Psychosocial Keys to African American Achievement?

Examining the Relationship Between Achievement and Psychosocial Variables in High

Achieving African Americans

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Abstract

Grit, growth mindset, future orientation, ethnic identity, and other group orientation are five psychosocial variables that have been shown to predict academic achievement in adolescent populations. In a sample of 105 high achieving African American high school students (cumulative GPA $\geq$ 3.0), we examined the relationship of grit, growth mindset, future orientation, ethnic identity, and other group orientation to academic achievement, controlling for age, gender, and socioeconomic status. Grit, growth mindset, future orientation, ethnic identity, and other group orientation were not significantly or meaningfully correlated to academic achievement within this sample of high achieving African American students. However, socioeconomic status correlated significantly with academic achievement (with a medium effect size). These findings suggest that current interventions focused on grit, growth mindset, future orientation, ethnic identity, and other group orientation may not be as effective as previously thought.

Keywords: academic achievement, ethnic identity, future orientation, grit, growth mindset, other group orientation,

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The academic achievement gap between minority and majority students is by far one of the most urgent issues in American education (McKinsey & Company, 2009). This issue persists despite the best efforts of many scholars and policy makers (Cohen, Steele, & Ross, 1999; Executive Order No. 13,621, 2012; No Child Left Behind, 2003; Yeager & Walton, 2011). However, a burgeoning body of literature asserts that psychosocial variables might be the key to closing the gap (Cohen et al., 1999; Duckworth, 2016; Yeager & Walton, 2011). An example of this viewpoint is captured in an assertion by Dweck, Walton, and Cohen (2014, p. 2):

> In our pursuit of educational reform, something essential has been missing: the psychology of the student. Psychological factors—often called motivational or non-cognitive factors—can matter even more than cognitive factors for students' academic performance. These may include students' beliefs about themselves, their feelings about school, or their habits of self-control…These factors also offer promising levers for raising the achievement of underprivileged children and, ultimately, closing achievement gaps based on race and income.

Despite promising recent studies to support this assertion (e.g., Cohen et al., 1999; Robbins et al., 2004; Walton & Cohen, 2011), no studies have examined whether psychosocial variables, either singularly or in combination, actually contribute to the achievement of high achieving minority students. In this study, we examined to what extent five established psychosocial variables—grit, future orientation, ethnic identity, other group orientation, and growth mindset— that have been associated with the academic achievement of minority students

(Dixson, Worrell, Keltner, & Mello, 2016; Strayhorn, 2013; Yeager & Dweck, 2012; Worrell, 2007), contribute to the achievement of high achieving African Americans students, with the goal of understanding how much African Americans can benefit from interventions targeting these psychosocial variables. We begin with an introduction of the psychosocial variables, discussing how they relate to academic achievement and the studies that assert that they could increase the academic achievement of African American students.

Grit

The first variable of interest is grit. Grit is one's perseverance and passion for accomplishing long-term goals (Duckworth, Peterson, Matthews, & Kelly, 2007). Duckworth et al. (2007) argued that grit is made up of two interrelated subfactors: consistency of interests and perseverance of effort. Consistency of interests refers to how stable one's interests are over time and perseverance of effort refers to how long and hard one is willing to work towards one's goals even when setbacks occur (Duckworth et al., 2007). Grit is usually measured using either the Grit Scale (Duckworth et al., 2007) or the Short Grit Scale (Duckworth & Quinn, 2009). Studies have shown that grit predicts success in stressful competitions (Duckworth et al. 2007; Duckworth & Quinn, 2009), educational attainment and academic success (Crede, Tynan, & Harms, 2016; Duckworth et al. 2007; Duckworth & Quinn, 2009), retention in the United States Military Academy (Duckworth et al. 2007), emotional stability (Crede et al., 2016), teacher effectiveness (Duckworth, Quinn, & Seligman, 2009), success in life (Duckworth & Gross, 2014), and consciousness (Duckworth et al. 2007; Duckworth & Quinn, 2009).

