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Liberty and Justice for All? System-Justifying Ideologies, Sense of Belonging, and Academic
Achievement Among Ethnic Minority Youth

By

Cyrell C. B. Roberson

A dissertation submitted in partial satisfaction of the

requirements for the degree of

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Professor Frank C. Worrell, Chair
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Abstract

Liberty and Justice for All? System-Justifying Ideologies, Sense of Belonging, and Academic Achievement Among Ethnic Minority Youth

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University of California, Berkeley

Professor Frank C. Worrell, Chair

The objective of this study was to examine the correlation of system-justifying ideologies (O'Brien & Major, 2005)—a relatively new variable of interest in the context of education research—and four established psychosocial variables (grit, growth mindsets, ethnic identity, and other group orientation) with two outcome variables (academic achievement and sense of belonging) among underserved, ethnic minority youth with a particular interest in high achieving students among this group. The sample was comprised of 101 underserved Latinx and Black high school students. Using hierarchical regressions, I examined the contributions of psychosocial qualities to academic achievement and sense of belong. Next, I used qualitative analyses to better understand the nuances of how 34 participants perceived the fairness of society in relation to their motivation to perform in school. Academic achievement was negatively correlated with age and positively correlated with John Henryism, grit, growth mindset, and other group orientation (OGO). SJIs were not meaningful predictors of sense of belonging. Sense of belonging was positively correlated with grit. A positive prediction of GPA based on grit was found in Block 4 of the hierarchical regression for GPA. Three themes emerged from the qualitative analyses: (a) ambitious career aspirations, (b) systemic barriers that result in opportunity gaps and unequal access to the American Dream, and (c) skepticism of the American Dream and meritocracy narratives. The qualitative findings indicate that many high achieving ethnic minority youth are cautiously ambitious about pursuing their dreams despite their acknowledgement of the reality of systemic barriers that they will likely face.

Keywords: system-justifying ideologies, grit, growth mindset, ethnic identity, other group orientation, academic achievement, sense of belonging

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Liberty and Justice for All? System-Justifying Ideologies, Sense of Belonging, and Academic Achievement Among Ethnic Minority Youth

For decades, the United States has been plagued by one of the most ubiquitous and pervasive issues in education to date, the academic achievement gap. This gap in academic achievement refers to the difference in academic performance between poor and wealthier students, as well as the difference between ethnic majority and certain ethnic minority group members (e.g., Blacks, Latinxs, and Native Americans; Kena et al., 2016). Recent national data collected on the academic achievement of 4th, 8th, and 12th graders—measured by National Assessment of Educational Progress (NAEP) assessments—indicated a 25-point gap on a scale ranging from 0 to 500 in math achievement between Black and White 4th grade students in 2019. This gap widens as students matriculate through the education system. For example, the Black-White gap in math was 31 points for 12th graders compared to 25 points for 4th graders in 2019 (NAEP, n.d.).

Similar gaps in achievement are found between Latinx and White students. Some researchers have made the argument that gaps in *opportunities*, *socioeconomic inequality*, and *residential racial segregation* between ethnic majority and minority groups in the US should be the primary focus of research and social policy to better understand and close achievement gaps (Carter & Welner, 2013; Reardon, 2011; Rothstein, 2008). This paper will be framed within the larger context of both the achievement and opportunity gaps in the United States between ethnic majority and minority youth. The pervasive gaps in opportunity and achievement have persisted despite the best efforts of many scholars and policy makers (Cohen et al., 1999; Executive Order No. 13,621, 2012; No Child Left Behind, 2003; Yeager & Walton, 2011).

Most Americans believe closing the academic achievement gap is an important issue. In 2006, the Phi Delta Kappa/Gallup Poll of the Public's Attitudes Towards Public Schools indicated that 88% of Americans believed closing the academic achievement gap was an important issue that needs to be resolved. Moreover, the researchers also found that 81% of respondents believed “that the achievement gap can be narrowed substantially while maintaining high standards for all children” (Rose & Gallup, 2006, p. 47). Clearly, closing the academic achievement gap is a shared goal for many Americans. Efforts to close the achievement gap are often driven by research, practice, and policy agendas with progressive goals aimed at moving the needle towards better academic outcomes in the United States for certain ethnic minority groups (Cohen et al., 1999; Executive Order No. 13,621, 2012; No Child Left Behind, 2003; Yeager & Walton, 2011). However, the academic achievement gap also accrues a high economic cost in terms of unattained earnings later in life for the students affected, as well as the country as a whole in regard to a loss in gross domestic product (McKinsey & Company, 2009). Researchers at McKinsey and Company (2009) argued that the economic effects of perpetual gaps in achievement are comparable to a permanent national recession. “The annual output cost of the racial, income, and regional or systems achievement gap is larger than the United States recession of 1981–1982” (McKinsey & Company, 2009, p. 6).

The objective of this study was to examine the correlation of system-justifying ideologies (O'Brien & Major, 2005)—a relatively new variable of interest in the context of education research—and four established psychosocial variables (grit, growth mindsets, ethnic identity, and other group orientation) with two outcome variables (academic achievement and

sense of belonging) among underserved, ethnic minority youth with a particular interest in high achieving students among this group. This study's focus on high achieving ethnic minority students mirrors previous studies that have examined the psychosocial development of students who attend and participate in gifted and talented programs (Dixson et al., 2016; Worrell, 2007). The focus on high achieving ethnic minority youth may provide unique insight into the intrinsic and extrinsic factors that are involved in the process of achieving academic success. The overall goal of this study was to better understand the within-group nuances of the relationship between motivation and school performance among ethnic minority youth in relation to their belief (or lack thereof) in the fairness of the larger social system in which the education system is embedded.

It is imperative to note that powerful and pervasive social and structural factors have contributed to the existence and sustainability of the academic achievement gap in the United States. Researchers have posited that opportunity gaps and unequal distributions of resources, wealth, and support between ethnic majority and certain minority group members, as well as between students of different income levels, are the underlying issues that have resulted in inevitable gaps in achievement (Carter & Welner, 2013). Certainly, eliminating barriers to equitable access to opportunities and resources for underserved populations should be a focus of public policy and social interventions.

Although social and economic interventions are necessary to ultimately help to eliminate the academic achievement and opportunity gaps (Owens et al., 2016), these types of macrolevel social interventions often take time to implement with fidelity and their successful implementation often depends on the current political climate at any given time on the local, state, and federal levels. On the other hand, implementation of individual and group level interventions typically are not bound by the same restrictions. Thus, although social and structural barriers (e.g., income segregation between schools and school districts; Owens et al., 2016) unequivocally contribute to unequal educational opportunities in the US, in this paper, I aimed to contribute to the development of practical, individual, and group level interventions that may help individuals, clinicians, school counselors, practitioners, and school administrators close achievement gaps in their classrooms, schools, and communities. For a broader review of the systemic and structural factors that contribute to opportunity and achievement gaps, I refer the reader to Carter and Welner (2013) and Owen et al. (2016).

The current study is framed within the context of the opportunity and academic achievement gaps. To this end, I begin by reviewing the empirical evidence that supports the existence and implications of the gap in academic achievement over time. Next, I review and critique two dominant theories that have been frequently used to explain the achievement gap in the literature and explain how system-justification theory makes up for some of the shortcomings of these two theories. I then propose system-justification theory as an alternate theoretical framework to help explain the complexity and nuance in the trends in achievement in the United States between majority and certain minority group members. I also review the literature on grit, growth mindsets, ethnic identity, other group orientation, and sense of belonging. The method, results, and discussion follow in subsequent sections, as well as limitations and recommendations for future research in the final section of this paper.

Academic Achievement in the 21st Century

Although closing the gap in academic achievement is a goal that is shared by stakeholders, they may not be aware of the intricacies and trends by grade level, race and ethnicity, and subject area over time. An in-depth understanding of the history of the achievement gap should be reflected in the theories that help to explain it. According to NAEP data, Black and Latinx youth have historically scored lower than their White counterparts in reading and math achievement (Perie et al., 2005; Rampey et al., 2009). Although mathematics scores for both Black and White students increased in 2007, White students still had higher scores across subjects on NAEP assessments when compared to Black and Latinx students (Rampey et al., 2009). For 12th grade students, mathematics achievement scores were higher for White students than their Black, Latinx, and American Indian/Alaska Native counterparts when measured in 2005, 2009, 2013, 2015, and 2019 (NAEP, 2020).

Widening Trends

On average, based on grade level standards, Black and Latinx students were approximately two to three grade levels of learning behind their White peers in the United States in 2009 (McKinsey & Company, 2009). When achievement is measured by both standardized test scores and graduation rates, Black and Latinx students also fall behind their White peers. In fact, the gap in achievement appears to widen the longer children are in school. For example, the gap is 41% larger for Latinx students and 22% larger for Black students when 4th grade scores are compared to scores in the 12th grade. According to NAEP scores in reading and math, 48% of Black and 43% of Latinx students scored in the “below basic” range, respectively in Grade 12. On the other hand, only 17% of White students scored in the same range (McKinsey & Company, 2009). This gap can be found in every state in the United States and, even more so, in large, urban districts where the gap tends to be wider (McKinsey & Company, 2009).

For 12th grade students, the gap in reading achievement between Black and White students widened by 8 points between 1992 and 2019 (NAEP, n.d.). Moreover, the 4-point increase in the reading achievement gap between Black and White students from 4th grade (26-point gap) to 12th grade (30-point gap) indicates the reading achievement gap gets worse over time. The reading achievement gap widens as Black and White children progress through school. Welner and Carter (2013) attributed this phenomenon to a widening gap in *opportunities* between ethnic majority and certain ethnic minority group children as they matriculate through school.

Narrowing Trends

Although the achievement gaps between ethnic majority and minority youth in reading and math are significant, the gaps narrowed slightly between 1992 and 2019 for certain groups due to the rising scores of Black and Latinx students (NAEP, n.d.). For 4th graders, the achievement gap in reading between White and Black students narrowed by 5 points between 1992 and 2019, according to NAEP data (NAEP, n.d.). Similarly, the gap in reading between White and Latinx 8th graders narrowed by 6 points between 1992 and 2019 (NAEP, n.d.). Researchers have also reported that overall, the achievement gap in mathematics on NAEP assessments for both 4th and 8th graders narrowed since the early 1990s. More specifically, the Black-White gap in mathematics achievement narrowed by 6 points between 1990 and 2015

(Kena et al., 2016). More recently, between 2013 and 2015, the mathematics achievement gap between Latinx and White 4th graders was not measurably different.

Taken together, it appears that progress in closing the gap has been slow and inconsistent from year to year. Thus far, I have provided an overview of the achievement gap and its implications from a historical perspective. In the next section of this paper, I propose an alternate theoretical framework for understanding ethnic minority student school performance and achievement in the United States.

Theoretical Explanations for the Achievement Gap

In addition to a history of inequitable distribution of opportunities and resources in the United States between majority and ethnic minority group members, two prominent theories—cultural ecological theory (Ogbu, 1978, 1989, 2008; Ogbu & Simons, 1998) and stereotype threat theory (Steele, 1997, 2011; Steele & Aronson, 1995)—are frequently cited in the literature as explanations for the underachievement of Black students and the resulting academic achievement gap in the United States. However, both theories have been critiqued in the literature. Some researchers have argued that cultural ecological theory may not be an accurate explanation of ethnic minority students' experiences and academic achievement (Ainsworth-Darnell & Downey, 1998; Carter, 2005, 2006; Harris & Robinson, 2007; Horvat & O'Connor, 2006; Tyson, 2002, 2011; Tyson et al., 2005). Stereotype threat has been critiqued for not being generalizable outside of a research laboratory setting (Cullen et al., 2004). System-justification theory (O'Brien & Major, 2005) will be introduced as a relatively new theoretical framework in the context of education research that aims to compensate for some of the shortcomings of both cultural ecological theory and stereotype threat theory.

Cultural Ecological Theory

Ogbu (1974, 1979, 1981, 1982) developed cultural ecological theory to take into account the broad societal and school factors experienced by ethnic minority youth when thinking about their school performance. The researcher argued that the experiences, perceptions, and interpretations of schooling have detrimental effects on the academic performance of certain ethnic minority youth (e.g., involuntary minorities or those whose family was brought to the United States against their will). Ogbu's early research investigated why certain ethnic minority students did not perform as well in school as their ethnic majority counterparts (Ogbu, 1974, 1979). As a result of his early work, Ogbu came to the conclusion that school performance cannot be solely attributed to genetics, superior cultural educational practices, or linguistic differences.

Ogbu and Simons (1998) classified ethnic minority groups in the US into three distinct groups (autonomous, voluntary, and involuntary minorities) based on how and why they acquired their minority status. Autonomous minorities are often relatively small in number and although they may experience discrimination, they do not come from a history of oppression. Thus, they often perform similarly to the dominant group in academics. According to Ogbu and Simons (1998), this group included Amish, Jewish, and Mormon Americans. For the purpose of this paper, autonomous minorities will not be relevant to the topic of this paper and thus, will not be discussed throughout the rest of the paper.

The term voluntary minority refers to ethnic minority group members who either immigrated to the United States by choice or descended from a lineage that willingly immigrated to the United States in pursuit of access to better opportunities. For example, according to Ogbu and Simons' (1998) definition of autonomous minorities, immigrants from Africa, Cuba, China, India, Japan, Korea, the Caribbean, and Mexico are included in this particular category of ethnic minorities.

The term involuntary minority refers to non-immigrant, ethnic minority group members who were made to be a part of the United States against their will. The researchers included several ethnic groups in this category such as American Indians and Alaska Natives, Mexican Americans (who did not come to the U.S. by choice), Native Americans, Puerto Ricans, and African Americans. These groups were either conquered, colonized, or forced to come to the United States as slaves against their will. It is important to note that race and a group's percentage in the population do not determine voluntary or involuntary minority status. Voluntary and involuntary minority status is based on the group's history. More specifically, it depends on how the group became a minority group in the United States, as well as the positionality of the group in terms of social, economic, and political power.

In addition to introducing a categorization of ethnic minorities into three distinct groups, cultural ecological theory (CET) also includes the following components: (a) a focus on how ethnic minorities are treated in the United States, (b) two different cultural frames of reference for voluntary and involuntary minorities, (c) an emphasis on how ethnic minorities perceive and respond to their treatment in the education system and other societal institutions based on their frame of reference (Ogbu & Simons, 1998), and (d) an introduction to the concept of "acting White." According to the theory, this response to treatment also depends on how and why the group became a minority. Ogbu and Simons (1998) posited that the gap in achievement between Black and White students can be attributed to how involuntary minority students are responding to how they, as a people, were brought to the country. In other words, their academic performance is an expression—either conscious or unconscious—of their resistance to the current social system in which they live, as well as the historical context in which their families were brought to the US (i.e., slavery and/or colonization). The researchers used the term *community forces* to describe this component of the theory. The "system" that Ogbu and Simons (1998) referred to in their conceptualization of their theory refers to collective problems that minority groups may experience such as various forms of discrimination including, but not limited to employment, housing, and identity discrimination.

Ogbu and Simons (1998) posited that voluntary and involuntary minorities have different frames of reference. The researchers defined a frame of reference as how a person or a group perceives a situation. According to CET, voluntary minorities have a positive dual frame of reference where their life in the US is perceived as better than their life was back in their home country based on having access to more opportunities to succeed in the US. In contrast, according to CET, involuntary minorities possess a negative dual frame of reference where they perceive their current economic, social, and school conditions as inferior to middle-class White Americans.

One key feature of Fordham and Ogbu's (1986) piece is the introduction of the idea of involuntary minorities "acting White." The researchers conducted an ethnographic study of 33 Black, high school students in Washington, D.C. who were all in the 11th grade at the time. Eight cases were included in the publication. According to the authors' interpretation, acting White occurs when ethnic minorities adopt White, middle-class ways, such as speaking

standard English. The researchers made the claim that the fear of conforming to White culture by acting White causes internal conflict within Black students, as well as social tension between some Black students and their peers. As a result, the authors made the argument that their academic effort declines, which then leads them to underachieve in school. In other words, doing well in school is in essence, acting White, according to their interpretation.

The authors went on to describe the collective identity of Black Americans. According to the researchers, this collective identity develops in opposition to White Americans' social identity due to the history of mistreatment of Black Americans in America by White Americans. Thus, they further argued that some Black Americans actively oppose, resist, and sanction behaviors among other Black Americans that fall within a White cultural frame of reference. Some of the specific behaviors and attitudes that the sample of Black students in their study associated with acting White included, but were not limited to, speaking standard English, listening to White music and White radio stations, going to the opera or ballet, and spending a lot of time in the library studying. According to the authors, this opposition and resistance to acting White leads to a lack of motivation to try hard in school. According to the researchers, both the oppositional social identity and the oppositional cultural frame of reference work in tandem to protect Black Americans' identity and to create a boundary between Black Americans and their White counterparts.

Fordham and Ogbu (1986) explained Black students' academic performance using an ecological lens. They attributed the underachievement of the Black students in their sample to three primary ecological factors: (a) White people provide an inferior education to Black students and Black students are treated differently in school, (b) limitations in the opportunity structure (i.e. job ceilings put in place by White Americans in positions of power prevent White people from adequately rewarding Black youth for their hard work in school and beyond in their adult life), and (c) Black Americans develop counterproductive coping strategies to deal with their experiences, which then limits their academic motivation to succeed. The main coping strategy to deal with the burden of acting White is to avoid the behaviors that they associated with acting White including studying and trying hard to excel in school.

