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Exploring the Relations of Academic Self-Handicapping with Achievement Goals Among Urban, Underrepresented Minority, Middle School Students

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Abstract: *There is a need to investigate motivational constructs for students traditionally underrepresented in educational research. In this study, we measured academic self-handicapping behavior, achievement goal orientations, and achievement in math and literacy in 327 urban, middle school students. Moderated mediation regression analyses were conducted to examine whether the relation of prior achievement with self-handicapping behavior was explained by achievement goals and whether these relations depended on underrepresented minority student status (URM). It was found that URM status moderated the relation of achievement with self-handicapping and that performance goals explained these relations in literacy, but not in math. Educational systems might consider these findings as a starting point for interventions to decrease self-handicapping behavior to support URM students' academic motivation.*

Key Words: self-handicapping, achievement goals, underrepresented minority students, middle school, motivation

US schools are becoming increasingly ethnically and racially diverse (de Brey et al., 2019), but despite demographic changes achievement motivation research has largely failed to account for sociocultural factors (Kumar et al., 2018; Usher, 2018). Graham (1992) first called attention to the lack of representation of people of color in psychology research, specifically African Americans. She found that of the 14,524 articles published in six major psychology journals over a span of 20 years (1970-1989) only 526 of the articles included African Americans (3.6%) and of these articles only 23 were studies on motivation. This trend has remained largely unchanged in the succeeding decades (i.e., 1989 – 2019; Usher, 2018; Urdan & Bruchman, 2018). In studies that do examine the influence of race and ethnicity on achievement motivation, the focus has been on mean differences, using White students as the primary point of comparison which perpetuates a deficit approach and fosters negative stereotypes (Urdan & Bruchman, 2018). Furthermore, previous work does not account for socioeconomic status, so the conclusions of the research may reflect differences due to relative wealth rather than race and ethnicity (Graham, 1992).

In the present study, we take a more nuanced approach. While we do still make comparisons between students of different racial backgrounds, which can perpetuate deficit thinking (DeCuir-Gunby & Schutz, 2020), we challenge traditional assumptions that differences

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in the relations of motivational constructs with students' achievement is due to one group being superior to another. Therefore, the intention of the present study is to better understand how the interrelations among motivation constructs may reveal adaptive behavior of students who are traditionally underrepresented in extant research. In the present study we use Critical Race Theory (CRT), which provides a theoretical framework for psychologists to think about the ways that race, law, and power hold influence over society, and in this specific case public education (Ladson-Billings, 1999; Ladson-Billings & Tate, 1995; Lynn, & Dixon, 2013). As such, we recognize the influence that existing racist structures have in the educational system and commit to work that identifies and repairs such inequities (Ladson-Billings, 2005; Dixson & Rousseau, 2005).

Since "the social context creates potent forces producing or constraining behavior" (Ross & Nisbett, 1991, p. 9), we contend that the relations of students' achievement goals and self-handicapping behavior with academic achievement reflect responses to their context, which reflects White-centric and normative standards inherent in most education settings (Leonardo, 2007). As the focus of this study is on students traditionally underrepresented in educational psychology, we make an effort to interpret the results "from a socioculturally relevant lens" (DeCuir-Gunby, & Schutz, 2014, p. 248). Thus, any differences in variance in achievement explained using traditional constructs are assumed to reflect how students of different races experience schooling due to marginalization and stigmatization, not due to one group being superior to another (Urdan & Bruchman, 2018).

In the current study, we investigate whether the relation of middle school students' prior achievement with self-handicapping behavior is explained by achievement goals in two academic domains: math and literacy (i.e., English language arts). Our primary focus is on understanding whether underrepresented minority (URM) students may exhibit different patterns of relations between these constructs due to socio-contextual pressures inherent in educational spaces that are founded upon Whiteness (DiAngelo, 2006). In the first section of this paper, we review literature that examines how URM students' experiences in school may be influenced by sociohistorical inequities and prior research on academic self-handicapping and achievement goals. Next, we provide an overview of our method and results. In the final section of the paper, we discuss the implications of our findings for understanding student motivation and potential interventions to address historic inequities.