Grit and academic achievement. Several studies have been conducted on grit and academic achievement. Duckworth et al. (2007) found that grittier students obtain higher grade point averages than their less gritty peers (GPAs; $r = .25$, $p < .01$), with a modest increase in the

relationship when ability is controlled for ($r = .34$, $p < .001$). In addition, Duckworth et al.

(2007) found that grittier adults reported higher educational attainment than their less gritty

peers, even after age was controlled for, F [5, 1535] $= 15.48$, $p < .001$, although the effect size

was quite low, $\eta^2 = 0.05$. Duckworth and Quinn (2009) conducted two assessments of the

relationship between grit and GPA and found that the correlation between grit and GPA was .30

and .32 (controlling for age both times). Finally, Crede et al. (2016) conducted a meta-analysis

on grit that included an assessment of the relationship between grit and academic achievement.

In their meta-analysis of 37 studies, which included over 12,601 students, the researchers found

that the average correlation between grit and GPA was .17, the average correlation between the

perseverance of effort subfactor and GPA was .26, and the average correlation between the

consistency of interest subfactor and GPA was .10.

Grit and the academic achievement of African American students. Several studies

have indicated that grit may be a pathway for African American students to achievement (Alan,

Boneva, & Ertac, 2016; Shechtman, DeBarger, Dornsife, Rosier, & Yarnall, 2013; Strayhorn,

2013). For example, in a large scale randomized experiment, Alan et al. (2016) found that

elementary school students who were trained on the importance of sustained effort towards

accomplishing one's goals and forming a constructive interpretation of setbacks were more likely

(a) to persist in attempting challenging academic tasks, (b) to prefer challenging academic tasks

even after failure, and (c) to succeed and collect higher payoffs than those students not trained.

Further, these authors argued that their results lay the foundation for minority and disadvantaged

youth to succeed in school settings as their success in school could be accomplished through

sustained grit. In support of this interpretation, Strayhorn (2013) found that grit was about as

predictive of college grades as high school achievement and performance on the American

College Test (ACT) in a sample of 140 African American college students. Additionally, he found that grit added to the variance in college grades beyond high school achievement and ACT scores. Collectively, these studies indicate that hard work and perseverance play a major role in the academic achievement of African American students and may be a pathway to close the achievement gap.

Growth Mindset

The second variable of interest is growth mindset. Dweck (2002) identified two sets of beliefs that people have about their own intelligence, a fixed mindset and a growth mindset. A fixed mindset can be defined as the belief that intelligence is a static trait. Individuals with this mindset believe that one is either born smart or not born smart and that there is very little that can be done to change one's intelligence. In contrast, individuals with a growth mindset believe intelligence can be developed over time in various ways, such as through effort, practice, and instruction (Dweck, 2007). Essentially, an individual with a growth mindset believes the brain is similar to a muscle: the more you use it, the stronger it becomes. The two mindsets—fixed and growth—represent opposite ends of the mindset spectrum. A growth mindset has been found to be associated with high standards (Chan, 2012; Dweck, 2002), life satisfaction (Chan, 2012), happiness (Chan, 2012), increased persistence and effort in school related activities (Dweck, 2002; O'Rourke, Haimovitz, Ballweber, Dweck, & Popović, 2014), and increased self-esteem (Murphy & Thomas, 2008). Dweck's (2002) introduction of growth mindset into the literature has led to an abundance of subsequent interventions (e.g., Brainology; Ramsden et al., 2011).