The Cultural Ecological Theory Debate. Ogbu and Simons' (1998) article classified ethnic minorities into three distinct groups. These groups were oversimplified profiles of ethnic minorities that resulted in the overgeneralization of differences between minority and majority groups and how these differences affect school performance. Based on the cases provided in Fordham and Ogbu's (1986) article, there were several potential confounding individual-level factors that could also explain the students' underachievement, including poor executive functioning skills, poor attendance, and a fear of being labeled a nerd, which is different from a fear of or opposition to acting White (Fordham & Ogbu, 1986). Moreover, a lack of resources could also potentially explain the students' underachievement in school. The researchers essentially attributed minority school performance to their own lack of motivation in school in opposition to Whiteness. Ogbu and colleagues' (Fordham & Ogbu, 1986; Ogbu & Simons, 1998) explanation of minority school performance raised concerns and sparked a contentious debate between scholars in the literature (Downey, 2008; Farkas, 2008). Farkas (2008) and Downey (2008) further investigated the legitimacy of Ogbu and Simons' (1998) claims, as well as the extent in which their theory explained the achievement gap (Farkas, 2008; Downey, 2008).

Using data from the National Educational Longitudinal Study of 1988 (NELS), Ainsworth-Darnell and Downey (1998) argued against Ogbu and Simons' (1998) claims. I will

use the term “anti-acting White” to describe their position in the debate. The researchers argued that in contrast to oppositional culture, trying hard and doing well in school is not frowned upon as “acting White.” Moreover, they also made the claim that African Americans do not put forth less effort in school. According to Ainsworth-Darnell and Downey (1998), Ogbu and Simons’ (1998) anthropological and qualitative research was not as empirically objective and accurate as the NELS data.

Farkas et al. (2002) entered the debate in the literature by refuting the claims made by Ainsworth-Darnell and Downey (1998). Using data from NAEP (for more details regarding these data, see Wirt & Livingston, 2001), this group of researchers argued that Ainsworth-Darnell and Downey reached inaccurate conclusions based on their use of “unusually optimistic” self-reports of African American students’ oppositional attitudes—or lack thereof—towards school. Farkas et al. described Ainsworth-Darnell and Downey’s findings in this way: “Their [African American students] answers are typically inconsistent with their objective circumstances, including the feed-back they receive from teachers and the level of effort they apply toward school success” (p. 149). Additionally, Farkas et al. further critiqued Ainsworth-Darnell and Downey’s exclusion of strategies that successful African American students implemented to remain popular. The researchers continued their assessment of Ainsworth-Darnell and Downey’s claims by arguing that the NAEP data that they (i.e., Farkas et al., 2002) used in their replication studies included items that better captured the construct of oppositional culture. They suggested that Ainsworth-Darnell and Downey should have studied younger students to minimize social desirability in their responses. Ultimately, in contrast to Ainsworth-Darnell and Downey, Farkas et al. found that peer oppositional cultures did indeed exist in African American, Latinx, and American Indian students.

The Downey vs. Farkas debate did not end with Farkas et al.’s (2002) rebuttal. Downey and Ainsworth-Darnell (2002) pushed back against Farkas and his associates by arguing that Farkas et al.’s evidence was not robust enough and could not be replicated with 8th and 12th grade students. Furthermore, they made the claim that although 4th grade Black students reported higher oppositional culture, it only explained 11–15% of the variance in school performance. Lastly, Downey and Ainsworth-Darnell argued that Black students’ attitudes may still predict behavior *within* their race, even if, when compared to White students, there appeared to be less of an association between attitudes about school and *academic* behavior.

Farkas (2008) replied to Downey and Ainsworth-Darnell’s (2002) critique by noting that Downey and Ainsworth-Darnell’s findings did not replicate on older children due to a lack of reliability to politically sensitive questions. The researcher also criticized Downey and Ainsworth-Darnell for switching their focus away from the Black/White student comparison of attitudes towards school to a focus on within-group differences among Black students. Later, Farkas built on his study of 4th grade oppositional peer-group culture in the NAEP data set. The researcher provided evidence to support the claim that having a high percentage of Black and Latinx students increased oppositional culture for *all* students, suggesting that ethnic minority youth were the source of oppositional culture. He found that the oppositional peer-group culture was especially salient among Latinx students in schools with large populations of Black students, further suggesting that Black students in particular were the specific sources of oppositional culture. Farkas came to the conclusion that Fordham and Ogbu (1986; Ogbu, 1974, 1979, 1986, 1999) were correct in their claim that peer-group oppositional culture is more salient in ethnic minority and low-income students than their middle-class, majority group counterparts. However, oppositional culture only explained a modest proportion of the

achievement gap. Finally, the researcher posited that oppositional culture may be a *consequence* and not a *cause* of minority underachievement in school.

Several researchers have challenged the notion of the acting White phenomenon (Carter, 2005, 2006; Harris & Robinson, 2007; Horvat & O'Connor, 2006; Tyson, 2002, 2011; Tyson et al., 2005). For example, in a sample comprised of 68 low-income, Black and Latinx youth, Carter (2006) found that overall, the ethnic minority participants in the sample subscribed to the dominant achievement ideology. Carter did not find any evidence to support the argument that Black and Latinx students reject schooling and high achievement based on the proposed association to acting White. Instead, Carter (2006) found that although the ethnic minority students in the sample were critical and skeptical of the education system and the job market, this did not prevent them from aspiring to attend college and ultimately achieve upward mobility. Additionally, the "cultural straddlers" were able to successfully navigate their own ethnic peer cultures as well as the culture of the dominant group at school. The cultural mainstreamers had the highest GPAs among the three profiles of students. Moreover, students who were labeled as acting White varied in their achievement levels from low achievers to higher achievers.

Another profile of students from the sample in Carter's (2006) study, the "noncompliant believers," were aligned with Ogbu's profile of Black students who were resistant to acting White. According to Carter (2006), the noncompliant believers were critical of systemic inequalities, adamant about maintaining their own ethnoracial and cultural styles, and were not supportive of their same race peers who adopted elements of White culture. In another study, Ford et al. (2008) examined the peer pressure among 166 Black youth who were identified as gifted. Among this sample, the researchers also found evidence that was aligned with the profile of Carter's (2006) noncompliant believers and Fordham and Ogbu's (1986) profile of involuntary minorities who were opposed to acting White.

Other researchers have challenged the argument that Black students, in particular, lack motivation to achieve in education (Cokley, 2003; Graham, 1994). Stewart and Simons (2007) showed the importance of neighborhood context in relation to the academic motivation and college aspirations of Black adolescents. They examined the association between neighborhood context and college aspirations among a sample of 720 Black adolescents. The researchers hypothesized that living in disadvantaged neighborhoods would be associated with lower college aspirations. Their hypothesis was supported by their analysis. Living in a disadvantaged neighborhood negatively affected college aspirations for some of the Black students in the sample. The authors reported a 31% increase in aspirations when moving from a high-disadvantage neighborhood to a low-disadvantage neighborhood. The social cohesion of neighborhoods was one important feature that served as a critical protective factor.

Thus, the relationship between the academic motivation of Black students appears to be layered, complex, and determined by many different factors beyond minority status and how one responds to being an involuntary minority. Although Ogbu and Simons (1998) acknowledged the fact that there may be within-group differences in involuntary minorities' perceptions and interpretations of the system, their theory failed to adequately explain those within-group differences. As a result, Ogbu (1974, 1979; Ogbu & Simons, 1998) made claims about entire groups of people that may not be as nuanced as they should be (Ainsworth-Darnell & Downey, 1998; Carter, 2005, 2006; Harris & Robinson, 2007; Horvat & O'Connor, 2006; Tyson, 2002, 2011; Tyson et al., 2005).

Stereotype Threat

Stereotype threat theory is a phenomenon in the literature that has been frequently used to explain the underachievement of minoritized groups (Steele, 1997, 2011; Steele & Aronson, 1995). It is based on the premise that an individual's performance is negatively affected when she is concerned about confirming a negative stereotype about a group that she identifies with. Researchers have examined the role of stereotype threat in a variety of populations including African American college students (Steele & Aronson, 1995), adolescents (Mello et al., 2012), women and men in math (Stoet & Geary, 2012), Asian American women (Shih et al., 1999), and low socioeconomic status (SES) individuals (Croizet & Claire, 1998). Several studies have provided empirical support for the negative consequences associated with bringing one's membership in a marginalized group to one's mind during a test or performance (Croizet & Claire, 1998; Mello et al., 2012; Steele & Aronson, 1995). Collectively, the wide range of populations sampled across the studies have provided insight and a broad perspective of how this psychological threat interacts and affects different groups in different contexts.

Steele and Aronson (1995) initially examined the role of stereotype threat in the intellectual test performances of a sample of Black and White college students. In their seminal study, the researchers found evidence that supported the negative effects of stereotype threat on Black college students. More specifically, their findings indicated that Black students performed worse than White students when the test was presented as a measure of intellectual ability. In their second study in the paper, the researchers found that Black students in the diagnostic group (i.e., the group to whom the test was described as representative of intellectual ability for this group) scored significantly lower on the test than Black students in the non-diagnostic group. Overall, the results of their study suggested that presenting a test as an indicator of intellectual ability invoked stereotype threat for Black students.

In contrast to the findings in Steele and Aronson's (1995) study, the results of another study suggested that identity salience is not always debilitating to one's performance. Making an identity salient can also help to enhance performance for certain groups (Shih et al., 1999). Shih et al. (1999) found that Asian American female test takers performed better when their ethnicity was primed and worse when their gender was primed. Stoet and Geary (2012) also looked at the effects of stereotype threat on women. Contrary to the findings in Shih et al.'s study, they argued that the research that aimed to provide evidence of stereotype threat as an explanation of the gender gap in math performance was weak and inconsistent. The difference in the findings in these two studies may be due to the samples in the studies.

Several articles provided evidence of the effects of bringing one's membership in a marginalized group to one's consciousness (Mello et al., 2012; Shih et al., 1999). Mello et al.'s (2012) study showed how even a subtle manipulation of identity salience in a nonthreatening context can activate a form of stereotype threat. The identities of interest, Asian American ethnic identity and gender, in the Shih et al. (1999) study were also implicitly salient in the study. The subtle manipulations in both studies show how certain groups--marginalized groups in particular—are especially susceptible to the negative effects of stereotype threat. One does not have to be explicitly made aware of one's marginalized identity in a threatening way in order to experience the negative effects of stereotype threat.

Taken together, the results of this line of research suggest that stereotype threat affects stigmatized and marginalized groups in different ways. Although the researchers in all of the articles examined stereotype threat in various populations and sometimes found different

results, one major message that can be deduced is that stereotype threat can be detrimental to the academic performance and psychological well-being of individuals who experience this threat. This finding may be especially salient for individuals who identify as members of multiple minority and marginalized groups.

Stereotype Threat Critiques. The findings from stereotype threat research have been replicated and documented in the literature since the publication of Steele and Aronson's (1995) seminal study. However, despite its popularity and influence, researchers have also found flaws in the theory. Some researchers have argued against the generalizability and applicability of stereotype threat (e.g., Cullen et al., 2004). Cullen and colleagues (2004) examined the generalizability of Steele and Aronson's (1995) well-replicated findings from laboratory settings to high stakes, applied settings including college admissions testing and employment testing. Their findings suggested that stereotype threat theory may not generalize to applied settings.

In their study, Cullen et al. (2004) used a moderated regression, an alternative approach to an experimental study, to predict stereotype threat in an applied, high stakes context (inducing stereotype threat in an experimental study on a high stakes exam would have been unethical). The researchers utilized a differential prediction paradigm—a method used to determine the predictive bias of tests given a specific criterion (e.g., prior GPA)—to examine stereotype threat predictions in an applied context. According to this approach, a criterion of interest (e.g., GPA) is regressed on a test of interest (e.g., the SAT). This regression is done separately for two comparison groups of interest (e.g., males and females or Black and White students). According to this approach, if the two regression lines for both groups are linear and identical, this shows that the test scores yielded the same predicted criterion performance for both groups. In other words, for members of both groups with the same ability (measured by prior GPA), they performed similarly on the test. Thus, there was no evidence of stereotype threat). On the other hand, if the two regression lines are not identical and linear for both groups, this would suggest that stereotype threat may have contributed to the difference in performance on the test. The moderated regression approach is based on the concept of linear relationships. According to this approach, stereotype threat theory would predict a nonlinear relationship for Black participants.

Cullen et al. (2004) examined predictions made from stereotype threat theory using three sets of differential prediction data. In their first set of analyses, they examined differential prediction by gender using the math subsection of the Scholastic Aptitude Test (SATM) as a predictor variable. In a sample provided by the College Board (23,767 males, 25,607 female, 31,353 White participants, and 2,751 Black participants), the researchers did not find evidence to support the prediction of stereotype threat. Based on Steele and Aronson's (1995) stereotype threat theory, Cullen et al. (2004) should have found a nonlinear relationship between the criterion (GPA in English college courses) and the predictor (SATM) by gender. Instead, the relationship between SATM and English grade by gender was best characterized by two parallel straight lines for both males and females throughout the range of scores on the SATM. Although coefficients for SATM and gender were significant, the coefficient for the SATM by gender *interaction* was not significant. The coefficient for gender was .52 indicating that when comparing men and women with the same SATM score, a woman is predicted to earn English grades that are .52 standard deviations higher than a man. In other words, based on the results of this analysis, the SATM under-predicted women's grades in English.

A moderated regression was also used to examine differential predication by race (White participants vs. Black participants) using the Armed Services Vocational Aptitude Battery (ASVAB) to predict technical job performance in a set of jobs in the U.S. Army. The sample for this set of analyses was comprised of 4,570 men, 827 women, 3,635 White participants, and 1,409 Black Army enlisted personnel from 13 military occupational specialties. Similar to the first set of analyses, again, the researchers (Cullen et al., 2004) did not find any evidence of stereotype threat in this sample. Instead of finding a nonlinear relationship between core task proficiency and ASVAB scores as stereotype threat theory would predict, the researchers found another linear relationship across the task proficiency score range for Black army personnel between these variables. Also, contrary to predictions made from stereotype threat theory, the researchers argued that the performance of Black army personnel was over-predicted across the range of task proficiency scores.

The final set of analyses examined the relationship between both the SATM and verbal subsection of the SAT (SATV) and overall freshman GPA by race (Black students vs. White students) again using data provided by the College Board. In keeping with the findings from the first two analyses, using a moderated regression approach, the researchers did not find any evidence of stereotype threat in the third set of analyses. Instead, Cullen et al. (2004) found linear SATM-GPA and SATV-GPA relationships when examined by race. Based on stereotype threat theory, the researchers should have found nonlinear SATM-GPA and SATV-GPA relationships by race. Cullen and colleagues (2004) concluded that the performance of Black students was over-predicted across the range of test scores, indicating a lack of stereotype threat in their study.

Collectively, these findings suggested that stereotype threat theory may not generalize to applied settings. Cullen et al. (2004) attributed their contrasting findings to two possible explanations. First, they suggested that a boundary condition may exist. In other words, one's minority status or gender identity may need to be made salient before testing in order to activate stereotype threat. In a laboratory setting, one's identity is explicitly brought into one's consciousness. However, in applied settings such as the settings examined in Cullen et al.'s (2004) study, minority group status and gender may not be explicitly made salient. The other possible explanation is that stereotype threat is experienced in both laboratory and applied settings. However, individuals are able to overcome the negative effects of stereotype threat when the stakes are high in applied settings such as college admission tests and employment exams. The increased effort and motivation to succeed on these exams may enable individuals to overcome the debilitating effects of stereotype threat in these circumstances.

Cullen et al. (2006) advanced the aforementioned line of inquiry (Cullen et al., 2004) by putting stereotype threat theory to the test yet again. In Cullen et al.'s (2006) study, the researchers did not find any evidence to support the generalizability of stereotype threat to applied settings. The researchers conducted the study based on the assumption that participants with high abilities in a certain domain inevitably identified with the domain. In other words, their research was based on the premise that high achievement in a particular domain was positively associated with high identification with the same domain. The researchers later decided to include a measure of identification with a domain of interest instead of relying on achievement as a proxy for one's level of identification. Cullen et al. (2006) conducted a study that examined stereotype threat by gender in mathematics. In their study, they examined the relationship between SAT Math (SATM) scores and English grades in a sample comprised of

White men and women. The decision to major in math or a subject related to math was used as a measure of math identification.

According to Steele and Aronson's (1995) stereotype threat theory, math-identified women in the study should have lower observed SATM scores than their true scores and math-identified men's scores should not be affected. However, similar to Cullen and colleagues' (2004) findings, these predictions were not supported. The researchers used the same data set from the College Board that Cullen et al. (2004) used in their study. The sample in the study was comprised of 9,983 White males and 11,181 White female students. Furthermore, the data set included 2,588 math-identified men and 688 math-identified women. The researchers regressed English GPA on SATV, English investment, SATM, and math identification separately for men and women in the sample. The results of the analysis indicated that men and women did not differ significantly in their observed SATM scores. The coefficient for SATV was .003 for men and women. The coefficient for English investment was .024 for women and .040 for men. After SATM was included in the model, the amount of variance explained in English GPA increased (r^2 change = .013 for women and .009 for men, respectively). The coefficient for SATM was .002 for women and .001 for men. The coefficient for math identification was negative for both men and women ($b = -.039$ and $-.040$, respectively). Taken together, these results suggested that stereotype threat did not negatively affect the performance of math identified women in the sample as their observed scores were not systematically lower than their true scores when compared to the scores of men in the sample. According to these findings, as well as the findings in Cullen et al. (2004), the detrimental effects of stereotype threat may not be generalized to high stakes, applied settings.

