, S. (2015). Examining correlates of civic engagement among immigrant adolescents. *Research on Human Development*, 12(1–2), 10–27. <https://doi.org/10.1080/15427609.2015.1010343>
 Wray-Lake, L., Tang, J., & Victorino, C. (2017). Are they political? Examining Asian American college students' civic engagement. *Asian American Journal of Psychology*, 8(1), 31–42. <https://doi.org/10.1037/aap0000061>
 Wray-Lake, L., Wells, R., Alvis, L., Delgado, S., Syvertsen, A. K., & Metzger, A. (2018). Being a Latinx adolescent under a Trump presidency: Analysis of Latinx youth's reactions to immigration politics. *Children and Youth Services Review*, 87, 192–204. <https://doi.org/10.1016/j.childyouth.2018.02.032>
 Yoshikawa, H., Mistry, R., & Wang, Y. (2016). Advancing methods in research on Asian American children and youth. *Child Development*, 87(4), 1033–1050. <https://doi.org/10.1111/cdev.12576>
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