Growth mindset and academic achievement. In the academic domain, growth mindset has been associated with achievement in several studies (e.g., Blackwell, Trzesniewski, & Dweck, 2007; Good, Aronson, & Inzlicht, 2003). For instance, Dweck (2002) found that a

growth mindset was associated with students perceiving academic setbacks as an indication of a lack of effort and was associated with increased effort on academic tasks after difficulty. In addition, Dweck (2002) found that after difficulty, a growth mindset was associated with either equal or increased academic performance. In a different study, Grant and Dweck (2003) found in a year-long longitudinal study of college students that having a learning goal (growth mindset) predicted active coping, increased motivation, and higher academic achievement, while an ability goal (fixed mindset) predicted withdrawal and lower academic achievement in the face of a challenge. These studies altogether indicate that having a growth mindset increases academic achievement through increasing student motivation and effort (Blackwell et al., 2007; Dweck, 2002).

Growth mindset and academic achievement of African American students. Several researchers have asserted that growth mindset may be a pathway to close the achievement gap and increase the achievement of African American students. Blackwell et al. (2007) explored a growth mindset intervention among a mostly African American sample of middle school students. Upon finding evidence to support the assertion that growth mindset is a significant predictor of middle school student grades, they found that eight 25-minute periods of learning about the brain and how it was malleable led to increased classroom motivation and higher math achievement (compared to a control group).

In a different intervention study, Good et al. (2003) found in a sample of mostly Hispanic and African American middle school students that those who received weekly emails about having a growth mindset throughout the year performed better on state achievement tests compared to the control group. The effect was particularly large for the math achievement of girls (experimental group girls' math achievement scores were more than 1 SD higher than the

control group), for whom negative stereotypes exist within the domain of math (e.g., Spencer, Steele, & Quinn, 1999). Yeager and Dweck (2012) argued that interventions like Blackwell et al. (2007) and Good et al. (2003) provide a way for students that face academic and social challenges, like many African American students do (e.g., Solorzano, Ceja, & Yosso, 2000), to achieve despite their disadvantages. This argument is based on the premise that encouraging a student to have a growth mindset will result in that student reacting to their likely encumbering environment in a way that is more conducive to academic success, ultimately resulting in increased achievement among African American students.

Ethnic Identity

The third variable of interest is 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. Therefore, ethnic identity is particularly salient in contexts with multiple ethnic groups. Identity development is an important psychological process and a central task during the adolescent years (Erikson, 1968; Marcia, 1980), and ethnic identity may be important for ethnic minority adolescents in developing their *sense of self* (Erikson, 1950, 1968). Research suggests that ethnic identity attitudes have implications for positive learning, developmental, and psychological outcomes (Huang & Stormshak, 2011). Additionally, several studies indicate that ethnic identity is positively correlated with self-esteem, optimism, and overall psychological adjustment (Phinney & Chavira, 1992; Roberts et al., 1999; Smith, Levine, Smith, Dumas, & Prinz, 2009). Finally, studies have shown negative, albeit low, correlations between ethnic identity and depression (Phinney & Chavira, 1995; Roberts et al., 1999).

Ethnic identity and achievement. Very few studies have examined the relationship between ethnic identity and academic achievement. Worrell (2007) examined ethnic identity and academic achievement in a sample of academically talented students. He found that for academically talented African American students, ethnic identity was a meaningful, negative predictor of school GPA ($d = -.41$), but did not predict summer program achievement for this group, suggesting that context matters. In a different study, Worrell and White (2009) also examined the relationship between ethnic identity and achievement in a sample of 252 9th and 10th grade students. They also reported that ethnic identity contributed negatively to school GPA for African American students. These findings suggest there may be a meaningful inverse relationship between ethnic identity and academic achievement for African American students in some contexts.

Other Group Orientation

The next variable of interest is other group orientation (Phinney, 1 992). Other group orientation is defined as "the general responses that members of one ethnic group have towards groups other than their own" (Worrell, Conyers, Mpofu, & Vandiver, 2006, p. 37). It was originally conceptualized alongside ethnic identity during the development of the Multigroup Ethnic Identity Measure (MEIM), although fewer studies have examined other group orientation. Studies have shown that higher other group orientation scores are associated with high self-esteem, social connectedness, sense of community, academic self-concept, and academic achievement in minority populations (Cokley & Chapman, 2008; Guzmán, Santiago-Rivera, & Hasse, 2005; Lee, 2003; Worrell, 2007). Studies have also indicated that other group orientation

is inversely related to depression, devaluing academic success, and ethnic behaviors (Cokley &

Chapman, 2008; Juang, Nguyen, & Lin, 2006; Phinney, 1992).