Sackett et al. (2004a) continued the constructive critique of stereotype threat in the literature when they made the argument that the effects of stereotype threat on the standardized test score gap between Black and White test takers had been misinterpreted. The researchers pointed out that Steele and Aronson (1995) did not make the claim that the test score gap was eliminated when stereotype threat was not elicited as some researchers and reporters had interpreted (Chandler, 1999; McCarty, 2001). Instead, the findings of the seminal study suggested that after removing stereotype threat from the experiment, Black and White participants' test scores differed as one would expect based on differences in prior SAT scores. Sackett and colleagues (2004a) attributed this expected difference to Steele and Aronson (1995) statistically adjusting the scores for differences in their prior SAT scores. In other words, it was not until after adjusting or matching the scores based on prior SAT scores that Steele and Aronson (1995) observed that the test scores were similar for both groups after removing the threat. Sackett and colleagues (2004a) cautioned against misinterpreting Steele and Aronson's (1995) findings as evidence that stereotype threat explains more of the variance in subgroup differences than it actually does in applied settings.

Following Sackett et al.'s (2004a) critique, Steele and Aronson (2004) responded to the issues raised regarding the mischaracterizations of their findings. The researchers argued that by focusing solely on the findings from the first study on stereotype threat, the claims made by Sackett et al. (2004a) were far too narrow in scope and did not take into consideration all of the subsequent literature that properly framed stereotype threat as one factor that contributes to the achievement gap instead of *the one and only* factor responsible for the test score gap. Steele and Aronson (2004) described stereotype threat as "a drop in an ocean of information about the race gap" (p. 47). Moreover, the researchers argued that although Sackett et al. (2004a) reported 29 publications that mischaracterized their initial findings, they did not provide any

evidence that these mischaracterizations actually misconstrued general understanding of their findings. Thus, Steele and Aronson (2004) essentially argued that in their attempt to caution against misinterpreting the effects of stereotype threat, the Sackett et al. (2004a) critique generated misunderstandings of its own.

Finally, Sackett et al. (2004b) expressed their disagreement with Steele and Aronson's (2004) response to their critique. The researchers asserted that they disagreed on the *consequences* of mischaracterizing the findings in Steele and Aronson's (1995) seminal study and not whether the study had been mischaracterized. They argued that the original stereotype threat authors were far too modest in the gravity and extent in which their seminal study had played a role in the literature and the overall general understanding of how stereotype threat operates for students of psychology, professors, and practitioners alike. Although a vast number of articles on stereotype threat have been published subsequent to the seminal study, Steele and Aronson (1995) focused solely on the effects of stereotype threat on Black students. Thus, Sackett et al. (2004b) argued that they were justified in their narrow focus on the seminal study. Further, Sackett and colleagues (2004b) also argued that comparing differences on prior SAT scores and GRE-based scores was reasonable given the extensive data on the similarities and the correlation between the two tests. Steele and Aronson (2004) argued that the two test scores should not be compared because they are not perfectly correlated and the sample size in their study was too small.

Overall, the debate between the two parties raised important concerns that have allowed readers to develop well-informed interpretations given the limitations and methods described in the critiques. Collectively, the stereotype threat literature provides insight into one factor that may contribute to the achievement gap in certain contexts. Based on the findings in the literature on stereotype threat, I do not think it should be the one and only phenomenon used to explain differences in performance between groups. Instead, stereotype threat should be one of many contributing factors that should be used to collectively describe the differences both within and across various demographics given its limitations.

In addition, although researchers have studied the intersection of race and social class information on intergroup relations and processes for decades (Allport, 1954; Pettigrew, 1981), there is still a paucity of research on stereotype threat with an intersectional lens. Future research should include an intersectional approach to examine the potential compounded effects of belonging to more than one stigmatized group (e.g., ethnic minority and low SES) on stereotype threat (Moore-Berg & Kapinski, 2018). Previous studies have examined the effects of stereotype threat based on belonging to one stigmatized group (Croizet & Claire, 1998; Mello et al., 2012; Shih et al., 1999; Steele & Aronson, 1995; Stoet & Geary, 2012). However, the simultaneous activations of stereotype threat based on race, class, gender, sexual orientation, and ability, etc. may exacerbate stereotype threat for individuals who identify as members of more than one minoritized and marginalized group. In other words, I hypothesize that multi-minority group membership may compound the negative effects of stereotype threat depending on the minority groups that the individual belongs to. Moore-Berg and Kapinski (2018) used parallel-constraint theory (Kunda & Thagard, 1996) to describe these interactions. The theory explains the activation or deactivation of stereotypes as a result of the combination of stereotypes, traits, and behaviors interacting together as interconnected nodes of spreading activation. According to Moore-Berg and Kapinski (2018), "The parallel activation of social class and racial information is inherent to the activation or deactivation of associated

stereotypes” and consequently, the activation or deactivation of varying degrees of stereotype of threat (p. 6).

System-Justification Theory

System-justification theory (O’Brien & Major, 2005) may be a helpful theoretical lens to supplement cultural ecological theory and stereotype threat by providing a framework to examine ethnic minority youth motivation and psychology in a more nuanced way. Moreover, system-justification theory may be used to inform the development of interventions and practices that aim to ameliorate the negative effects of the achievement and opportunity gaps. System-justification theory provides a framework to better understand why certain individuals of the same ability *within* ethnic groups thrive in school while others do not. The potential applicability of system-justification theory may be more generalizable than stereotype threat theory in that it is not confined to testing and performance situations and contexts. Instead, I posit that one’s beliefs regarding how just and fair one’s social system is and the implications of those beliefs on one’s motivation and desire to succeed in a just or unjust society—depending on how one perceives the social system in which one lives—may affect learning and academic performance in all contexts. As a result, system-justification theory may explain more of the variance in the achievement gap between majority and minority group students than stereotype threat and CET.

A better understanding of ethnic minoritized individuals’ psychology and internal processes from a systems justification lens may provide a more nuanced understanding of their motivation to achieve in school in relation to their experiences in society when compared to CET. The system justification theoretical lens provides an opportunity to account for more individual differences among ethnic minorities that goes beyond the involuntary, voluntary, and autonomous minority comparisons of CET. Moreover, these processes may be more generalizable and applicable to more applied settings and scenarios outside of a lab when compared to stereotype threat since it has been critiqued to apply to laboratory settings (Cullen et al., 2006). I posit that system justification theory is well suited to factor in the potential compounded effects of multi minority group membership and the intersectional experiences of ethnic minoritized individuals in relation to academic achievement and sense of belonging in a way that other theories and phenomena (e.g. stereotype threat) have not.

System Justifying Beliefs

In a meritocratic society, individuals believe status is earned through hard work and effort. Thus, for some individuals, meritocracy, beliefs in the Protestant work ethic and the belief in individual mobility justify status inequality by holding the individual responsible for his outcomes and status in society solely based on his own effort and merit (Jost & Hunyady, 2002; O’Brien & Major, 2005; O’Brien et al., 2011). The belief that status in society is earned by an individual’s own hard work is essentially the crux of the American Dream (Cullen, 2004). According to the American Dream narrative, anyone can become successful and achieve social mobility in the United States if they work hard and exhibit effort and perseverance, especially during times of adversity. Americans are often socialized to believe in this ideology. Immigrants often come to the United States with hopes of experiencing and benefiting from the American Dream (Cullen, 2004). At an early age, children are often taught these principles

through stories such as *The Little Engine That Could* (Piper, 1930). These culturally ingrained values are based on a belief that society is indeed just and fair.

In the literature, these beliefs are often referred to as system-justifying beliefs (SJBs; O'Brien & Major, 2005). Conceptually, SJBs fall under the umbrella of system-justifying ideologies. SJBs can be defined as “beliefs that imply that status is fair, deserved, and merited” (O'Brien & Major, 2005, p. 1). This theoretical framework—derived from the field of social psychology—provides a means to better understand the relationship between ethnic minority students' motivation in school in relation to their belief, or lack thereof, in the larger social system in which they live in. As such, system-justification theory provides a unique theoretical framework to better understand ethnic minority students' motivation and academic achievement by examining the educational and psychological costs and benefits associated with believing in the fairness of society and the legitimacy of the American Dream.

System Justifying Ideologies

The key variable of interest in this study is system-justifying ideologies. Ideologies refer to “integrated systems of beliefs that describe the nature of the social world and how it operates” (O'Brien et al., 2011, p. 406). These ideologies may serve many different functions. For example, system-justifying ideologies (SJIs) function as a mechanism to legitimize inequality between groups (e.g., sexism, racism, and ageism; Jost & Banaji, 2004; Jost & Hunyady, 2002). Jost and Banaji (1994) posited that people have a natural psychological need to believe the social system in which they live in is both just and fair. This basic human need to believe in the legitimacy of one's social system is one important factor that drives the development of system-justifying ideologies.

SJIs and Educational Outcomes. Most of the previous research on SJIs has examined the relationship between endorsing system-justifying ideologies and psychological adjustment, status, and social inequality. There is a paucity of research that has examined the relationship between SJIs and academic outcomes, particularly in ethnic minority samples. A search on PsycINFO database (conducted on April 13, 2021) with the keywords *system-justifying ideologies* and *academic achievement* showed that only two peer-reviewed journal articles have been published to date (O'Brien et al., 2011; Wiederkehr et al., 2015). Some researchers have asserted that system-justifying ideologies (or beliefs in a just world) should be positively correlated with positive academic outcomes for members of all ethnic groups (Correia & Dalbert, 2007; Dalbert & Stoeber, 2005, 2006). Essentially, the authors from this line of research indicated that one's belief in a just world based on a fair system of meritocracy functions as a universal source of resilience for school children from all ethnic backgrounds. However, some researchers have postulated that when the relationship between SJI endorsement and academic achievement is examined in ethnic minority group samples, the outcomes may not be as simple or straightforward (O'Brien et al., 2011). I support the latter hypothesis, which will be discussed in a subsequent section of this paper.

Only one empirical study has been published to date that has examined the relationship among system-justifying ideologies, academic achievement, and sense of belonging (O'Brien et al., 2011). In O'Brien et al.'s (2011) study, the researchers collected data at two different time points with participants comprised of 78 Latinx college students from a Western state. At Time 1, data were collected that measured SJIs using a 16-item scale (e.g., “Differences in status between groups in society are fair”). Response options ranged from 0 for *strongly*

disagree to 6 for *strongly agree*. Ethnic identity centrality data and demographic variables were also collected at Time 1. Outcome variables, including grade point average (GPA), feelings of belonging, and perceived discrimination, were collected at Time 2. O'Brien and colleagues hypothesized that endorsement of SJIs at Time 1 would be negatively associated with GPA and positively associated with increased sense of belonging at the Time 2. O'Brien et al. (2011) also predicted that SJI endorsement would be negatively associated with the perceptions of discrimination at Time 2. Lastly, the researchers hypothesized that the positive relationship between SJI endorsement and sense of belonging would be mediated by decreased perceptions of discrimination.

Perceptions of discrimination and university belonging were not correlated and thus did not meet the required conditions for testing the mediational hypothesis. However, the researchers (O'Brien et al., 2011) did find a negative relationship with a small effect size between SJIs and GPA for students who endorsed SJIs ($\beta = -.23, p < .05$), which confirmed their hypothesis. The researchers found a negative relationship between SJI endorsement and perceptions of discrimination with a large effect size ($\beta = -.50, p < .05$), as well as a positive relationship between SJI endorsement and belonging with a moderate effect size ($\beta = .41, p < .05$) among the sample of Latinx college students (O'Brien et al., 2011). The researchers attributed the latter finding to internalized negative societal stereotypes (e.g., a low intellectual ability stereotype) of their ethnic group, as well as a lower sense of entitlement. Stereotypes have been defined as "beliefs about the characteristics, attributes, and behaviors of members of certain groups" (Hilton & Hippel, 1996, p. 240).

In addition, I postulate that the internalization of negative societal stereotypes may contribute to academic disidentification for these students (Cokley et al., 2012; Osborne, 1997; Steele, 1992). Academic disidentification has been defined as a lack of a significant relationship between academic outcomes and self-esteem; Osborne, 1997; Steele, 1992). Cokley et al. (2012, p. 55) defined the concept of academic disidentification more specifically as "the lack of a significant relation between a student's view of his or her academic abilities in comparison to peers (i.e., academic self-concept) and the student's academic outcomes (i.e., GPA)." Thus, the negative relationship between SJI endorsement and GPA may be related to internalized negative societal stereotypes of one's group. Moreover, stereotype threat may have a negative effect on the relationship between SJI endorsement and academic achievement. As a result, this negative internalization may lead certain ethnic minority youth to disidentify with academics as a defense mechanism to protect themselves from those negative societal stereotypes.

O'Brien et al. (2011) also argued that a lower sense of entitlement may have also functioned as a protective factor from feeling the negative effects of discrimination as it prevented the Latinx college students who endorsed SJIs from labeling mistreatment of their group as discrimination. Instead, the Latinx college students in the sample who endorsed SJIs may have interpreted discrimination as a result of differences in merit and work ethic. Thus, although these students felt a greater sense of belonging at their university, their academic achievement suffered.

Based on these findings, SJI endorsement seems to function as both a risk factor and a protective factor for Latinx college students. Endorsing SJIs appeared to function as a risk factor for lower academic achievement and a protective factor for perceiving less discrimination and feeling a greater sense of school belonging. O'Brien and colleagues (2011) described this finding as a "double-edged sword" for Latinx college students at the university.

The dynamic relationship among SJI endorsement, academic outcomes, and sense of belonging for ethnic minority youth is a fascinating, yet under-researched area of inquiry that warrants further examination.

SJIs and Psychological Outcomes. The implications for endorsing these ideologies appear to be different for different ethnic groups (O'Brien et al., 2011). For example, several researchers (Jost & Thompson, 2000; Levin et al., 1998; O'Brien & Major, 2005) have found positive associations between system-justifying ideologies and personal self-esteem, ethnic identity, and endorsing ego (self) justification (“the need to develop and maintain a positive self-image”) and group justification (“the intrinsic nature of human beings to establish and maintain a positive image of one’s social groups”) for members of high-status groups (O'Brien et al., 2011, p. 407). In this study, status was determined by socioeconomic status and more specifically, one’s access to and possession of wealth and power (O'Brien et al., 2011). In other words, for high status group members, attributing the high status of one’s group to merit is positively correlated with feeling good about oneself, as well as the group and social system in which one belongs. Believing in merit as the fundamental mechanism in which one achieves high status in society appears to mitigate against lowered self-esteem for members of high-status groups.

The relationships between SJI endorsement and psychological outcomes become more complicated and nuanced when examined within ethnic minority group members. Researchers have found a negative relationship between endorsing system-justifying ideologies and self-esteem (Jost & Thompson, 2000). Researchers have also found a negative relationship between endorsing SJIs and ethnic identity (the extent to which an individual values and is knowledgeable of his ethnicity) for Black and Latinx participants (Jost & Thompson, 2000). Additionally, researchers have found that ethnic minority group members who endorsed SJIs reported lower levels of subjective well-being characterized by higher levels of anxiety and neuroticism (Jost & Thompson, 2000; Rankin et al., 2009). Lower subjective well-being and higher levels of anxiety and neuroticism could be linked to the negative relationship between SJI endorsement and academic achievement that O'Brien et al. (2011) found. Thus far, I have discussed three theories that have been proposed to explain the achievement gap. The next section will focus on psychosocial variables that have been the focus of psychosocial interventions to address the achievement gap.

Psychosocial Factors Implicated in Educational Outcomes

In addition to the extensive literature suggesting sociological phenomena contribute to the academic achievement gap (Carter & Welner, 2013; Owen et al., 2016), other researchers have posited that psychosocial factors may also contribute to gaps in educational outcomes (Cohen et al., 1999; Duckworth, 2016; Yeager & Walton, 2011; Yeager & Dweck, 2012). A burgeoning body of literature has posited that implementing psychosocial interventions among ethnic minority youth might help to close the achievement gap (Cohen et al., 1999; Duckworth, 2016; Yeager & Walton, 2011). Researchers have examined whether psychosocial variables, either singularly or collectively, actually contribute meaningfully to the academic achievement of ethnic minority youth (Blackwell et al., 2007; Strayhorn, 2013; Worrell, 2007; Yeager & Dweck, 2012). Very few studies address to what extent these psychosocial variables contribute meaningfully to the achievement of high achieving ethnic minority youth (Dixson et al., 2017). Certain studies have focused on why ethnic minority students have underperformed in

education when compared to their White peers (Ogbu & Simons, 1998; Steele & Aronson, 1995). Few studies have focused on why certain ethnic minority students from similar backgrounds excel despite the barriers stacked against them (Harper, 2012). The author of this study would also argue that psychosocial factors should also be studied in tandem with sociocultural factors that take into account social, systemic, and contextual variables that also play a role in one's ability to thrive within one's social system.

Dixson et al. (2017) examined the relationship between positive, psychosocial variables and achievement among high-achieving Black students. Despite the prominence of the psychosocial variables in the literature, the researchers found that the psychosocial variables (grit, growth mindset, ethnic identity, and other group orientation) were neither statistically nor practically significant predictors of GPA, individually or collectively. Instead, SES explained about 17% of the variance in GPA when added before and after the psychosocial variables. For the participants in Dixson et al.'s (2017) sample, SES was a much more powerful predictor of achievement, which corroborated previous findings that have called into question the generalizability of the contribution of the four psychosocial variables to achievement.