SOCIOHISTORICAL PERSPECTIVES ON RACIALIZED EXPERIENCES IN SCHOOL

To understand how student's membership of URM groups may influence their motivation, it is important to first ground our understanding in the larger sociohistorical framework. Investigating the relation of race with academic achievement broadly is one way that education researchers have sought to document how sociocultural factors affect students' experiences. Within this body of research, the opportunity gap remains the most pervasive issue plaguing the U.S. educational system. Previously referred to as the achievement gap, much research has documented the disparate academic achievement outcomes between students of color and their White counterparts, which is growing rather than shrinking (Barton & Coley, 2010; Hanushek et al., 2019: Reardon, 2013). However, the vernacular itself is important and the phrase opportunity gap more appropriately captures students experiences than the phrase achievement gap (Flores, 2018). Achievement gap uses a deficit framework where "the terminology has become so readily accepted to suggest the cause of educational disparities to be inherent in black and Latino students'" (Flores, 2018, p. 344). Using the terminology of opportunity gap recognizes that the difference in student achievement is really an inequity of opportunity that URM students receive due to

structural inequalities of society and the education system (Ladson-Billings, 2013). In a study of 2,868 diverse school districts across the nation, researchers found that contributing factors to the opportunity gap include economic inequality, teacher to student ratio in the classroom, and per pupil expenditures. The largest predictor of the gap was the household adults' level of education (Hung et al., 2020). A primary mechanism underlying the relation of these factors and disparities in achievement may be structural racism – a social system that uses racial categorization to privilege some groups and disadvantage others (Merolla & Jackson, 2019).

Assessing student perceptions of school climate is another avenue of research that contributes to understanding sociocultural dynamics (Watkins & Aber, 2009). School climate is operationalized as including perceptions of fairness, safety, and student support. Positive perceptions of these aspects of school are associated with academic achievement (Mattison & Aber, 2007). URM students' perceptions of school climate are influenced by their schooling experiences that likely perpetuate structural racism and "deficit-laden behaviors and practices" (Osanloo et al., 2016, p.2). Thus, school climate understood from a URM student perspective needs to include recognition of these types of practices, including implicit bias (Gullo et al., 2019), microaggressions (Doharty, 2019; Sue et al., 2018), micro-invalidation (Sue et al., 2007), and disproportionate discipline (Anyon et al., 2017). Take implicit bias for example, which has been documented in teachers as early as preschool (Gilliam et al., 2016) through higher education (Applebaum, 2019). Its existence alone highlights the continued need for teacher training programs in sustained racial justice, anti-racist education (Chang & Mehta, 2020) and anti-bias teaching (Byrnes & Kiger, 2005).

Specific to the sample in this study, school climate information can be indirectly inferred by examining the known characteristics of the school, district, and student body. The current research study took place at two public middle schools in Denver, Colorado, United States. This school district uses a school choice model where parents are able to select the school their children attend (Denice & Gross, 2016). Despite this policy, Black and Latinx students are more likely to be enrolled in low-rated schools, which may be due to logistical constraints (e.g., transportation) and geographic proximity to high-rated schools (Denice & Gross, 2016). Additionally, Black and Latinx students in Denver Public Schools are more likely to experience harsh school discipline, such as out-of-school suspension or referral to law enforcement, than their White peers (Anyon et al., 2017). This discipline gap has sadly only increased over time (Anyon et al., 2017, p. 396). The isolation of Black, Latinx, and Asian students from White students in Denver increased following the disbanding of mandated school desegregation in 1995 (Lee, 2006). This combination of factors, the likelihood of attending low-rated schools, higher incidences of harsh discipline, and racial segregation, contribute to students' experiences with schooling in Denver. Using school climate as a framework for understanding how students' may perceive their school context, URM students may perceive a negative school climate where there is not equality and fairness (Watkins & Aber, 2009) and one that perpetuates systemic racism (Merolla & Jackson, 2019).

SELF-HANDICAPPING

The central motivational construct under investigation in the present study is self-handicapping. Teachers know this behavior well. After months of preparation for a high-stake assessment, there are students who seem to sabotage themselves. They do not sleep the night before, skip breakfast, or spend minimal time preparing for the exam. This common phenomenon is known as self-handicapping. Academic self-handicapping is purposeful engagement in behaviors that harm academic performance (Midgley et al., 1996). This is classified as a type of

avoidant behavior – characterized by retracting effort in school and giving up easily (Urdan et al., 1998). As exemplified above, behavioral self-handicapping is the most widely studied and has been robustly found to harm achievement (Schwinger et al., 2014). The other form is claimed self-handicapping which is characterized by self-report of obstacles to performance, such as having test-anxiety, being in a negative mood, or not feeling well. Unlike behavioral self-handicapping, claimed self-handicapping does not definitively decrease performance (Zuckerman et al., 1998).