      Other group orientation and academic achievement. In addition to examining the

relationship between ethnic identity and achievement, Worrell (2007) also examined the

relationship between other group orientation and achievement. He found other group orientation

to be a positive predictor of the African American students' GPAs at their regular schools. In a

closely related study, Cokley and Chapman (2008) also found that other group orientation was a

statistically significant predictor of academic achievement in a sample of 274 African American

college students. Finally, Worrell and White (2009) found that other group orientation was a

significant positive predictor of academic achievement for African American and Hispanic

students and a significant negative predictor of achievement for Asian Americans. Taken

altogether, these findings appear to suggest a positive relationship between other group

orientations and academic achievement that could possibly be an avenue of intervention for low

achieving African Americans.

Future Orientation

      The final variable of interest is future orientation. Future orientation has been

operationalized in many ways in the extant literature (e.g., Mello, Worrell, & Andretta, 2009;

Snyder, 2002). In this study, we define it as how strongly one is oriented towards or thinks about

the future (Mello et al., 2009). Previous research suggests that future orientation is particularly

salient during early adolescence (Lessing, 1972; Nurmi 1991) and that future orientation predicts

self-esteem, health, psychological adjustment, and positive affect (Snyder, 2002). In addition,

future orientation has been found to have inverse relationships with depression, anxiety, risky

sexual behavior, and negative affect (Snyder, 2002). Some variables assessing future orientation

have been shown to be particularly influential for African Americans during adolescents in many ways such as dictating life priorities (McCabe & Barnett, 2000), engendering perseverance in high school (Worrell & Hale, 2001), and mediating the relationship between SES and achievement (Dixson et al., 2016).

  Future orientation and academic achievement. Several studies have indicated that future orientation is positively associated with academic achievement (e.g., Feldman & Kubota, 2015; Gilman, Dooley, & Florell, 2006; Snyder, 2002). Studies have shown that future orientation predicts the academic achievement of high school, college, and graduate students (Mello et al., 2009; Snyder, 2002). For example, Snyder et al. (2002) found in a 6-year longitudinal study of 213 college freshmen that hope for the future predicted students' cumulative GPA throughout college, students' likelihood of graduating from college, and student' probability of being dismissed due to grades, all with medium effect sizes. In addition, Feldman and Kubota (2015) found within a sample of 89 college students that general hope and academic hope predicted academic achievement with a medium and large effect size (correlations of .32 and .69 respectively).

  In a study of 661 urban African American adolescents, Adelabu (2008) found that future orientation and the agency subfactor of hope had a statistically significant relationship with academic achievement. Thus, future orientation potentially contributes to the success of high achieving African American students. More specifically, it is possible that high achieving African American students are more future oriented than lower-achieving peers, resulting in a greater commitment to school. If this hypothesis is correct, interventions aimed at changing the future orientation of lower achieving African Americans may result in increasing the number of high achieving African American students.

The Current Study

The current study explores the relationship between five psychosocial variables—grit, growth mindset, ethnic identity, other group orientation, and future orientation—and academic achievement in a sample of high performing African American adolescents. This exploration will assess how much variance these variables contribute to the academic achievement of these students. The following research questions guide this study. First, are there positive correlations among grit, ethnic identity, other group orientation, future orientation, growth mindset, and academic achievement in this sample? Second, are grit, ethnic identity, other group orientation, future orientation, and growth mindset significant predictors of academic achievement in this sample? Third, how does the relationship of grit, ethnic identity, other group orientation, time perspective, and growth mindset relate to academic achievement compared to SES?