Grit

In the literature, grit is described as one's perseverance and passion for accomplishing long-term goals despite adversity (Duckworth et al., 2007). Duckworth and colleagues (2007) argued that grit is made up of two interrelated subfactors, consistency of interests and perseverance of effort. Consistency of interests refers to the stability of an individual's interests over time and perseverance of effort refers to one's ability to overcome obstacles and sustain their efforts towards their goals despite adversity. The construct is typically measured using either the Grit Scale (Duckworth et al., 2007) or the Short Grit Scale (Duckworth & Quinn, 2009). Some research has indicated that grit is positively associated with academic achievement and educational attainment (Duckworth et al., 2007; Duckworth & Quinn, 2009), as well as success in particularly stressful competitions (Duckworth et al., 2007; Duckworth & Quinn, 2009), retention in the United States Military Academy (Duckworth et al., 2007), emotional stability (Credé et al., 2016), teacher effectiveness (Duckworth et al., 2009), overall success in life (Duckworth & Gross, 2014), and conscientiousness (Duckworth et al., 2007; Duckworth & Quinn, 2009). More specifically, the findings from Duckworth et al.'s (2007) study indicated that students with more grit earned higher grade point averages (GPAs) in school when compared to their peers with less grit ($r = .25, p < .01$). A modest increase in the relationship was observed when the students' abilities were controlled for ($r = .34, p < .001$).

Grit and Academic Achievement. Several researchers have found similar results to corroborate Duckworth et al.'s (2007) findings (Alan et al., 2016; Shechtman et al., 2013; Strayhorn, 2013). These researchers have argued that grit may be one pathway to academic success for ethnic minority youth. In Alan et al.'s (2016) randomized experiment, they taught elementary school students the importance of grit. The students who were in the treatment group were about 10% more likely to (a) succeed and earn higher marks, (b) prefer more challenging academic tasks despite experiencing failure, and (c) persist in attempting rigorous academic tasks. Based on these findings, Alan et al. (2016) contended that fostering grit could be one pathway to achieve academic success for ethnic minority and economically disadvantaged youth. Similarly, in a sample of 140 Black college students, Strayhorn (2013) found grit to be just as predictive of college GPAs as high school achievement and

performance on the American College Test (ACT; $\beta_{\text{grit}} = .24, p < .01$; $\beta_{\text{ACT}} = .28, p < .05$; $\beta_{\text{HS-GPA}} = .31, p < .01$). Moreover, Strayhorn (2013) also found that grit explained more of the variance in college GPAs *beyond* the contribution of high school achievement, educational aspirations, and ACT scores ($\beta_{\text{grit}} = .24, p < .01$)

In contrast to the researchers mentioned in the sections above (Alan et al., 2016; Duckworth et al. 2007; Shechtman et al., 2013; Strayhorn, 2013), Credé and colleagues (2016) found a much more modest association between grit and academic achievement in their meta-analytic review of 37 studies. The average correlation between grit and GPA across studies in the meta-analysis was a modest .17. For the two subfactors of grit (perseverance of effort and consistency of interests), the average correlations were .26 and .10, respectively. Based on these results, the researchers concluded that the total grit score added less than 1% incremental variance when conscientiousness was controlled for. Additionally, Dixson et al., (2017) found that grit failed to predict academic achievement in a sample of high achieving Black high school students. In another study, the two grit subfactors were found to contribute minimal incremental variance when other variables including gender, SES, age, and perceived ability were controlled for (Dixson et al., 2016). Collectively, the influence of grit on academic achievement, particularly for ethnic minority youth, appears to be inconsistent and equivocal across studies. The strength of the relationship between grit and academic achievement seems to be overstated in some studies. The grit and academic achievement narrative in the literature may be overemphasized despite the inconsistencies across studies, which should have implications on the public's understanding of grit, as well as applications of interventions.

Growth Mindset

According to Dweck (2002), people tend to have either a fixed mindset or a growth mindset about their own intelligence. A fixed mindset refers to the belief that intelligence is a static trait (e.g., “I am not good at math”), whereas a growth mindset refers to the belief that intelligence is malleable and can be developed over time with effort, deliberate practice, and instruction (e.g., “I can become better at math with more practice”). One can have a fixed mindset in one area of academics (e.g., math) and a growth mindset in another area of academics (e.g., science). Essentially, the two mindsets represent the two opposite extremes of the mindset spectrum. A growth mindset has been associated with several positive outcomes in the literature including increased self-esteem (Murphy & Thomas, 2008), high standards (Chan, 2012; Dweck, 2002), high life satisfaction (Chan, 2012), high levels of happiness (Chan, 2012), as well as higher levels of persistence and effort in academic activities (Dweck, 2002; O’Rourke et al., 2014).

Growth Mindset and Academic Achievement. Several studies have found evidence to support the positive association between having a growth mindset and academic achievement. For example, Mueller and Dweck (1998) found a positive association between having a growth mindset and persistence on difficult academic tasks ($d = 2.13$ for differences between effort praise group vs. intelligence praise group). Furthermore, following a difficult academic task, the researchers found that when controlling for ability, a growth mindset was associated with either stable or improved academic performance ($d = 1.11$ for differences between intelligence praise and effort praise groups).

In a subsequent longitudinal study with a sample comprised of college students, Grant and Dweck (2003) found a positive association between having a learning goal (growth

mindset goal) and several outcome variables including sustained intrinsic motivation ($r = .39, p < .001$), sustained effort and time commitment ($r = .40, p < .001$), active coping ($\beta = .38, p < .01$), higher academic achievement in the course ($\beta = .20, p < .05$), and improved exam grades ($\beta = .25, p < .01$). On the other hand, an ability or fixed mindset goal was associated with decreased motivation ($r = -.40, p < .001$) and lower academic achievement.

In contrast to the studies discussed above, the results in some studies have not corroborated the positive relationship between having a growth mindset and academic achievement as reported in other studies. Thus, similar to the grit literature, the findings from studies that have examined the relationship between growth mindset and academic achievement are inconsistent (Sisk et al., 2018). Despite the inconsistent evidence across studies, education interventions have been developed to foster growth mindsets without caution of the limitations of the variable (e.g., Ramsden et al., 2011). In a sample comprised of 105 high-achieving (GPA > 3.0) Black adolescents, Dixson et al. (2017) found that having a growth mindset did not predict academic achievement ($\beta = -.05, p < .001$). In fact, when growth mindset was added to the model along with grit, ethnic identity, and other group orientation, the model accounted for 1% *less* of the variance in achievement when compared to the model without the four psychosocial variables.

In another study, Li and Bates (2017) examined the effects of growth mindset interventions in relation to cognitive ability, grades, and performance in three samples of Chinese adolescents ($N = 624$). More specific findings from this study are as follows: (a) effort praise did not result in significantly higher scores than ability praise ($\beta = -.24, p = .064$), (b) growth mindset was not a significant predictor of academic achievement over the span of two semesters ($\beta = -.01, p = .829$ and $\beta = .03, p = .723$), (c) growth mindset also was not a significant predictor of cognitive ability on easy reasoning tasks ($\beta = .12, p = .085$) or on more difficult reasoning tasks ($\beta = .12, p = .082$), and lastly, (d) growth mindset was not a significant predictor of enhanced learning over time ($\beta = .03, p = .514$). Similarly, in a sample comprised of 151 Asian and Filipino American middle school students in an unpublished study, Duval (2015) found that conceptions of intelligence were not predictive of students' self-reported grades ($\beta = .19$).

Similar to grit, the growth mindset variable was selected as a variable of interest because of its popularity in the motivation literature and among the public, which has implications for the interventions that are developed to improve academic achievement (e.g., Ramsden et al., 2011). Based on the inconsistent findings in previous research, the contribution of both grit and growth mindset on academic achievement seems to be overstated without adequate evidence of their generalizability.

Cultural Variables

Ethnic Identity. Tajfel (1981) defined ethnic identity as an individual's "knowledge of his membership [in] a social group" as well as "the value and emotional significance attached to that membership" (p. 225). Ethnic identity develops in response to interactions with and knowledge about other ethnic groups. According to Erikson (1968) and Marcia (1980), identity development is a central task during the adolescent years. More specifically, the process of developing one's ethnic identity may be particularly important for ethnic minority adolescents as they develop their *sense of self* (Erikson, 1950, 1968). According to Phinney (1992), an individual with high ethnic identity is someone who sought out a greater understanding of their

own ethnic identity, engaged in cultural experiences and traditions that are associated with their ethnic group, and developed a sense of belonging to their ethnic group. Results from previous research have indicated that ethnic identity has been associated with positive learning and developmental outcomes, as well as psychological outcomes (Huang & Stormshak, 2011). Additionally, some studies have suggested that having a higher ethnic identity was positively and meaningfully correlated with overall psychological adjustment ($r = .23, p < .001$; Roberts et al., 1999), hopefulness ($r = .42, p < .01$ and $.35, p < .01$; Adelabu, 2008), and self-esteem ($r = .49, p < .01$; Phinney & Chavira, 1992)

Ethnic Identity and Academic Achievement. The research that has examined the relationship between ethnic identity and academic achievement, particularly among ethnic minority youth, is equivocal. For example, in a sample comprised of 319 academically talented adolescent participants from a summer program, Worrell (2007) found that after controlling for school and program rank, ethnic identity predicted school GPA for Black students in the sample with a negative association ($\beta = -.42$). However, ethnic identity did not predict summer program achievement for Black students in the sample ($\beta = .19$). In another study, the researchers found that ethnic identity made a negative contribution to school GPA for Black students ($\beta = -.41$; Worrell & White, 2009).

In contrast, Kerpelman, Eryigit, and Stephens (2008) found evidence to support ethnic identity as a positive predictor of school GPA in a sample comprised of 354 adolescents. Similarly, another study comprised of a sample of 82 Black adolescents yielded results that indicated ethnic identity was a meaningful predictor of school GPA ($r = .57, p < .05$). In Dixson and colleagues' (2017) sample of 105 high achieving Black students, the researchers found that ethnic identity did not predict academic achievement ($\beta = -.20$) after controlling for age, sex, and socioeconomic status. Based on all of the findings across studies, the relationship between ethnic identity and academic achievement, particularly among Black students is unclear and warrants further examination.

Other Group Orientation. Other group orientation is defined as “the general responses that members of one ethnic group have towards groups other than their own” (Worrell et al., 2006, p. 37). Other group orientation may be positive (i.e., positive regard for other groups) or negative (i.e., negative regard for other groups). Lee's (2003) findings indicated a positive association between other group orientation and self-esteem ($\beta = .32, p < .05$), social connectedness ($\beta = .44, p < .05$), and sense of community ($\beta = .30, p < .05$). In a different study, Cokley and Chapman (2008) found that other group orientation predicted higher academic self-concept ($r = .37, p < .001$). Additionally, researchers have also reported inverse relationships between other group orientation and depression ($r = -.13$; Juang et al., 2006), devaluing academic success ($r = -.30, p < .001$; Cokley & Chapman, 2008), and ethnic behaviors ($r = -.17$; Phinney, 1992).

Other Group Orientation and Academic Achievement. There is a paucity of research that has examined the relationship between other group orientation and academic achievement. In contrast to the negative relationship between ethnic identity and academic achievement, Worrell (2007) found a positive association between other group orientation and school GPA in a sample of 319 academically talented adolescents after controlling for school and summer program rank ($\beta = .41$). In a sample of 274 Black college students, Cokley and Chapman (2008) reported other group orientation as a statistically significant predictor of academic achievement. However, the effect size of the relationship was small ($r = .17, p < .01$). In a different study with a sample of 252 high school students, researchers Worrell and White

(2009), found that other group orientation predicted academic achievement for Black and Latinx students ($\beta = .43$ and $.40$, respectively). However, other group orientation was a negative predictor of academic achievement for Asian American students in the study ($\beta = -.32$). Lastly, in Dixson et al.'s (2017) sample of 105 high achieving Black students, after controlling for age, sex, and socioeconomic status, the researchers found that other group orientation did not predict academic achievement ($\beta = -.14$). The scant research on the relationship between other group orientation and academic achievement among ethnic minority youth also warrants further examination.

Sense of Belonging

Sense of belonging—a basic human motivation—is another outcome variable measured in this study. Sense of belonging refers to seeing oneself as socially connected in a particular social context. Questioning one's sense of belonging is quite common among students (Walton & Cohen, 2007). Based on previous research, sense of belonging appeared to function differentially for ethnic majority and minority group members (Walton & Cohen, 2007). For example, Walton and Cohen (2007) found that almost 60% of the variance in sense of fit could be attributed to daily adversity level for Black college students. In contrast, White students' sense of fit was not dependent on their daily adversity level. Based on this finding, the researchers implemented an intervention that de-racialized the meaning of hardship in college.

Following this intervention, Black students in the treatment condition reported a greater sense of fit when compared to their White counterparts. Black students in the treatment condition also reported higher potentials to succeed in college when compared to their peers in the control group. White students did not display an effect of condition. However, contrary to the researchers' hypothesis, the Black students in both the treatment and control group did not differ significantly in their self-perceived sense of fit following the intervention. Ultimately, the racial achievement gap in classroom performance was reduced by roughly 90% in the college sample (Walton & Cohen, 2007). Some of the research methods in this study are questionable. For example, the method used to assign participants to the control and treatment group is unclear.

Very little research has examined the relationship between the independent variables of interest in this study (grit, growth mindset, ethnic identity, and other group orientation) and sense of belonging among ethnic minority youth. In one study with a sample comprised of 134 community college students, Grisier (2018) found a significant relationship between grit and sense of belonging with a medium effect size ($r = .42, p = .000$).

John Henryism

In essence, John Henryism is an active coping strategy in which individuals exert higher levels of effort in response to prolonged stress such as social discrimination. The psychosocial construct of John Henryism was inspired in part by the legend of John Henry, a Black folktale hero. According to the folktale, John Henry, a railroad worker in the 1800s, competed in a steel-driving contest against a powerful mechanical drill. According to the folktale, John Henry used his strength and persistence to ultimately beat the machine, but he subsequently died after his accomplishment due to physical and psychological exhaustion.

The John Henryism construct was initially developed in response to a lack of empirically supported conceptual and theoretical models that explained the etiology of chronic stress and coping in the pathway to developing subsequent chronic medical conditions such as hypertension and cardiovascular disease (CVD), particularly among ethnic minority groups (Anderson, 1998, James, 1987, William, 1992). Although several constructs explained this relationship for White participants (i.e., type A personality, demand control, and effort-reward balance), the same constructs did not explain this relationship for ethnic minority groups (Bennett et al., 2004). When the constructs were examined in ethnic minority groups, they failed to predict the negative physiological outcomes among Black participants (Dressler, 1993, Thomas et al., 1997). In response, the John Henryism construct was developed to fill this gap by taking into account the social and contextual experiences of Black people, as this population disproportionately experiences symptoms and illnesses associated with chronic stress such as hypertension and CVD (Bennett et al., 2004). The John Henry hypothesis (JHH) suggests that the sustained and active coping of high effort Black people in the context of chronic psychosocial stressors (i.e., racism, discrimination, economic instability, and less access to affordable healthcare) will result in a greater likelihood of developing chronic medical conditions such as hypertension and CVD due to sustained physiological responses to stress (i.e., high blood pressure and increased cardiovascular reactivity; Bennett et al., 2004).

John Henryism has been found to be associated with negative physiological outcomes (e.g., higher rates of hypertension) among both low and high SES Black participants with high levels of perceived stress (James et al., 1987, 1992). This finding supports the JHH in that it corroborates the argument that when compared to White participants, as a group, Black participants, regardless of SES, experience more chronic psychosocial stressors that require more energy and effort to manage. This increased demand on individuals' physical and mental capacities helps to explain the negative physiological symptoms that often develop as a result of chronic stress such as hypertension, specifically for those that demonstrate a high-effort coping style in response to chronic stress. Moreover, low SES seems to exacerbate the negative physiological effects of endorsing high JH. In a sample of 173 Black and White children and adolescents ranging in ages from 10 to 17 years old, Wright et al., (1996) found a significant interaction involving endorsing John Henryism and having a low SES background, as this subgroup had the most severe cardiovascular risk profile. Researchers have also found a negative correlation between JH and symptoms of depression among Black women (Bronder et al., 2013).

Many studies have not yielded empirical evidence to support the JHH (Francis et al., 1991; Jackson & Adams-Campbell, 1994; Nordby et al., 1995; Scribner et al., 1995). On the surface, this may appear to weaken the strength and validity of the JHH. However, following a closer examination of these studies, one will find that they were examined among various populations and included a range of different modifying factors and outcome variables. Very few studies have been examined among populations that are similar to James' (1987) initial study with lower SES Black participants. The inconsistent methodological approaches across studies in the literature make it difficult to accurately assess and interpret JHs external validity.

The Current Study

The goal of this study was to better understand the nuances of the relationship between motivation and school performance among a sample comprised of mostly high-achieving

ethnic minority youth in relation to their belief (or lack thereof) in the fairness of the larger social system in which the education system is embedded. More specifically, the objective of this study was to examine the correlation of system-justifying ideologies (O'Brien & Major, 2005)—a under-researched theoretical framework in the context of education research—and four psychosocial variables (grit, growth mindsets, ethnic identity, and other group orientation) with two outcome variables (academic achievement and sense of belonging) among underserved, ethnic minority youth with a particular interest in high achieving students among this group. I examined to what extent system-justifying ideologies contributed to the variance in academic achievement and sense of belonging *beyond the contribution of socioeconomic status* (SES; O'Brien, et al., 2011). SES was included as a variable in this study in an effort disentangle social class effects as it is a potential confounding variable.