Individual characteristics and their association with self-handicapping have been studied including self-esteem, self-worth and self-efficacy. Some research suggests that students use self-handicapping as a self-protection strategy because creation of obstacles to success allows one to externalize failure and protect self-perceived competence (Schwinger et al., 2014; Tice & Baumeister, 1990). However, other research found that students do not use self-handicapping solely as a means to enhance their own self-perceptions, but rather the focus is on self-presentation (i.e., manipulating the perceptions others have of their abilities; see Urdan & Midgley, 2001 for a review). Regardless of whether the primary motive of self-handicapping is on their self-perceptions or self-presentation, self-handicapping behavior is associated with a desire to appear favorably and/or avoid failure (Urdan & Midgley, 2001). A self-handicapping student can blame circumstances for poor performance rather than themselves (Midgley et al., 1996). While self-handicapping and attributions for success or failure are closely linked, they are two distinct phenomena. Self-handicapping occurs prior to an evaluation whereas attributions are applied afterwards (Midgley et al., 1996). For example, a students' self-handicapping behavior may be not studying for an exam and their attribution for poor performance would be the lack of preparation, rather than a lack of ability.

The need to use self-handicapping as a mechanism for maintaining a favrable appearance may be particularly important for students that have an increased fear of failure (De Castella et al., 2013). A student's personal history of success or failure in school is related to self-handicapping. Self-handicapping is predicted by students with a history of low achievement (Midgley et al., 1996). In addition to previous low performance, a student is impacted by their perception of their academic ability. Students who perceive themselves as having low-academic competence are more likely to exhibit self-handicapping behavior (Urdan et al., 1998). Previous research indicates that academic self-handicapping behavior presents a "catch-22" for students – while it provides self-enhancing benefits (Tice & Baumeister, 1990), it also increases the likelihood of academic failure (Schwinger et al., 2014). On the adaptive side, self-handicapping might protect one's sense of self especially for underrepresented minority students (Keller, 2002; Pennington et al., 2016; Stone, 2002). On the maladaptive side, a robust amount of literature concludes that self-handicapping predicts negative affect, low self-esteem, decreased self-regulation, increased withdrawal from school (De Castella et al., 2013) and most importantly reduced academic achievement (Schwinger et al., 2014).

In addition to students' beliefs about their level of competence playing a role in self-handicapping behavior, their beliefs about school are also related. Self-handicapping increases as negative attitudes towards education increase (Midgley et al., 1996). As URM students are likely to experience prejudice and discrimination within the educational system that might increase negative attitudes (Merolla & Jackson, 2019), there may be a positive association between URM status and self-handicapping behavior.

Prior research investigating whether student URM status increases self-handicapping behavior is limited. In Schwinger and colleagues (2014) large scale metanalysis we see that ethnicity is frequently reported but not often used as a comparative or moderating variable.

Nonetheless, early work completed by Midgley and colleagues provides a starting point (Midgley et al., 1996; Urdan et al., 1998). These studies resulted in mixed findings. Midgley et al. (1996) found no difference of level of self-handicapping behavior among African American students when compared to European American students. However, in a subsequent study the researchers found a low, but significant, correlation between self-handicapping and race whereby the behavior was more predictive for African American students (Urdan et al., 1998). Personal performance goals were also found to be a stronger predictor of self-handicapping for the African American students (Midgley et al., 1996), which indicates that achievement goals may be an important mediating mechanism. Therefore, a goal of the current study is to provide clarity as to whether there are differences in the relation of achievement with self-handicapping behavior between URM and non-URM students and whether achievement goal orientations explain these processes.

ACHIEVEMENT GOAL THEORY AND SELF-HANDICAPPING

Achievement goal theory provides a framework for understanding how cognitive and affective experiences influence goal-oriented behavior (Ames, 1992; Maehr & Midgley, 1991; Nicholls, 1984). This theory posits that there are two primary patterns of beliefs underpinning motivated behavior, a person may be focused on improving competence (i.e., a mastery orientation), or their focus may be on demonstrating competence (i.e., a performance orientation). These distinct patterns of beliefs are associated with different patterns of cognition, affect, and behavior (Dweck & Leggett, 1988). A mastery orientation is adaptive and associated with greater persistence due to an underlying belief that increased effort will result in enhanced ability. In contrast, a performance orientation is associated with lower performance outcomes due to the opposite belief about the relation of effort to ability (i.e., that effort exertion is indicative of lower ability). A more recent iteration and application of achievement goal theory uses a trichotomous model, where performance goals are delineated into being associated with either an approach or avoid tendency, resulting in three types of achievement goals (i.e., mastery-approach, performance-approach, and performance-avoidance; Elliot, 1999). A performance-approach goal orientation is characterized as occurring when a person is driven to outperform others and a performance-avoidance goal orientation occurs when one wants to avoid appearing incompetent. Performance-avoidance goals are shown to be consistently associated with decreased achievement, but prior research on performance-approach goals have mixed findings (Hulleman et al., 2010; Linnenbrink-Garcia & Patall, 2016). An important assumption of achievement goal theory is that goals are influenced by social and contextual factors (Murayama & Elliot, 2009; Patrick et al., 2011; Urdan & Kaplan, 2020). Thus, achievement goals provide a relevant framework for understanding how URM students may respond to social factors (i.e., stereotyping, marginalization, implicit bias, microaggressions, etc.) within a middle school setting.