We had several hypotheses. First, in keeping with previous research suggesting that there are significant and meaningful relationships between the included psychosocial variables and academic achievement (Adelabu, 2008; Crede et al., 2016; Robbins et al., 2004), we hypothesized that grit, future orientation, ethnic identity, other group orientation, and growth mindset would have positive and statistically significant relationships with academic achievement, while ethnic identity would have a meaningfully negative relationship with academic achievement. Second, as several studies have shown that these variables are significant predictors of academic achievement (Adelabu, 2008; Aronson, Fried, & Good, 2002; Strayhorn, 2013), we also hypothesized that the five psychosocial variables would account for a meaningful portion of academic achievement's variance both individually and collectively. Finally, given that previous literature indicates that psychosocial variables explain more of achievement's variance than demographic variables and that psychosocial variables explain a

significant portion of achievement's variance beyond demographic variables (Robbins et al., 2004), it was hypothesized that the psychosocial variables would have stronger correlations to academic achievement than SES and explain more of achievement's variance than SES.

Method

Participants and Procedure

The sample consisted of 105 (59% female) African American high school students aged 14 to 18 ($M_{age} = 16.15$, $SD = 1.08$; $M_{grade} = 10.78$, $SD = 0.98$) with a grade point average (GPA) of a 3.0 or higher ($M_{grade} = 3.55$, $SD = 0.31$). All students attended the same diverse high school in a Western state. Data used in this study are a subset of data collected via a school-administered survey that focused on school-wide climate and improvement. Parental education of the participants ranged widely: 3.8% did not graduate from high school, 3.8% were high school graduates, 28.6% had some college, 20% were college graduates, and 31.4% had graduate degrees. The education level of the remaining 12.4% was not provided. Missing data were imputed using the expectation maximization algorithm (25 iterations). Amount of imputed data ranged from 0 – 12.4% for each included variable.

Measures

Grit. Grit was measured using the Short Grit Scale (Grit-S; Duckworth & Quinn, 2009). The Grit-S measure is an 8-item scale that measures trait perseverance and passion for long-term goals (Duckworth & Quinn, 2009). The Grit-S is made up of two factors, 4-items that measure consistency of interests (e.g., "I finish whatever I begin") and 4-items that measure perseverance of effort (e.g., "I have been obsessed with a certain idea or project for a short time but later lost interest"). Response options range from 1 (*Very much like me*) to 5 *(Not like me at all)*. Higher scores are indicative of more grit and scores on the perseverance of effort factor have to be

reverse-coded. Grit scores have been found to be valid and reliable in adolescent populations

with alpha estimates ranging from .73 to .83 (Duckworth & Quinn, 2009).

Growth mindset. Growth mindset was measured using the Theories of Intelligence Scale

(TIS; Dweck, 2000). The TIS is an 8-item scale that measures how much individuals believe

that their intelligence is fixed or malleable. Four items on the scale assess the belief that

intelligence is malleable (e.g., "You can always substantially change how intelligent you are")

and four items assess the belief that intelligence is fixed ("You have a certain amount of

intelligence, and you really can't do much to change it"). Response options range from 1

(*Strongly disagree*) to 6 *(Strongly agree)*. Fixed intelligence items are reverse-coded and higher

scores are indicative of having more of a growth mindset. The TIS has been used in previous

research and TIS scores have been found to be internally consistent, with alphas ranging from

.78 to .92 (Blackwell et al., 2007; Jones, Bryant, Snyder, & Malone, 2012).

Future orientation. Future orientation was operationalized with a single item that asked

students, "How often do you think about the future?" Response options were provided on a 5-

point Likert scale ranging from 1 (*Never*) to 5 *(Often)*. This item has been used in previous

research to measure how time orientation related to academic achievement in adolescent

populations (Mello et al., 2009).