In addition, I also examined to what extent four established psychosocial variables—grit, growth mindsets, ethnic identity, and other group orientation—that have been associated with the academic achievement of ethnic minority students in some studies (Blackwell et al., 2007; Strayhorn, 2013; Worrell, 2007; Yaeger & Dweck, 2012) contributed to the academic achievement and sense of belonging of Black and Latinx high school students in my sample. The ultimate goal of this study was to better understand how, if at all, Black and Latinx students can benefit from interventions, practices, and policies that utilize these psychosocial frameworks.

Previous research has suggested that racial and ethnic minority students do not completely believe the myth that education is the great equalizer as it is intended to be and that low-income, ethnic minority youth, in particular, have a *healthy skepticism* about the opportunity structure (Carter, 2006). These claims raise several questions. First, can we expect students to want to excel and thrive in an education system that is nested within a larger social system that they may or may not believe is just, fair, and works towards the benefit of everyone in society? Second, does sending messages endorsing the idea of the American Dream negatively affect ethnic minority students' academic performance when they believe that hard work does not guarantee success and access to opportunities for their group in the same way as it does for non-minorities? Third, is one's level of belief in the system associated with one's level of motivation to perform and achieve in school? I am interested in examining if believing that the social system and opportunity structure in which one lives is unfair is debilitating or does it motivate individuals with that belief to work harder to overcome the additional barriers they face.

The current study built upon the findings in two studies (Dixson et al., 2017; O'Brien et al., 2011) by examining four of the same variables from Dixson et al.'s (2017) study with an additional variable of interest and outcome variable, system-justifying ideologies and sense of belonging from O'Brien et al.'s (2011) study. Dixson et al. (2017) examined the relationship between positive, psychosocial variables and achievement among high-achieving Black students. The researchers found that grit, growth mindset, ethnic identity, and other group orientation were not significant predictors of GPA. However, SES was a significant predictor of GPA in the study. O'Brien et al. (2011) examined the relationship among system-justifying ideologies, academic achievement, and sense of belonging. Among their sample of Latinx college students, the researchers found a negative relationship between SJI endorsement and perceptions of discrimination with a large effect size ($B = -.50, p < .05$), as well as a positive relationship between SJI endorsement and belonging with a moderate effect size ($B = .41, p < .05$).

This study also expanded on the previously mentioned studies by including the following criterion in the selection of the sample: low-income and/or first-generation status, which helped to control for SES. Additionally, the sample in the current study included both Black and Latinx high school students as they have both been shown to fall behind in the achievement gap literature and they tend to perform relatively similarly on national tests of achievement (Campbell et al., 2000). Dixson et al. (2017) only included Black students in their sample. O'Brien et al. (2011) only included Latinx participants in their sample.

Research Questions

I conducted a mixed methods study to address five, specific research questions in a sample of ethnic and racial minority high school students. First, are system-justifying ideologies negatively associated with academic achievement in the current sample as in previous research (O'Brien et al., 2011)? I hypothesized that SJIs would be negatively associated with academic achievement for both Latinx and Black students. Second, are system-justifying ideologies meaningful positive predictors of sense of belonging? Based on previous research (O'Brien et al., 2011), I hypothesized that system-justifying ideologies would be positive, meaningful predictors of sense of belonging. Third, does John Henryism mediate the relationship between system-justifying ideologies and sense of belonging in my sample? I hypothesized that the positive relationship between SJIs and sense of belonging would be mediated by John Henryism.

Fourth, do SJIs add incremental variance to the prediction of academic achievement and sense of belonging beyond the contributions of SES, grit, growth mindset, EI, and OGO? In keeping with the findings in previous research (Dixson et al., 2017), I hypothesized that grit, growth mindset, ethnic identity, and other group orientation would *not* contribute significantly or meaningfully to academic achievement, particularly for the high achieving participants within my sample of ethnic minority students based on Dixson et al.'s (2017) findings. However, I hypothesized that grit, growth mindset, EI, and OGO would contribute significantly to sense of belonging. I also hypothesized that SJIs would add incremental variance to the prediction of academic achievement and sense of belonging. Finally, *how* do high, average, and low SJI endorsers think about the fairness of society and the legitimacy of the American Dream in relation to their motivation to perform in school? The final question was addressed with a qualitative analysis in a subsequent section.

Method

Participants

One hundred and thirty-nine students participated in this study. However, 33 participants were dropped as they did not identify as either Black/African American, Chicano/Mexican American, or Latinx. An additional six participants were dropped as they did not report a race or ethnicity. The final sample was comprised of 25 Black/African American participants (25%), 32 Chicano/Mexican American participants (31%), 37 Latinx participants (37%), and 7 participants (7%) who identified as Multi-Ethnic with Black/African American being one of their multiple ethnic groups. Thus, the final sample included a total of 101 high school students. Fifty-two participants identified as female (51%), and 49 participants

identified as male (49%). Participants' ages ranged from 14 to 17 years old ($M_{\text{age}} = 15.5$, $SD = 0.99$) and their grade levels ranged from 9th to 12th grade ($M_{\text{grade level}} = 10.6$, $SD = 0.99$). The lowest GPA reported was a 2.0 and the highest was a 4.7 ($M_{\text{GPA}} = 3.32$, $SD = 0.69$) on a 0–4-point scale.

Eighty-two participants (81%) reported that they were eligible for free lunch at school. With regard to education levels for their mothers, participants reported that 4% earned a graduate degree, 12% earned an undergraduate degree, 18% earned a high school diploma, 24% attended college, but did not graduate, 32% attended high school, but did not graduate, and 11% did not know their mother's education level. With regard to education levels for their fathers, participants reported that 3% earned a graduate degree, 10% earned an undergraduate degree, 21% earned a high school diploma, 7% attended college, but did not graduate, 45% attended high school, but did not graduate, and 15% did not know their father's education level. Ninety-one students were participants in a federally funded summer program that aims to prepare first generation and underserved, low-income students for college and 10 students were from a university-based college access program designed for underserved, first generation high school students. Both programs were in a Western state. Students in both programs attended several different schools in a Western state. Students are selected to participate in the program based on merit, socioeconomic status, and first-generation status.

Measures

Outcome Variables

Academic achievement consisted of students' cumulative self-reported GPAs, measured on a 0–4-point scale (with weighting, some students' GPAs may exceed 4.0). Sense of belonging was measured using five items (e.g., "I feel like a real part of my school") from the Psychological Sense of School Membership Scale (PSSM; Goodenow, 1993). The scale measures the extent in which one feels socially connected to school. Two of the five items on the scale are reverse-coded. Higher scores indicate a higher sense of belonging. Response options range from 1 for *not at all true* to 5 for *completely true*. Acceptable reliability estimates have been found for PSSM scores, with alpha estimates ranging between .80 and .88 for several different samples of students (Goodenow, 1993). Scores on the PSSM have been found to be structurally valid in adolescent populations (Goodenow, 1993). After dropping one of the five items from the scale as it was decreasing internal consistency, an alpha estimate of .68 was found for the scores on the PSSM in the current study, a value that is less than ideal as it is below the .70 cutoff for an acceptable alpha estimate (see Table 1; Nunnally & Bernstein, 1994).

Independent Variables

System-justifying ideologies was measured using nine items (e.g., "Differences in status between groups are fair") adapted from the System Justification Scale ($\alpha = .80$; Kay & Jost, 2003; O'Brien & Major, 2005). The scale measures the extent in which one believes society is just and fair, and one's outcomes (e.g., educational, career etc.) are deserved and based on merit. Response options range from 0 for *strongly disagree* to 6 for *strongly agree*. Individual item scores are added together and divided by the total number of items on the scale

to get the scale score. A higher score on the scale is associated with a higher endorsement of system-justifying ideologies. Two items on the scale are reverse-coded. Previous research has found evidence to support the convergent and discriminant validity of the scores on the System Justification Scale (Kay & Jost, 2003), as well as the internal consistency of the scores in an adolescent sample ($\alpha = .88$; Godfrey et al., 2019). An alpha estimate of .71 was found for the scores on the System Justification Scale in the current study indicating acceptable internal consistency.

Grit was measured using the 8-item, Short Grit Scale (Grit-S; Duckworth & Quinn, 2009). Two factors comprise the Grit-S—consistency of interests and perseverance of effort. Response options on the instrument range from 1 for *very much like me* to 5 for *not like me at all*. Individual item scores are added together and divided by the total number of items on the scale to get the scale score. Higher scores are associated with possessing a higher level of grit when compared to a lower score. Items that load on to the perseverance of effort factor are negatively worded and thus, reverse-coded. In two previous studies, exploratory and confirmatory factor analysis were used to provide evidence to support a general second-order factor with two first-order factors (consistency of interests and perseverance of effort; Duckworth et al., 2007; Duckworth & Quinn, 2009). The general grit score accounted for an average of 4% of the variance in several measures of individual success such as educational attainment, academic achievement, and school retention (Duckworth & Quinn, 2009). Total grit scores were positively associated with a measure of conscientiousness from the Big Five personality inventory (Duckworth et al., 2007). Alpha estimates for the scores on the Grit-S ranged between .73 and .83, indicating that scores on the instrument were reliable in an adolescent sample (Duckworth & Quinn, 2009). An alpha estimate of .66 was found for the scores on the Grit-S in the current study.

Growth mindset was measured using the 8-item, Theories of Intelligence Scale (TIS; Dweck, 2000). The scale measures one's beliefs about intelligence. According to Dweck (2000), beliefs about intelligence fall on a spectrum ranging from a fixed mindset to a malleable view of intelligence. Response options on the TIS range from 1 for *strongly disagree* to 6 for *strongly agree*. Individual item scores are added together and divided by the total number of items on the scale to get the scale score. Higher scores on the scale are associated with possessing a growth mindset and low scores are associated with having a fixed mindset. As such, items that elicit a fixed mindset are reverse-coded. Alpha estimates for the scores on the TIS have ranged between .78 and .92, indicating that the scores were reliable (Jones et al., 2012). An alpha estimate of .79 was found for the scores on the TIS in this study. A positive correlation was found between Implicit Theories of Intelligence scores and a 9-item measure of effort beliefs in children (Blackwell et al., 2007). ITIS scores have also been found to be a positive predictor of mathematic achievement (Blackwell et al., 2007).

Ethnic identity was measured using the Multigroup Ethnic Identity Measure-Revised (MEIM-R; Phinney & Ong, 2007). The 6-item scale measures ethnic identity. The scale is comprised of two components, exploration and commitment. Response options for the MEIM-R range between 1 for *strongly disagree* to 4 for *strongly agree*. Individual item scores are added together and divided by the total number of items on the scale to get the scale score. Higher scores on the scale are associated with a higher level of ethnic identity. MEIM-R scores have been found to be reliable in adolescent samples (Phinney & Ong, 2007; Yoon, 2011), with alpha estimates ranging between .81 and .89. Cronbach's alpha of .88 was found for the scores on the MEIM-R in the current study. Structural validity of the scores on the MEIM-R have

confirmed a two-factor structure (exploration and commitment) among racially/ethnically diverse samples in California (Phinney & Ong, 2007; Yoon, 2011) and Alabama (Chakawa et al., 2015).

Other group orientation (OGO) was measured using six items from a modified Other Group Orientation Scale (Worrell et al., 2021), which is a revision of the original scale included with Multigroup Ethnic Identity Measure (MEIM-O; Phinney, 1992). This scale measures how much one engages with and values experiences and interactions with individuals from ethnic groups outside of one's own ethnic group. Response options for this scale range from 1 for *strongly disagree* to 4 for *strongly agree*. Alpha estimates ranged between .64 and .74 for OGO scores, indicating that these scores were moderately reliable in an adolescent sample (Phinney, 1992; Worrell 2000; Worrell et al., 2021). Alpha estimates for the revised scale ranged from .85 to .90 (Worrell et al., 2021). In this study, an alpha estimate of .88 was found for the scores on OGO-Revised Scale. These researchers also found evidence to support the structural validity of the OGO Scale in adolescent samples (e.g., Worrell et al., 2021). The items measuring other group orientation had coefficients of .68 or greater in Worrell et al.'s (2001) study.

Mediator

The proposed mediator in this study, John Henryism (JH), was measured using the 12-item, John Henryism Scale for active coping (JHAC12; James, 1996). This 5-point, Likert-type scale measures three components of JH: efficacious mental and physical vigor, a strong commitment to hard work, and a relentless determination to succeed. Response options range from 1 for *completely true* to 5 for *completely false*. All items on the scale are reverse-coded. JHAC12 scores have been shown to be reliable in Black and White American samples with alpha estimates ranging from .65 to .87 (Fernander et al., 2003; Neighbors et al., 2007). Fernander and colleagues (2003) found evidence to support the convergent and discriminant validity of the JHAC12. The JHAC12 had a positive correlation with optimism (as measured by the Life Orientation Test; Scheier & Carver, 1985) among a sample of Black Americans (Fernander et al., 2003).

The JHAC12 also had a significant positive correlation with the active coping and the suppression of competing activities subscales of the Coping Orientation to Problems Encountered scale (COPE; Carver et al., 1989). Discriminant validity for the JHAC12 was determined based on the lack of a correlation with the emotion-focused subscales of the COPE. Using confirmatory factor analysis, a two-factor structure was identified for the JHAC12 among a subsample of Black Americans (Carver et al., 1989). The two factors were labeled "commitment to succeed through hard work" and "personal efficacy." Although the scale has two factors, a total score is typically used. Thus, a total score was used in the current study. A Cronbach's alpha of .88 was found for the scores on the JHAC12 in the current study.

Socioeconomic Status

Socioeconomic status (SES) was measured using one item that asked students to report the status of their lunch. This item asked students to report whether or not they receive free lunch as free lunch status was used as a proxy to distinguish low-income vs. high-income students. Students who qualify for free lunch status in school were categorized as low-income for the purpose of this study.

Procedure

The quantitative data were collected during programming for two different college preparatory programs using a survey comprised of instruments that measure demographic variables, the five psychosocial variables of interest, and the two outcome variables, academic achievement (grade point average; GPA) and sense of belonging. A total of 101 students from both programs completed the survey. STATA and JASP statistical software were used to examine the quantitative data. The means, standard deviations, alpha estimates, and intercorrelations among variables were reviewed before the main research questions were examined as it is best practice to do so (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 2014).

To examine the fifth and final research question of the study, I conducted semi-structured, open-ended interviews comprised of nine questions (see Appendix). The questions captured the participants' beliefs in the fairness of the "system," the opportunity structure, educational and career aspirations, school performance, job attainment, and social mobility. Thirty-four adolescent participants agreed to be interviewed. Four participants did not share their name. Thus, these four interviewees' data could not be matched with their SJI score. SJI response options ranged from 0 to 6. The interviewees average SJI scores ranged from 1.33 to 4.22. For the qualitative analysis, participants with composite SJI scores that ranged from 0 to 2 were categorized as low SJI endorsers, 2.1 to 4 were categorized as moderate SJI endorsers, and 4.1 to 6 were categorized as high SJI endorsers. Among the participants who were interviewed, most interviewees were moderate SJI endorsers. Three participants endorsed low SJIs and one interviewee endorsed high SJIs.

All interviews were conducted individually with each participant. The interviews were recorded, transcribed verbatim using TEMI.com and MaxQDA, and then coded into themes and subthemes using MaxQDA, a web application designed to analyze qualitative and mixed methods data. I then used thematic analysis to identify, analyze, and interpret patterns of meaning or themes that were found in the data (Braun & Clarke, 2006). Transcripts of the interviews were read several times and coded for significant emerging themes. Significant statements in the data were highlighted, which were then grouped into subthemes, which were subsequently categorized into major themes. All of the subthemes and major themes that emerged from the data across participants were then compiled. In addition to the principal investigator, one additional graduate-level researcher examined the data by independently categorizing the data into major themes and subthemes. The themes and subthemes identified by both researchers were then cross referenced and condensed down to the final themes and subthemes presented in the results section.

The qualitative analysis consisted of a phenomenological inquiry that allowed students to reveal how they understood and interpreted the world around them within the context of their past and present social experiences (Carter, 2006; McCracken, 1988; Patton, 1990). According to researchers, Creswell and Poth (2018), "a phenomenological study describes the common meaning for several individuals of their lived experiences of a concept or a phenomenon" (p. 75). More specifically, a psychological phenomenology focuses on describing the experiences of participants. The first two questions in a phenomenological inquiry typically are as follows (Moustakas, 1994): "What have you experienced in terms of the phenomenon? What contexts or situations have typically influenced or affected your experiences of the phenomenon?" (Creswell & Poth, 2018, p. 79). Phenomenological studies

typically culminate with a description of the essence of the phenomenon studied based on the participant's reported experiences. Ethical approval from UC Berkeley's Institutional Review Board was received before the study was conducted. Participants were told they had the right to discontinue the study at any time without any repercussions on their standing in their summer program.