Ethnic identity. Ethnic Identity was measured using the revised Multigroup Ethnic

Identity Measure (MEIM-R: Phinney & Ong, 2007). This 6-item scale measures ethnic identity

exploration (e.g., "I have spent time trying to find out more about my ethnic group, such as its

history, traditions, and customs") and commitment (e.g., "I have a strong sense of belonging to

my own ethnic group"). Response options range from 1 (*Strongly disagree*) to 4 *(Strongly*

agree). The MEIM-R has been found to be internally consistent in other adolescent populations with alpha estimates ranging from .81 to .89 (Phinney & Ong, 2007; Yoon, 2011).

Other group orientation. Other group orientation was measured using six items from the original Multigroup Ethnic Identity Measure (MIEM-O; Phinney, 1992). This 6-item scale measures how much students engage with and value experiences with persons from other ethnic groups (e.g., "I like meeting and getting to know people from other ethnic groups"). Response options range from 1 (*Strongly disagree*) to 4 *(Strongly agree)*, with higher scores indicating the more a student is willing to engage with other groups (Phinney, 1992). Other group orientation scores have been found to be valid and internally consistent in adolescent populations with alphas ranging from .71 to .74 (Phinney, 1992; Worrell, 2000).

Socioeconomic status. Socioeconomic status was measured via a single item that asks students what their mother's level of education is. Response options are *Not a high school graduate*, *High school graduate, Some college*, *College graduate*, *Graduate school*/*Post graduate*. Mother's educational level has been used as an indicator of a family's socioeconomic status in many adolescent studies (see Aarø et al., 1999). In addition, Davis-Kean (2005) found that parental education is associated with family income ($r = .53$) and is a better predictor of academic achievement than family income.

Academic achievement. Academic achievement was measured via the student's cumulative GPA from school records. Student GPA was measured on a 0 – 4 scale.

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Results

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Preliminary Analyses

Means, standard deviations, and intercorrelations among the variables are reported in Table 1. As can be seen in Table 1, most of the psychosocial variables were not statistically and

meaningfully correlated with each other, counter to expectations. The only two correlations among the psychosocial variables (not including correlations among subscales of the same construct) that were statistically significant and meaningful were the correlations between Grit-Effort and growth mindset and Grit-Interest and future orientation. Additionally, the correlation between other group orientation and growth mindset had a medium effect size, although it was not statistically significant. All other correlations among the psychosocial variables were non-significant with small effect sizes.

In keeping with best practice, the psychometric properties of included scales were examined in this sample (American Educational Research Association, American Psychological Association, & the National Council on Measurement in Education, 2014). The results of the exploratory factor analyses (EFA; principal axis exaction) are presented in Table 2. As can be seen, scores on grit, growth mindset, ethnic identity, and other group orientation showed sound psychometric properties. More specifically, the EFA revealed factor coefficients above .4, and internal consistency estimates for subscale scores were above .7. In addition, the commonalities between items and total variance explained by the items were satisfactory.

Psychosocial Variables and Academic Achievement

Relationships among psychosocial variables and academic achievement were assessed using bivariate correlations. As can be seen in Table 1, the correlations among all of the psychosocial variables and GPA were negative, non-significant, and had a trivial effect. The only variable in this study that had a significant and meaningful correlation with GPA was SES. Although each of the psychosocial variables had a trivial relationship with GPA, linear regression was used to see if their combined effect contributed meaningfully to academic

achievement, after controlling for sex and age. As can be seen in Table 3, the psychosocial variables were not significant predictors of GPA in this sample, individually or collectively.

In contrast, SES explained about 17% of the variance in GPA when added before and after the psychosocial variables (see Table 3 and 4). When psychosocial variables were added after SES (Table 4), the difference in the amount of GPA's variance explained by the model is not statistically or meaningfully different, $F[6, 94] = .854$, $p = .532$.