Researcher Background and Biases

It is important to note the role and influence of my own positionality as the researcher in this study. Based on a contextual epistemological framework, qualitative findings are always influenced by both the individual biases and perspectives of the researcher, as well as the perspectives of the participants (Madill et al., 2000). As a Black cis male, my own experiences living in America, growing up in a Southern state and participating in the education system played a role in my interest in the topic, the types of questions asked, my interpretations of the findings and also the rapport that was built with the participants in the study. Twenty five percent of the participants identified as Black. Thus, they shared a similar sociocultural background as me. The other half of the participants identified as Latinx. As such, there was a larger gap between our sociocultural backgrounds when compared to the Black participants. Moreover, the author of this study was also a participant in the same summer program during high school that the participants of this study were involved in during the current study. My experiences as a former participant in the same summer program provided additional insight into some of the participants' experiences. It is important to acknowledge the lens that I had in my interpretations of the findings in the current study.

Results

Descriptive Statistics

Means, standard deviations, alpha estimates, and intercorrelations among the variables are reported in Table 1. Skewness and kurtosis scores for all variables in the analysis ranged from .00 to .89. The distributions of the scores for SJIs, JH, growth mindsets, ethnic identity, and OGO were all fairly symmetrical (-0.5 to 0.5). The distributions of the scores for sense of belonging and grit were moderately skewed (0.5 to 1). The Shapiro Wilk test was also conducted, which indicated a non-normal distribution of scores for JH and OGO ($< .05$ for both variables; Shapiro & Wilk, 1965). Based on further examination of the histograms, both JH and OGO appeared to be positively skewed. Thus, the majority of participants in the sample reported high levels of both JH and OGO.

Reliability and Structural Validity of Scores on Major Constructs

The psychometric properties of the scores on all the scales were examined as it is best practice (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 2014). Using JASP software (JASP Team, 2020), the psychometric properties for grit, growth mindsets, EI, and OGO were examined using exploratory factor analyses. The results for the exploratory factor analyses (principal axis extraction) with a promax rotation can be found in Table 2. The psychometric properties were

sound for most of the variables. However, the factor coefficient for one grit item was below .40. The percent of variance accounted for by most of the scores on the scales were low especially for grit. Internal consistency estimates were above .70 for growth mindsets, EI, and OGO.

Using Mplus 8 software (Muthén & Muthén, 1998-2014), the psychometric properties of the scores on the variables that were included in the path analysis were examined separately. CFAs were used to determine the structural validity of the scores on SJIs, JH, and sense of belonging scales. The results of the confirmatory factor analyses are presented in Table 3. The factor coefficients for one SJI item and two JH items were below .40. The percent of variance explained was low for SJIs, belonging, and JH. Internal consistency estimates were above .70 for SJIs and JH.

In keeping with Hu and Bentler (1999), several fit indices were used to determine the fit of each model. The chi square is a good measure of fit for sample sizes of less than 200 participants (Kenny, 2014). The comparative fit index (CFI) is an incremental fit index that takes into account the number of parameters in a model. CFI values range from 0 (no fit) to 1 (perfect fit). The index is relatively independent from the size of the sample. However, studies have indicated that it yields better results in studies with smaller sample sizes (Chen, 2007; Hu & Bentler, 1995, 1999). The Tucker-Lewis index (TLI) is also an incremental fit index that accounts for the complexity of the model. Similar to the CFI, the TLI values range from 0 (no fit) to 1.0 (perfect fit). An advantage of the TLI is that it is not significantly affected by or dependent on the size of the sample. Next, the root mean square error of approximation (RMSEA) is an absolute fit index of the difference between the observed covariance matrix and the hypothesized covariance matrix. The RMSEA takes the complexity of the model into account as it reflects the degrees of freedom as well as the sample size. Cutoffs for the aforementioned indices that indicate a model with a good fit include a non-significant chi-square (more specifically for sample sizes between 75–200; Kenny, 2014), both a CFI and TLI > .90 (Marsh et al., 2004), and an RMSEA ≤ .08 (Marsh et al., 2004).

Based on the results of the CFAs for the measurement models of the scores on the instruments for the variables of interest (SJIs, sense of belonging, and JH), the fit indices for all three measurement models were in the acceptable range. The SJI model showed good model fit with the following fit indices: a non-significant chi-square, $\chi^2(9, N = 85) = 6.203, p = 0.719$, CFI = 1.000, TLI = 1.054, RMSEA = .000. The sense of belonging model also showed good model fit with the following fit indices after one item was dropped due to its poor psychometric properties: a non-significant chi-square $\chi^2(2, N=87) = 2.603, p = .272$, CFI = .986, TLI = .957, RMSEA = .059). Lastly, the John Henryism model showed good model fit as well with a non-significant chi-square $\chi^2(54, N = 83) = 58.514, p = .313$, CFI = .981, TLI = .977, and RMSEA = .032). These results indicate that the scores on all three measures fit their theoretical models.

Intercorrelations Among Psychosocial Variables

According to Ferguson (2009), the recommended minimum correlation for a practically significant effect is .20; an $r \geq .50$ is indicative of a moderate effect size and an $r \geq .80$ is indicative of a large effect size. SJIs were correlated with age and ethnic identity with small, yet practically significant effect sizes. In other words, as the age of the youth increased, both their SJIs and ethnic identity scores increased as well. The correlation between SJIs and ethnic

identity was the only correlation found in the preliminary analysis that was congruent with the associations found in O'Brien and Eccleston's (2011) study.

Socioeconomic status was positively correlated with grit with a small, yet practically significant effect size ($r = .25$). As the SES of the participants increased, so did their self-reported levels of grit. John Henryism was positively associated with growth mindset and OGO with a small effect size and positively associated with grit with a moderate effect size. In other words, for youth with a strong work ethic and persistence, they also tended to have a more malleable mindset, they engaged more with others outside of their own ethnic group, and they had more perseverance. Grit was positively associated with growth mindset, ethnic identity, and other group orientation, all with small effect sizes. In other words, possessing more perseverance was also associated with having a more malleable mindset and being more engaged with various ethnic groups. Growth mindset was positively associated with ethnic identity and other group orientation with small effect sizes. Thus, having a malleable mindset was associated with being more engaged with one's people from one's own ethnic group and other ethnic groups as well. Ethnic identity was positively correlated with other group orientation with a moderate effect size.

Bivariate correlations were also used to determine the strength and direction of associations between the independent variables of interest in this study and the two outcome variables (academic achievement and sense of belonging). A negative association was found between SJIs and academic achievement. However, the association did not meet the recommended minimum effect size for practical significance. Thus, the first hypothesis was not supported. Academic achievement was positively associated with John Henryism, grit, growth mindset, and other group orientation with small, yet practically significant effect sizes. On the other hand, sense of belonging was only associated with one other variable—grit—with practical significance.

SJIs as a Predictor of Belonging

To examine the second research question, a bivariate correlation was used to determine the strength and direction of the relationship between SJIs and sense of belonging ($r = .02$). The correlation did not meet the minimum effect size for practical significance. Therefore, the second hypothesis was not supported.

John Henryism as a Mediator of Educational Outcomes

I hypothesized that John Henryism would mediate the relationship between SJIs and the two outcome variables, sense of belonging and academic achievement. However, SJIs were not correlated with either belonging or John Henryism. Thus, the preconditions for testing for mediation was not met for belonging. SJIs were also not meaningfully related to academic achievement, although JH was associated with GPA (see Table 1). Thus, the third hypothesis was not supported by the evidence.

Psychosocial Variables as Predictors of Academic Achievement

In order to examine the fourth research question, two hierarchical linear regressions were used to determine the amount of incremental variance that SJIs contributed to the

prediction of academic achievement and sense of belonging beyond the contributions of SES, grit, growth mindset, EI, and OGO. The first hierarchical linear regression was used to examine the contributions of age, sex, SES, and SJIs to academic achievement. Age and sex were added in Block 1 resulting in a non-significant equation (see Table 4). When SES was added in Block 2, the model was also not statistically significant. When grit, growth mindsets, EI, and OGO were added in Block 3, the total variance explained by the variables showed a statistically significant increase. The four variables collectively accounted for approximately 11% of the proportion of the variance in academic achievement, although none of the four variables were significant predictors of GPA individually (see Table 4). Although the adjusted R^2 for Block 4 was significant, SJIs only increased the predictive value of the model by about .2%. Thus, regarding academic achievement, the fourth hypothesis was not supported.

Psychosocial Variables as Predictors of Belonging

The second hierarchical regression examined the amount of incremental variance that SJIs contributed to the prediction of sense of belonging beyond the contributions of SES, grit, growth mindset, EI, and OGO. Age and sex were added to the first block, and yielded a non-significant model (see Table 5). When SES was added in Block 2, the model was also not statistically significant with no predictive value. When grit, growth mindsets, EI, and OGO were added in Block 3, there was a statistically significant increase of 17% in the total variance explained. Although the adjusted R^2 for Block 4 was significant, according to the R^2 change value of -.019, SJIs actually reduced the predictive value of the model by 1.9%. Thus, regarding SJIs, the fourth hypothesis was not supported.

As can be seen in Table 5, only grit was a statistically significant predictor of sense of belonging in the model individually. The contributions of grit and other group orientation had medium effects and ethnic identity had a small but interpretable effect size. The regression coefficient associated with grit suggests that with each additional unit of grit, the sense of belonging of participants in the sample increased by approximately .83 units. Thus, regarding sense of belonging, the fourth hypothesis was supported to some degree. On the other hand, the regression coefficient associated with OGO suggests that with each additional unit of OGO, the sense of belonging of Black and Latinx participants in the sample *decreased* by approximately .52 units.

SJI Endorsers' Perceptions of the American Dream

Three central themes emerged from the qualitative data: (a) ambitious career aspirations, (b) systemic barriers that result in opportunity gaps and unequal access to the American Dream and (c) skepticism of the American Dream and meritocracy narratives. Subthemes for each major theme are discussed in subsequent sections. In an effort to maintain anonymity to protect the identity of the participants, pseudonyms were used to replace the names of individual participants.

Statements Regarding Career Aspirations from Moderate SJI Endorsers

All of the participants that were interviewed were college bound and reported being interested in a wide variety of professional careers. Participants listed pilots, mechanical

engineers, veterinarians, astrophysicists, aeronautical engineers, aerospace engineers, lawyers, chiropractors, therapists, physicians, actors, social workers, cardiologists, environmental scientists, neonatal nurses, professional athletes, and businessmen and women as potential career options. More specifically, 34 students shared their aspirations to pursue a career that required an advanced degree. Many students were interested in pursuing STEM related careers. The two most common professions of interest were engineering and medicine. Eight students expressed interest in pursuing careers as engineers and 12 students expressed their interest in pursuing careers in medicine. Two students were having a hard time deciding between careers. One student was deciding between pursuing a career as either a professional athlete or a prosecutor. Another student was deciding between becoming a professional athlete or hematologist.

Anthony, a 12th grader with a moderate SJI endorsement stated, I wanna get a bachelor's in mechanical engineering...then go on to a master's and PhD in the same field of engineering. Aerospace engineering and aeronautical engineering is something that really interests me. Just looking at planes and seeing how they work really interests me. Another student, Lana (moderate SJIs; grade level was not reported) described her career interests in this way:

I want to be in the engineering field. I've always loved technology. I want to be a robotic code design engineer. Eventually, I started photoshopping, the design part already started coding, I programmed it on a computer. Thinking about being an aerospace engineer now, cus I like to see how it works. Like looking at planes in the sky to see how it works. I look out the window at planes and try to understand how it works. I have been to NASA and I have seen rocket ships. I want to build my own spaceships.

Three students (all moderate SJIs) reported they did not know which particular career they wanted to pursue. Nine participants (eight moderate SJIs and one high SJI) attributed their career ambitions to life experiences that inspired them to pursue their career of interest, whereas eight students (seven moderate SJIs and one low SJI) attributed their current career interests to a class that they took in the past that sparked their interest in the field. Four students (three moderate SJIs and one low SJI) highlighted opportunities that exposed them to their career interest such as internships and access to professionals who were working in their career of interest. When one 9th grader with moderate SJIs was asked to describe how she became interested in becoming a pediatrician, she shared the following response:

I don't know. Well, my family was like really prone to like diseases and like just like family stuff. So, when I was like around five years old, I would like, tell myself that I really wanted to help people and start helping them, like when they were younger, so they wouldn't suffer when they were older. So, I always knew I wanted to become a doctor, but I didn't know what kind of doctor.

Tina, a 10th grader (moderate SJIs) stated, "At our school, we have a health academy and a law academy, but I don't get excited about learning about the body," which is why she made the decision to pursue a law career following college. Falynn, a 12th grader with moderate SJIs described her interest in the medical field in the following way:

Um, I guess it really started hitting me that I wanted to do that in high school because of all the science and math classes I was taking specifically this last year when I was taking AP chemistry, because I learned to really like sciences and stuff, and our teacher

always talked about how it applied medically and I was like, that actually sounds kind of cool.

Statements Regarding Career Aspirations from SJI Outliers. SJI outliers were defined as participants who endorsed low SJIs (SJI endorsements at or below the 10th percentile rank in the SJI distribution) or high SJIs (SJI endorsements at or above the 90th percentile rank in the distribution). Adam, a 10th grader with a low SJI endorsement stated, “I plan on attending MIT, Berkeley, Princeton, Cal Poly. I want to triple major in computer science engineering, environmental science, and mechanical engineering.” Miguel, a 9th grader with a low SJI endorsement shared his plans to either pursue a career in the NFL or as a hematologist. When asked to describe when he decided to pursue these fields, he shared the following statement:

I played flag football in elementary school and I always knew I loved it since then. I started tackle football in 6th grade. So, I was like yeah, I like this. And then when it comes to hematology, I have sickle cell. I see a hematologist. I just think it’s interesting to see the way my body works.

Another low SJI endorser, Gina (9th grade), shared her interest in pursuing a career in the medical field. When asked when she decided to pursue this career she stated:

I mean I don’t really know exactly what I want to do. Yeah. But like after college and everything, I know I want to do something like in the medical field. I started watching Grey’s Anatomy and I don’t know, it just seem like really interesting.”

Statements Regarding Systemic Barriers from Moderate SJI Endorsers

Although the participants were highly motivated to achieve their educational and professional goals, many students also expressed an awareness and acknowledgment of various systemic barriers that have prevented marginalized groups from achieving their goals. When asked what participants thought about the phrase, “Anyone can make it in America if they just work hard” many students described various systemic barriers that have prevented many hard-working people from succeeding in the past. Students shared their thoughts on how systemic barriers such as oppression, immigration status, stereotypes, housing inequality, internalized psychological oppression, white supremacy, educational disparities, privilege, racism, sexism, discrimination, and income inequality have prevented many marginalized groups of people from reaching their dreams and achieving their goals. When Shawn, an 11th grader, was asked if everyone has equal access to the American Dream, he replied, “No, America still has a lot of racial and educational problems.” On the contrary, two students (both were moderate SJIs endorsers) reported a belief that “everyone had an equal chance to prosper.”

Racism was the most common subtheme that emerged from the overarching systemic barriers theme. Fourteen students (nine with moderate SJIs, one with low SJI, one with high SJIs, and three with no SJIs reported) talked about racism as one of many systemic barriers throughout America’s history and from the perspective of their own personal experiences. Each participant was asked if individuals of other ethnic and racial backgrounds who were all interested in going into the same field will likely experience similar barriers that they mentioned for themselves. Mariah, an 11th grader (moderate SJIs) who plans to follow in her uncle’s footsteps by going into the medical field to become a cardiologist responded, “No, because if White people do it, they would get more attention and we would get less attention. Whites are most powerful, but they’re not.” I interpreted her statement to mean White people have the most power even though that is not the way that it should be.

During the interview, participants were asked to rank the importance of hard work, opportunities, luck, and talent in their pursuit to achieve their long-term goals. The vast majority of students who were interviewed shared the following ranking for themselves from most important to least important: hard work, opportunities, talent, and luck (see Table 5). The participants were also shown three different cards with Black, Latinx, and White written on each individual card. They were then asked to rank the importance of opportunities, luck, hard work, and talent for the three different profiles if all other factors were the same for each profile (e.g., same GPA, same SES etc.). Angelica, a 9th grader (moderate SJIs) shared the following sentiment:

Oh yes. The Black or the Latinx students. Uh, they might have to work harder than the White students. Like, look for those opportunities harder than a White student might have to. Yes. based on what I've seen and what we've talked about in school. Yeah. Like statistically White people are more likely to like...achieve higher education and get a job.

Similarly, another student, Sabrina (12th grader; low SJIs) reported the following: I'd say no matter what the race is, you'll experience barriers, but it varies between it like the, like I was saying the opportunities...I feel like certain races might get more opportunities just based off of race, which I don't think should be the case, but I think it is something that does happen.

The opportunity gap was also a common thread among various participants with a total of 22 comments that were coded for this theme. Nikki, a 12th grader with moderate SJIs was expressed an interest in becoming a pilot in the future. She described opportunity gaps in this way:

And then opportunities because everything is not available to everybody, depending on where you live, depending on your family's financial status or their status in general.

So, I think opportunity does come into play and how much you put yourself out there.

Arthur, a 10th grader (moderate SJIs) who was not sure about his career path stated, "POCs (people of color) have to work much harder than the White person because they [Whites] have way more opportunities." Similarly, Carl an 11th grader (moderate SJIs) mentioned, "We need all four of them (hard work, opportunities, luck, and talent). Most White people don't need the hard work part. They have more opportunities. We have to work twice as hard." Hector, (moderate SJIs; he did not report a grade level) shared the following statement, "I'd say because a lot of people don't have the same opportunities. They don't have the same programs. Some schools are more ghetto than others. But it's not always the school. But without opportunities, you're at a disadvantage." In contrast, two students did not believe there was a gap in opportunities. For example, Adam (10th grade; low SJI endorsement) stated, "In our society, POCs have been put down for so long, POCs now get a lot of opportunities."

When another student was asked if there were any barriers for different ethnic groups, Cynthia, a 10th grader, shared the following response:

Interviewer: And do all Americans have equal access to the American Dream?

Cynthia: No, I don't think so.

Interviewer: Okay. Can you tell me more?

Cynthia: I mean, a lot of race comes into that. Like just the history of America is pretty messed up. So, like a lot of people like are born into different situations as well. That'll just like change your like life after it. So, kind of, um, not everybody's like, they're not all like able to go into have the same American dream.

Statements Regarding Systemic Barriers from SJI Outliers. Gina, a 9th grader with low SJIs expressed an interest in pursuing a career in the medical field. When asked to rank hard work, opportunities, luck, and talent in order of importance while in pursuit of one's career goals, she selected the following ranking: hard work, talent, opportunity, and luck. She identified race and income as potential barriers that might impede one's ability to achieve the American Dream. When asked if all American have equal access to the American Dream, she replied, "Um, no...some people are a different race. They may have more money than others at different levels and that plays a role." However, these two barriers did not seem to deter her from pursuing her own career goals. When asked to describe any factors other than hard work that would be necessary to achieve her goal, she stated, "...I'm like interested in it already and think like it's like achievable."

Evan (10th grader) a high SJI endorser was one of 7 participants (six moderate SJIs and one high SJIs) who ranked opportunities as the most important factor to consider in pursuit of his career goals. Most participants selected hard work as the most important factor. He ranked the factors in the following order: opportunities, hard work, talent, luck. When asked to explain his ranking, he stated, "I see opportunities as doorways for some, for good. I saw an opportunity for this program, so I took it. Hard work...you need it for anything." He also stated his ranking would change depending on the race and ethnicity of the person. He shared a personal story of a time when he experienced racism. He stated the following account of his experience:

Yeah, my ranking would change because normally I experience more difficulty. I'm Latinx myself. For example, when I was in the 7th grade, I faced my racist teacher and got bad luck with that. I always had an A for the class, but whenever I tried to like, do something better than anyone else she would also try to tear me down.

In contrast, Adam, a 10th grader with a low SJI endorsement, did not think any barriers outside of himself would impede his ability to achieve his career goals. When asked if any barriers would make it harder for him to pursue his goal to triple major in computer science engineering, environmental science, and mechanical engineering at MIT, UC Berkeley, Princeton, or Cal Poly, he replied:

Only myself. I'm scared I may get too tired of school. I'm pretty sure I'll power through it. My family is supportive, but I get really homesick. I'm not sure if I can go away. I'm really attached to my family. I have a really hard time being away from home.

When asked if there were any other factors other than hard work that would be necessary to achieve his goals, Adam said, "Focus...I get distracted really easily. If I start to lose focus, I'll lose sight of scholarships." When he was asked to rank four factors in order of importance to him in pursuit of his goals he shared the following ranking: "Hard work because anyone who works hard can make it. Opportunities because if you don't take opportunities, you won't get anywhere. Next would be luck and then talent. You don't need talent for anything, you need persistence."

The American Dream Narrative for Moderate SJI Endorsers

In addition to career aspirations and systemic barriers, the participants also described various ways in which they defined and conceptualized what the American Dream meant to them. Unequal access, financial stability, and happiness were the three most common

subthemes within the healthy skepticism of the American Dream theme. Nine students (two with low SJIs, four with moderate SJIs, and 3 with no SJI data) associated unequal access with the American Dream. Falynn, a 12th grader with a moderate SJI endorsement, defined the American Dream in this way:

Like achieving or like becoming the best of the best like power, I guess, is something that America really strives for. And I, I don't think people can equally get to gain power or anything because like the most powerful people, like I'd say like the government, like as you can see what Obama was, our first African American president and that took decades to get to. So, it's not equal based off of politics or anything.

Michael, a Latinx male in the 11th grade with moderate SJIs stated, “If they [Americans] were born poor, it’ll be harder for them to live the American Dream. If they’re born wealthy, you were born the American Dream.” Samantha (moderate SJIs; grade level not reported) described her thoughts about access to the American Dream in the following way:

No, because in every different state in America, it’s always the lower class that has a harder time. For example, Richmond, you’re in the hood, so you have to work more than twice as hard. You gotta show them that we can learn.

Seven students (4 with moderate SJIs and 3 with no SJI data reported) collectively made 10 comments that included financial stability in their definitions of the American Dream. For example, when asked to describe his idea of the American Dream, Anthony (12th grade; moderate SJIs) stated, “Being happy, financial stability, house, food, content with myself and content with the hard work that I’ve done. Just being able to relax after all of the hard work that I’ve done.” Hector (10th grade; moderate SJIs) said, “In the future, I’ll have a house, a nice job that supports everything that I do, and I’ll be able to retire happily.” Shane, a participant who identified as a Black male in the 11th grade had aspirations to become a biomechanical engineer. Shane described his idea of the American Dream in this way: “Essentially, the white picket fence, everyone having fun, and a dog. For me, it’s just having a family, having what I need, and being stable.”

Six participants (four with moderate SJIs, one with low SJIs, and one with no SJI endorsement) alluded to happiness in their definitions of the American Dream. For example, Javier, an 11th grader (moderate SJIs) said his idea of the American Dream is “just to live and have fun. I want the American Dream for me to where I don’t have to worry. Stress is the number one thing on peoples’ mind.” Ninth grader, Amanda (moderate SJIs), articulated her thoughts about what the American Dream meant to her in this way:

For me, I guess it was just being able to like find and be happy, like with the job that I'm doing, like having stability to like work and make money; just kind of being in a place where I have the freedom to do what I want to do with my life and not be controlled by the amount of money I have or what other people say.

Sabrina, another 9th grader (moderate SJIs) made the following statement:

I feel like I don't really know. I guess like to have like, uh, like the right amount of money to live on and like to have happiness and enjoy what you do and to like have a good time in life because I mean, you spend most of your time working for what you want.

In addition, other participants also mentioned capitalism, gaining power, self-actualization, immigrants pursuing their dreams, meritocracy, freedom, assimilation, wealth, and fame in their definitions of the American Dream. As a result of systemic barriers, many students described a skepticism of the American Dream narrative. Their views corroborated the

findings from Carter's (2006) study where the researcher described ethnic minority youth as having a "healthy skepticism" of the legitimacy of the American Dream. Most participants in the current study had a negative belief in the legitimacy of the American Dream while they simultaneously had very aspirational career goals despite their skepticism. During the interviews with participants, all the participants were asked to share their thoughts about the following statement, "Anyone can make it in America if they work hard." This question was followed up with an additional inquiry to explain how they came to their conclusion. Tina, a 10th grader (moderate SJIs) shared her thoughts. She stated, "Working hard isn't enough. Sometimes you can work as hard as you want, more about always staying on your path. Everybody can work hard, it's opportunities, and having talent and being determined." Carl (11th grader; moderate SJIs) emotionally shared his thoughts in this way: "That's fucking bullshit. There's some things that you really just can't do. It pisses me off. We have to work twice as hard as they do." Another participant, Javier (11th grade; moderate SJIs), stated, "I don't think that's accurate. Obviously, African Americans are looked down upon. Perceived as inferior. Lots of people don't want us to succeed." Alex, a 10th grader (moderate SJIs) who identified as a Black female stated the following:

No. That's not accurate at all. At least not in modern America that, um, I see people trying hard all the time, but most of them don't work the path that they want to because they don't get the same or that they don't get equal opportunities as other people in my community.

Additionally, Desiree, a 12th grader (moderate SJIs) shared the following statement: Noo, that's not true. I was gonna cuss. If you're born into a lower class, you don't have as many resources as someone that grows up in a really rich community, of course you're not gonna be able to show off your talents. All you see is one specific thing.

Tina (10th grader; moderate SJIs), made the following statement during her interview: "It's this idea about if you come here you'll automatically become rich, white picket fence and everybody can access it, when that's not the truth." Another participant (10th grade; moderate SJIs) who identified as Black and female had plans to pursue a career as a neonatal nurse. She stated, "Some think of coming to America as this magical, wonderful place where your life is gonna be well, easy. It seems so realistic, but it's not."

The American Dream Narrative and SJI Outliers. Despite endorsing low SJIs on the System-Justification Scale, Adam, a 10th grader, described his belief in the legitimacy of the American Dream. When asked to share what he thought about the statement, "Anyone can make it in American they work hard", he shared the following statement: "It's very accurate because if you work hard and you make the right decisions even though America is a very new country with a lot of problems, none of those problems will affect you if you work hard." When asked to describe his idea of the American Dream, he replied:

I don't like the term American Dream. American Dream shows that America is the place to live your dreams out. It gives the wrong impression that you have complete freedom in America when you don't. I would rename it the New Dream. Anywhere you go, whatever hard work you do, you will achieve it if you out in the work. I don't think America has anything to do with it.

Evan (10th grader), a high SJI endorser, described the American Dream as a fantasy. He also thought individuals of all backgrounds might experience the same barriers. Evan stated, "We've all had at least one bad teacher." Miguel, a 9th grader with a low SJI endorsement was skeptical of the American Dream narrative. Miguel was initially unsure about what I meant by

the term American Dream. I clarified by sharing it can refer to many aspects of life including achieving financial stability, working at a job that you enjoy going to, and being happy. Miguel replied, “That sounds like things that happen to White people. American Dream only applies to certain groups of people. Other groups have to fight constantly for it.”

Overall, the results from the qualitative analyses provide a nuanced understanding of the relationship between the participants’ motivations in relation to their educational outcomes, as well as their perceptions of the legitimacy and accessibility of the American Dream for Black and Latinx people. Most participants endorsed moderate SJIs in the quantitative data. However, as can be seen in the qualitative data, most participants described a healthy skepticism of the legitimacy of the American Dream and the fairness of society. One participant described a strong belief in the legitimacy of the American Dream for anyone that is willing to work hard despite endorsing low SJIs on the survey that was administered. The qualitative findings were not always consistent with the participants’ SJIs that they endorsed on the System-Justification Scale. The next section will include a discussion of the findings, as well as implications and recommendations for future research.

Discussion

Although the nature of the relationship among SJIs, academic achievement, and sense of belonging has been studied once before among Latinx college students, in general, very few studies have examined the unique relationship between these variables among ethnic minority youth. The aim of the current study was to replicate, to some degree, and to extend O’Brien et al.’s (2011) initial study. O’Brien et al. (2011) found a negative relationship between SJI endorsement and perceptions of discrimination with a large effect size, as well as a positive relationship between SJI endorsement and belonging with a moderate effect size among their sample of Latinx college students. One goal of this study was to expand on O’Brien et al.’s (2011) study by introducing John Henryism as a potential mediator. In addition, another goal was to provide a comparison between SJIs and other variables’ (grit, growth mindset, EI and OGO) contributions to sense of belonging and academic achievement. A qualitative analysis was also added to the study in an effort to better understand the nuance and complexities of the perceptions of the American Dream narrative and motivation to achieve among high achieving, yet low SES ethnic minority youth.

System-justifying ideologies was the key variable of interest in this study. The current study included several hypotheses including the following: (a) SJIs will be negatively associated with academic achievement for both Latinx and Black students, (b) system-justifying ideologies would be a meaningful predictor of sense of belonging, (c) the positive relationship between SJIs and sense of belonging would be mediated by John Henryism, and (d) grit, growth mindset, EI, and OGO will *not* contribute significantly or meaningfully to academic achievement.

Intercorrelations Among Predictor and Outcome Variables

There was not enough evidence in the current study to corroborate the negative relationship between SJI endorsement and academic achievement that was found in O’Brien et al.’s (2011) study. Although the correlation between the two variables was negative, it was not practically significant. This could potentially be due to the size of the sample in this study. A positive association was found between grit and sense of belonging among the sample of

mostly high achieving ethnic minority youth. Thus, the students who were working hard and demonstrating a lot of effort, passion, and perseverance were more likely to feel as though they belonged at their schools.

A negative relationship was found between OGO and sense of belonging. Based on this negative relationship, it appears the participants felt that although they were familiar and comfortable with other ethnic groups outside of their own group, they did not feel as though they really belonged at their school. As their familiarity and comfort with other ethnic groups increased, their sense of belonging at their respective schools decreased. It could also be the case that the students may attend ethnically and racially homogenous schools comprised of other students who share the same ethnicity. The students at these schools may feel a greater sense of belonging at their schools when compared to students at schools with more mixed demographics.

In addition, I also found a negative relationship between ethnic identity and SJIs. In essence, among this sample of ethnic minority youth, the more they identified with their own ethnic group, the less likely they were to subscribe to system-justifying ideologies, which further supports the assertion that this sample does indeed endorse a skepticism of the fairness of society and the legitimacy of the American Dream.

SJIs as Predictors of Belonging

Based on the results of my analyses, SJIs were not meaningful predictors of sense of belonging. As a result, the first hypothesis was not supported by the results of this study. In fact, the predictive value of the model from the hierarchical regression was reduced by 1.9% when SJIs were added after the other four psychosocial variables. Thus, including SJIs in the model after including four, more established variables, did not yield the results that I hypothesized based on O'Brien et al.'s (2011) study. Given this finding, SJIs may not be as influential in one's sense of belonging as I hypothesized. The combined contribution of grit, growth mindsets, ethnic identity, and other group orientation contributed much more to the model. This could be due to these four variables being more salient in the minds and consciousness of the participants in this study when compared to their beliefs in the legitimacy of the American Dream at the time that this study was conducted.

There is also the possibility that the development of SJIs could be developmental. Some evidence was found to support this possibility as age and SJIs were positively correlated with a small effect size. Thus, as individuals get older and either witness or experience more discrimination first-hand, their development of SJIs may become more concretized over time. All of the participants in this study were adolescents in high school. It is possible that they may not have personally witnessed or experienced discrimination in their own personal lives yet. This may also explain the inconsistent results of this study when compared to O'Brien et al.'s (2011) study as all of the participants in the O'Brien et al. (2011) study were older, college students.

The Role of John Henryism in Educational Outcomes

Interestingly, most of the participants in the sample reported high levels of John Henryism and OGO as the distributions for both variables were positively skewed. Grit and John Henryism, two similar yet distinct variables, were also positively correlated with a

moderate effect size. Moreover, John Henryism, a variable that is defined as an active coping strategy in which more effort is exerted in response to prolonged stress, was a significant contributor to academic achievement in this study. Taken together, these results underscore the significant relationship between high effort, motivation, and achievement.

John Henryism As a Mediator of Educational Outcomes

John Henry Active Coping (JHAC) did not replace O'Brien et al.'s (2011) proposed mediator, perceptions of discrimination, as a potential mediator between system-justifying ideologies and sense of belonging. Similar to O'Brien et al.'s (2011) study, the relationship between SJIs and belonging did not meet the preconditions for testing mediation. Thus, John Henryism could not be tested as a mediator. The context and demographics of the school that the participants in the current study attended could have influenced the non-existent relationship between belonging and SJIs. Many students attended schools that comprised mostly students of color. If the participants attended more demographically and culturally diverse schools or predominantly White schools, the relationship between SJIs and belonging at their schools may have been different.

Psychosocial Predictors of Academic Achievement

A strong negative prediction of GPA by OGO was found in Block 4 of the hierarchical regression for GPA after SJIs were added to the model. Thus, the students that were familiar and comfortable with other ethnic groups also appeared to suffer more academically when SJIs were added into the model. This finding could potentially be due to increased experiences of psychological barriers to academic achievement such as stereotype threat. It is important to note that most of the students in the sample were from low SES backgrounds. As expected, SES did not contribute to the model.

Surprisingly, grit was a strong, positive predictor of GPA in Block 4 of the hierarchical regression for GPA after SJIs were added to the model. This finding contrasts with some studies that have previously yielded results that indicated grit was not a significant predictor of GPA for ethnic minority youth (Credé et al., 2016; Dixson et al., 2016; Dixson et al., 2017). The psychometric properties of grit were not strong in this sample. This could have influenced the differential results of the current study when compared to other studies with similar samples. However, theoretically, grit should predict academic achievement. Clearly, the dynamic relationship between grit and academic achievement among ethnic minority youth warrants further investigation.

Psychosocial Predictors of Belonging

Based on the overall psychosocial profile of the sample in this study, in general, the participants can be described as high striving and high achieving with strong work ethics. In keeping with previous research (Carter, 2006; Graham, 1994; O'Brien et al., 2011), Black and Latinx adolescents' healthy skepticism was not detrimental to their academic achievement. Instead, it appears their healthy skepticism served as a motivator to persist and thrive in their academics despite the structural and systemic barriers stacked against them. They were also comfortable around and familiar with groups other than their own ethnic group. However, they

also endorsed a decreased sense of belonging at school when their comfort and familiarity with other ethnic groups were elevated. This relationship could also be interpreted as feeling a greater sense of belonging at schools that are more homogenous. Based on these findings, it seems as though participants that attended more diverse schools and who socialized with other ethnic groups at school were less likely to feel as though they belonged at their school. This finding highlights the importance of integrating support systems (e.g., affinity groups based on cultural similarities) within schools, especially for marginalized groups of students who attend ethnically and racially diverse schools and predominantly White schools. Moreover, this finding highlights the importance of fostering connections with students across ethnic and racial backgrounds, hiring faculty and staff that reflect the student body, and providing culturally responsive curriculum and pedagogy in diverse schools so that all students feel a sense of belonging.