Discussion

In this study we examined if five psychosocial variables—grit, growth mindset, ethnic identity, other group orientation, and future orientation, were meaningfully associated with academic achievement, as indicated by several studies (Adelabu. 2008; Aronson et al., 2002; Strayhorn, 2013). Results indicated that grit, growth mindset, ethnic identity, other group orientation, and future orientation were not related to academic achievement in this sample of high achieving African Americans adolescent students.

Psychosocial Variables Contribution to Academic Achievement

It was hypothesized that the psychosocial variables would correlate significantly and meaningfully with academic achievement. There was no support for this hypothesis. Grit, growth mindset, ethnic identity, other group orientation, and future orientation all had negative, non-significant correlations with academic achievement. It was also hypothesized that the psychosocial variables would explain a significant portion of academic achievement's variance after controlling for age and gender. This hypothesis was also not supported, even in a regression combining the five predictors. These findings altogether indicate that in this study, grit, ethnic identity, other group orientation, growth mindset, and future orientation are not predictors of academic achievement and play less of a role than previously hypothesized. This is

a very surprising finding given that several studies have found that these psychosocial factors relate considerably to academic achievement in diverse samples (Adelabu, 2008; Crede et al., 2016; Dixson et al., 2016; Robbins et al., 2004; Strayhorn, 2013). These findings underscore the need to conduct more research using high achieving African American samples. Many researchers assert that various psychosocial factors will help African American students become high achievers (e.g., Adelabu, 2008; Strayhorn, 2013). However, these studies do not consist of exclusively high achieving samples and their findings may not generalize to high achieving African Americans.

Finally, it was hypothesized that grit, ethnic identity, other group orientation, growth mindset, and future orientation would have higher correlations to academic achievement and altogether would explain more of achievement's variance than SES. This hypothesis was also not supported. SES was the only variable included in this study that had a statistically significant and meaningful relationship with GPA. The psychosocial variables all had trivial, non-significant correlations with GPA. In addition, SES explained about 17 percent of GPA's variance whether it was added before or after the psychosocial variables, while the psychosocial variables explained less than zero percent whether it was added before or after SES. These findings indicate that grit, ethnic identity, other group orientation, growth mindset, and future orientation do not contribute to the achievement of high achieving African American students as much as demographic variables like SES. These results are surprising given that previous research indicates that psychosocial factors play a pivotal role in success (e.g., Robbins et al., 2004). Looking forward, given that SES has a well establish relationship with academic achievement (Sirin, 2005) and is very difficult to change (Mazur, Malkowska-Szkutnik, & Tabak, 2013), future studies should focus on assessing whether other psychosocial variables

contribute to academic achievement *beyond* all demographic variables including SES as SES contributes a significant amount of variance to academic achievement for high achieving African American students. Additionally, future research should aim to replicate the findings in previous research in samples similar to the one used in the current study to investigate the generalizability of the variables examined in this study.

Conclusion

The achievement gap is a huge problem and high achieving African American students may provide unique insight into African American achievement despite the many disadvantages that these students may encounter (e.g., racism, poverty, etc). Substantial claims have been made about grit, ethnic identity, other group orientation, growth mindset, and future orientation's potential contributions to the academic success of African Americans (Adelabu, 2008; Crede et al., 2016; Robbins et al., 2004; Strayhorn, 2013). However, the current study indicates that these psychosocial variables may not be the keys to African American achievement as suggested. Additionally, the current study highlights the role of SES in achievement outcomes and the importance of examining psychosocial variables alongside SES.

Further, the current study underscores the importance of replication using multiple samples. Other studies showing that variables such as grit and growth mindset have more substantial contributions to academic achievement have been used to justify the development of interventions and schools focused on various psychosocial variables (Alan et al., 2016; Education Trends, 2014). However, replications with specific subgroups may be important to conduct before taking such bold actions. Although some psychosocial variables are likely to be important for the success of high achieving African Americans, more research needs to be conducted to determine *which* psychosocial factors matter. Research that identifies the

psychosocial factors that reliably distinguish between high achieving and low achieving African American students will contribute greatly towards the goal of closing the achievement gap.