Similar to previous research (e.g., Carter, 2006), it seems as though the participants subscribed to the protestant work ethic ideology while they were also skeptical and critical of the legitimacy of the American Dream and how fair society is. This interpretation of the general psychosocial profile of the participants in the sample was further explained with and supported by the qualitative data.

SJIs and Perceptions of the American Dream

The qualitative data provided a more nuanced understanding of how the participants perceived and interpreted the fairness of society and the legitimacy of the American Dream, as well as their motivation to perform in school in relation to these beliefs. The quantitative data suggested that most participants had a moderate belief in the legitimacy of the American Dream whereas the qualitative data indicated that most participants had a much more negative belief in the legitimacy of the American Dream than the quantitative data suggested. It is always plausible that the interview questions may have primed the participants. However, the questions were designed to be as neutral as possible to accurately capture the participants views. As such, the System-Justification Scale may not fully capture youth's views on the complex idea of the American Dream. Although the participants were leery of the American Dream narrative and the fairness of society, they simultaneously had very aspirational career goals despite their skepticism of the fairness of society and the larger social system in which the education system is embedded. Thus, their negative beliefs in the system did not appear to deter them from pursuing their ambitious career goals. Even the low SJI endorsers expressed ambitious career goals. The balance between their skepticism and optimism for the future was also reflected in the data in that most of the participants that were interviewed endorsed moderate SJIs in the quantitative data.

Exposure to different career paths in different ways (via classes, internships, professionals, family members, the media) was an essential and critical source of inspiration for many students to pursue their current careers of interest. This finding highlights the importance of showing students, especially underserved and underrepresented students, the range of possibilities that are available to them regarding potential career paths. Moreover, showing them the necessary steps that would be required of them to reach their goals was another finding from the current study that could benefit students in their professional pursuits.

Most participants ranked work ethic as the most important factor needed to achieve their goals in relation to talent, opportunities and luck despite expressing a negative belief in

the legitimacy of a system based on merit. This could be interpreted in different ways. It is possible that they have been socialized to believe in meritocracy so much that they unconsciously subscribe to the idea of the American Dream and the protestant work ethic ideology despite expressing a negative belief and skepticism in the system. This particular finding could also be attributed to a belief that they will need to work hard in order to create more opportunities for themselves since they are inherently at a disadvantage as students of color from low SES backgrounds when compared to their White counterparts.

The aspirational career goals of most of the participants interviewed are consistent with previous research on motivation among ethnic minority youth in that ethnic minority youth and families tend to maintain high levels of motivation as their motivation is often driven by the possibility of social mobility as a result of earning an education (Cokley, 2003; Graham, 1994). Most of the participants seemed to be balancing skepticism with cautious optimism about the future. I argue that this delicate balance of navigating ambition with realistic expectations is a cognitive mechanism and somewhat of a buffer that helps ethnic minority youth protect their self-esteem after experiencing and feeling disappointment and setbacks in their journey to achieve their idea of success. Moreover, this protective factor coupled with social support, seemed to help them maintain their psychological well-being and academic motivation to persist in their pursuits to achieve their academic goals, especially during times of adversity.

Limitations and Future Research

The current study had several limitations. First, the final sample size of 101 participants in the quantitative analysis limited the power of the quantitative analyses. The study should be replicated to include larger samples from multiple high schools in different cities and states including participants from different types of schools (public, charter, and independent schools). The initial goal of the qualitative analysis was to examine any patterns, themes, similarities, and differences in the ways in which low, moderate, and high SJI endorsers think about the legitimacy of the American Dream. However, most of the participants endorsed moderate SJIs. Thus, the qualitative sample was not representative of the different types of endorsers to adequately examine differences among the three categories of SJI endorsers.

Although the sample was intentionally selected to include primarily low SES participants, this did limit the generalizability of the results across different socioeconomic strata of ethnic minority youth. This study should be replicated to include participants across the socioeconomic strata. Moreover, SJIs, JH, and grit could benefit from more development to improve their psychometric properties when used with diverse populations.

Regarding content validity, it was clear the System Justification Scale did not fully capture participants' beliefs about the legitimacy of the American Dream narrative as the qualitative was not always consistent with the participants SJI endorsement. The qualitative data indicated that most participants described a much more negative belief in the legitimacy of the American Dream despite having moderate SJI endorsements from the quantitative data. As such, it may be beneficial to include qualitative data collection in future research when researchers are interested in including SJIs in their analysis to better capture the SJIs of participants.

Future research should examine SJIs across a wider range of ages to ascertain the developmental nature of SJI development over the lifespan. It would also be useful to study the associations between the psychosocial variables longitudinally in future research to further examine the developmental nature of the associations that were found between variables in the

current study. In addition, it would be interesting to include other groups of ethnic minority youth in future studies in addition to Black and Latinx participants to determine if there are differential dynamics between the relationships between psychosocial variables among different ethnic minority groups.

In keeping with recommendations from researchers (e.g., Toldson, 2018), student achievement on both the individual and school level should be measured more holistically to capture other indices of achievement in future research. On the student level, in addition to GPA, student achievement could be measured by school attendance, participation in extracurricular activities, student merit awards, and participation in academic competitions. On the school level, student achievement could be measured by graduation rates, percent of students in honors and AP classes, student satisfaction surveys, counselor to student ratio, and teacher to student ratio etc.

In the future, more researchers that examine student motivation in relation to psychosocial characteristics should consider using a mixed methods approach, when appropriate, based on their research questions. Qualitative analyses help to provide a more nuanced picture of the experiences of participants grounded in context beyond their self-reported data from quantitative data. Mixed methods research helps researchers “connect the dots beyond the x and y coordinates of a correlation plot” (Toldson, 2018, p. 192). Moreover, Toldson (2018) advocated for a Duboisian framework for educational equity when conducting educational research. In essence, W.E.B. Dubois transcended the qualitative versus quantitative dichotomy by conducting rigorous, community participatory research that integrated qualitative approaches to the quantitative data collection process. I agree with this method and school of thought. I also agree with Toldson (2018) in that good research should always include good data, thoughtful analysis, growth indicators, strength-based analysis, and compassionate understanding of the lived experiences of the participants in the study. Finally, future studies should include additional variables and inquiries that take into consideration other sociocultural, trauma-informed, macro-level systemic and structural factors that may also contribute to academic achievement such as parental and family support, having a mentor, neighborhood context, school funding, and adverse childhood experiences.

Conclusion

For decades, researchers, practitioners, and policymakers have all worked towards closing the stubborn gaps in academic achievement between ethnic majority and certain ethnic minority groups of students (Cohen et al., 1999; Executive Order No. 13,621, 2012; No Child Left Behind, 2003; Yeager & Walton, 2011). To date, very little success in closing this gap has been achieved. The goal of this study was to test system-justification theory’s contribution as an additional explanation of the gaps in achievement that have been observed over several years in the United States. Moreover, the aim of this study was to contribute to the paradigm shift in the focus on the achievement gap narrative to include an opportunity gap lens. The goal of this study was to examine the within-group nuances of Black and Latinx participants’ beliefs regarding the American Dream and their motivation to succeed while navigating their lives within the opportunity structure as ethnic minority youth in the United States.

Overall, based on both the quantitative findings, SJIs were not as influential in the educational outcomes of the participants in this study as I thought they might be. However, other variables such as other group orientation and grit did contribute to certain educational

outcomes, such as sense of belonging for the participants in the study. Although the first three hypotheses were not supported by the findings in this study, there was some evidence to partially support the fourth hypothesis. The results from the qualitative analyses provided a more nuanced understanding of the relationship between the participants' motivations in relation to their educational outcomes, as well as their perceptions of the legitimacy and accessibility of the American Dream for Black and Latinx people. Many participants described a healthy skepticism of the legitimacy of the American Dream and the fairness of society.

This research supports the notion that it is possible for ethnic minority youth to subscribe—either consciously or unconsciously—to the values embedded in the idea of the American Dream including a strong work ethic while also rejecting system-justifying beliefs and ideologies. Their rejection and skepticism of SJIs was not detrimental to their academic achievement. In fact, the majority of students in the sample were very high achieving and also quite ambitious. The findings in this study provided further evidence to support the notion that the participants' adaptive coping strategies, positive psychosocial characteristics (indicated by the associations found between academic achievement and John Henryism, grit, growth mindset, and other group orientation), opportunities provided to them, and strong support systems were the underlying factors and mechanisms in this study that helped them to succeed in school. It is important to note that these contributors to success are not exhaustive or all encompassing. This study did not include other variables, factors, and inquiries like parental and family support, having a mentor, neighborhood context, and adverse childhood experiences that could also play a significant role in one's ability to thrive in school and in life.

The results of this study could be useful in the development of group and individual level interventions in schools. For example, based on the results, parents and teachers should provide a nuanced explanation of what ethnic minority students may experience in their pursuit of social mobility and success. Additionally, school counselors and school psychologists should include questions regarding students' SJIs in clinical interviews in an effort to develop more targeted and specific counseling strategies and approaches based on the students' beliefs about the social and education system. Currently, clinical interviews used by mental health practitioners may include questions that elicit perceptions of school experiences and home environments (e.g., "How fair are the rules at home and at school?"; Sattler, 2014). However, they typically do not ask students to share their beliefs about the fairness of society.

In Cokley's (2003) study on the motivation of Black students, he concluded that other researchers and theorists should begin to "think outside of their theoretical boxes in order to develop a truly comprehensive understanding of these students' motivational psychology" (p. 544). Although the results of the quantitative analyses did not show SJIs to be major contributors to academic achievement or sense of belonging, system-justification theory presented a promising, new theoretical approach in the education field that may provide a better understanding of the nuances and underlying mechanisms involved in ethnic minority students' motivation to succeed and thrive in school and beyond.

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Table 1*Descriptive Statistics*

Variable	1	2	3	4	7	8	9	10	<i>M</i>	<i>SD</i>	α
1. SJIs (0-6)									3.11	0.80	0.71
2. Grades (0-4)	-0.16								3.32	0.69	
3. Belonging (1-5)	0.02	0.17							3.47	0.90	0.68
4. Age (14-17)	0.22 ^a	-0.29 ^a	0.03								
7. John Henryism (1-5)	0.09	0.28 ^a	0.04	0.02					3.87	0.70	0.88
8. Grit (1-5)	0.09	0.28 ^a	0.40 ^a	0.11	0.56 ^b				2.45	0.55	0.66
9. Growth Mindset (1-6)	-0.16	0.24 ^a	0.08	0.03	0.34 ^a	0.37 ^a			4.53	0.85	0.79
10. Ethnic Identity (1-4)	-0.21 ^a	-0.04	0.18	-0.04	0.18	0.29 ^a	0.30 ^a		3.09	0.64	0.88
11. Other Group Or. (1-4)	-0.04	0.24 ^a	-0.02	-0.09	0.34 ^a	0.48 ^a	0.40 ^a	0.50 ^b	3.37	0.53	0.88

Note. Other Group Or. = Other Group Orientation.

^a Denotes a correlation with the recommended minimum effect size for practical significance ($r \geq .20$; Ferguson, 2009). ^b Denotes a correlation with a moderate effect size ($r \geq .5$)

Psychometric Properties of Scores on Measures

Variable (no. of items)	Communalities	Factor Coefficients	% variance explained	Ω
Grit (8)	0.41-0.94	-0.22-0.77	38.3	0.66
Growth Mindset (8)	0.33-0.60	0.63-0.94	57.4	0.74
Ethnic Identity (6)	0.31-0.64	0.60-0.83	55.4	0.88
Other Group Or. (6)	0.27-0.66	0.59-0.86	56.7	0.88

Table 3

Fit Indices for Measurement Models from Confirmatory Factor Analyses and Structural Equation Modeling

Variable	χ^2	<i>df</i>	CFI	TLI	RSMEA	90% CI
1. SJI (0-6)	6.203	9	1.000	1.054	0.000	[0.000, 0.091]
2. Belonging (1-4)	2.603	2	0.986	0.957	0.059	[0.000, 0.229]
3. John Henryism (1-5)	58.514	54	0.981	0.977	0.032	[0.000, 0.078]
4. Mediation Model	275.328	227	0.901	0.889	0.052	[0.024, 0.073]

Note. Other Group Or. = Other Group Orientation; CFI = comparative fit index; TLI = Tucker-Lewis Index; RMSEA = root mean square error of approximation; CI = confidence interval

* $p < .01$

Table 4*Hierarchical Regressions Predicting GPA*

Variable	sr^2	β	p value	Adjusted R^2	ΔR^2
Block 1					
Age	0.061	-0.144	0.029		
Sex	0.002	0.053	0.923	0.015	0.015
Block 2					
SES	0.003	0.086	0.640	0.017	0.002
Block 3					
Grit	0.041	0.256	0.097		
Growth Mindsets	0.017	0.106	0.140		
EI	0.041	-0.212	0.139		
OGO	0.010	0.137	0.466	0.0126	0.109
Block 4					
SJIs	0.018	-0.103	0.228	0.128	0.002
Constant		4.631	0.000		

* $p < .00625$

Table 5*Hierarchical Regressions Predicting Belonging*

Variable	sr^2	β	p value	Adjusted R^2	ΔR^2
Block 1					
Age	0.003	-0.050	0.609		
Sex	0.008	0.185	0.380	-0.019	-0.019
Block 2					
SES	0.009	-0.074	0.774	-0.028	-0.009
Block 3					
Grit	0.183	0.834	0.000*		
Growth Mindsets	0.005	-0.088	0.519		
EI	0.038	0.322	0.073		
OGO	0.057	-0.516	0.029	0.174	0.202
Block 4					
SJIs	0.000	0.025	0.845	0.155	-0.019
Constant		2.344	0.160		

* $p < .00625$

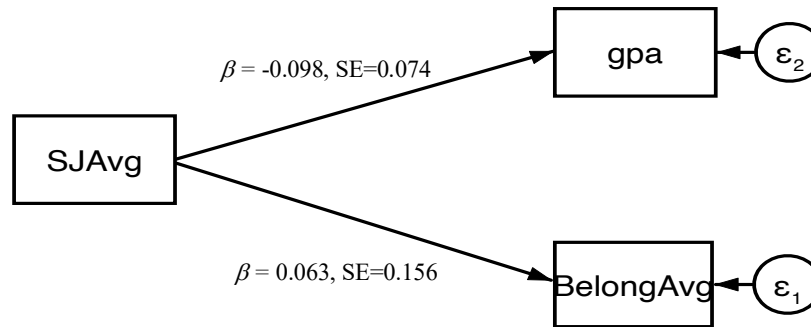
Table 6

Frequencies of Rankings Based on the Order Reported from Qualitative Analysis

Order of Ranking	Hard Work	Luck	Talent	Opportunities
1st	22	3	0	5
2nd	6	0	8	18
3rd	2	4	11	7
4th	0	23	11	0

Figure 1

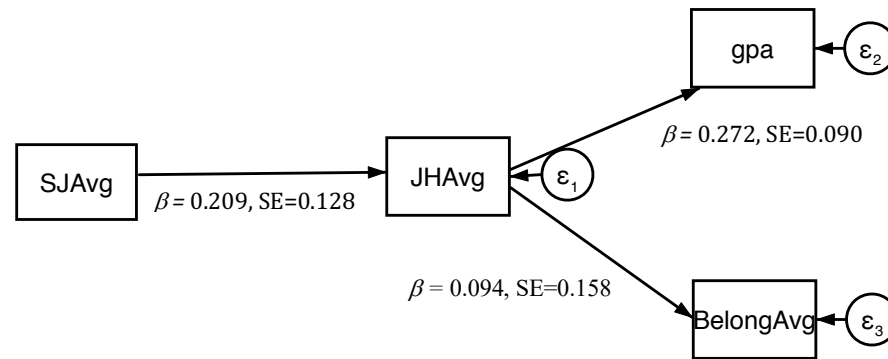
Path Analysis Regarding the Relationship Between SJIs and Educational Outcomes



Note. Factor loadings are standardized.

Figure 2

Path Analysis Regarding the Indirect Effect of SJIs on Educational Outcomes via John Henryism



Note. Factor loadings are standardized.

Appendix

Interview Protocol

Interviewer Introduction

Review and present informed consent

Present interview questions

1. Can you tell me your name?
2. Can you tell me a little about your future career goals after high school?
3. When did you decide you wanted to go into that field?
 - a. Was there a specific event that led you to this decision?
4. Are there any barriers that you anticipate will make it harder for you to achieve these goals?
5. Do you consider yourself a hard worker? Why or why not?
6. Do you consider yourself a hard worker in school? Why or why not?
 - a. Do you think your hard work will be enough to help you achieve your dreams?
 - b. Are there any other factors, other than hard work, that you think will be necessary in order to help you achieve your dream?
6. I will now list four factors: opportunities, innate talent, hard work, and luck.
 - a. Can you rank how important each of these factors are for yourself in your pursuit to achieve your long-term goals? Explain your rankings.
 - b. Show participant three cards. Can you rank how important each of these factors are for three different cards with profiles of two students (same GPA, same career aspirations, same SES, three different racial groups).
7. What do you think about the statement, “Anyone can make it in America if they work hard?” Is it accurate? Why or why not?
8. What does the idea of the American Dream mean to you? Do all Americans have equal access to the American Dream?
9. Do you think individuals of other ethnic and racial backgrounds who want to go into the same field will experience similar barriers that you mentioned? Why or why not?