Limitations

The current study had several limitations. First, this current study's participants were selected from a very limited range of GPA. Given the restricted range of GPAs within this sample, the findings from this study may not be generalizable to students outside the range. However, GPA was the only variable included in the study with a restricted range and several other studies have used restricted ranges for achievement to gain insight about how students learn (e.g., Worrell, 2007). Second, the current study uses a secondary dataset. As a result, future time frequency was used instead of a more well-established future orientation construct. It is possible that if the Children's Hope Scale or a different future orientation scale was used, the results could have been different. Third, the current study was a cross-sectional study, it would have been better if the study employed longitudinal methods to be better able to determine cause and effect. These limitations withstanding, the study makes useful contributions to the achievement gap literature.

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Table 1

Descriptive Statistics

Variable	1	2	3	4	5	6	7	8	*M*	*SD*
1. GPA (0-4)	1.00								3.55	0.31
2. Grit-S Effort (1–5)	-.07	1.00							3.33	0.83
3. Grit-S Interest (1–5)	-.11	.18	1.00						3.65	0.83
4. Ethnic Identity (1-4)	-.17	.22	.21	1.00					3.05	0.74
5. Other Group Or. (1-4)	-.07	.17	.24	.64*	1.00				3.36	0.63
6. SES (1–5)	.44*	-.15	-.10	-.05	-.08	1.00			3.81	1.11
7. Future Orient. (1–5)	-.20	.05	.31*	.18	.14	-.10	1.00		4.50	0.86
8. Growth Mindset (1–6)	-.05	.39*	.20	.13	.31	.02	.11	1.00	4.49	1.01

Note. GPA = Grade Point Average; Grit-S Effort = Short Grit Scale Perseverance of Effort; Grit-S Interest = Short Grit Scale Consistency of Interests; Other Group Or. = Other Group Orientation; SES = Socioeconomic Status; Future Orient. = Future Orientation. Skew and kurtosis values were within the acceptable range, ranging from -1.72 to -.10 and 1.17 to 1.02, respectively.

*p < .0017

Table 2

Psychometric Properties of Measures

Variable (# items)	α	Commonalities Coefficients	Factor Coefficients	% Variance Explained
Grit-S Effort (4)	.75	.18 –.72	.44 – .85	27.2
Grit-S Interest (4)	.71	.23 –.34	.52 – .69	43.0
Growth Mindset (8)	.85	.29 –.57	.54 –.75	43.1
Ethnic Identity (6)	.91	.44 –.81	.66 –.91	63.7
Other Group Orientation (6)	.89	.40 –.80	.63 –.89	61.3

Table 3

Hierarchical Regressions Predicting GPA

Variable (# items)	*B*	β	Adjusted R^2	R^2 Change
Block 1				
Sex	.019	.030		
Age	-.069	-.241	.042	.042
Block 2				
Grit-S Effort	-.018	-.047		
Grit-S Interest	-.008	-.022		
Ethnic Identity	-.063	-.152		
Other Group Orientation	.048	.098		
Growth Mindset	-.008	-.026		
Future Orientation	-.052	-.014	.034	-.008
Block 3				
Socioeconomic Status	.117*	.422	.204	.17

*p < .001

Table 4

Hierarchical Regressions Predicting GPA

Variable (# items)	B	β	Adjusted R^2	R^2 Change
Block 1				
Sex	.019	.030		
Age	-.069*	-.241	.042	.042
Block 2				
Socioeconomic Status	.118*	.423	.211	.169
Block 3				
Grit-S Effort	.012	.032		
Grit-S Interest	.000	.001		
Ethnic Identity	-.074	-.177		
Other Group Orientation	.062	.126		
Growth Mindset	-.025	-.082		
Future Orientation	-.041	-.012	.204	-.007

*$p < .001$