The type of goals students pursue are related to the negative effects of self-handicapping behavior (Elliot et al., 2006). Specifically, performance goals are related to worse academic performance and increased reports of self-handicapping behavior (Midgley et al., 1996). The relation of performance-avoidance goals with self-handicapping is theorized to be due to the similarity between the two constructs on avoidance and on self-protection. Furthermore, the relation of performance-avoidance goals with self-handicapping may be explained by anxiety, sense of threat, or fear of failure (Elliot & McGregor, 1999).

The relation of performance-avoidance goals with self-handicapping behavior highlights the important role of social contextual factors that make mastery goals or performance goals more or less salient for students (Urdan, 2010). When factors in the situation make students feel a

heightened need to self-protect, they are inclined to adopt performance goals (Kumar & Maehr, 2010). A performance-oriented classroom climate is likely to induce greater levels of social comparison (Gutman, 2006), which may activate negative stereotypes due to enhanced competitiveness (Van Loo et al., 2013). Stereotype activation is associated with greater endorsement of performance-avoidance goals over performance-approach goals, but these goals have been found to be unrelated to actual performance (Chalabaev et al., 2008). In middle school, students are likely to experience enhanced emphasis on performance-oriented goals within their classrooms (Maehr & Midgley, 1996). For URM students that are aware of negative stereotypes of their group (Steele, 1997) this enhanced emphasis on performance goals in school may increase their personal performance-avoidance goal orientation (Chalabaev et al., 2008), and in turn, increase self-handicapping behavior (Elliot & McGregor, 1999). While there is some prior research that examines the relation of achievement goals with self-handicapping behavior, it is limited and over 25 years old. Thus, there is a need to not only better understand how achievement goals relate to self-handicapping behavior and achievement for URM students, but also to contextualize these relations by accounting for the role of structural racism as an underlying mechanism of subgroup differences (Merolla & Jackson, 2019) because URM students are likely to experience stereotyping, implicit bias from teachers, and microaggressions within school contexts (Allen et al., 2013).

RESEARCH QUESTIONS AND HYPOTHESES

While considerable research has been conducted on academic self-handicapping, the present study adds to the literature in three ways. First, this study investigates self-handicapping behavior within URM and non-URM students, which has been sparsely reported in previous work (Usher, 2018). Additionally, we use facets of Critical Race Theory (Ladson-Billings & Tate, 1995) to contextualize differences in students' achievement goals and self-handicapping behaviors while accounting for the potential influence of systemic racism. Second, we explore whether the academic domain (literacy and math) influences the relations of achievement goals and self-handicapping using standardized tests scores as a measure of achievement. Third, we control for socioeconomic status since this is a potential confounding variable with race (VanderWeele & Robinson, 2014).

This study has two primary research questions. First, what are the direct relations of prior achievement, URM status achievement goals, and self-handicapping behavior, when controlling for SES? Based off self-handicapping literature, we hypothesized that prior achievement in both math and literacy would negatively relate to self-handicapping behavior (Midgley et al., 1996) and that achievement goals would be associated with both prior achievement (Hulleman et al., 2010; Linnenbrink-Garcia & Patall, 2016) and self-handicapping behavior (Midgley et al., 1996). Furthermore, we hypothesized that URM status would be positively associated with self-handicapping behavior, as an esteem-protection strategy due to experiences of discrimination (Urdan et al., 1998, Urdan & Midgley, 2001).

In addition to better understanding these direct relations, we wanted to know if these relations depend on students' URM status. Thus, our second research question asks if the relation of prior achievement with self-handicapping behavior is explained by achievement goals (i.e., mediation) and depends on URM status (i.e., moderation), when controlling for SES (see Figure 1 for a conceptual model). We hypothesized that the relation of prior achievement with self-handicapping through achievement goals will depend on students' status as URM students due to

an increased need for self-protection in response to systemic racism (Urdan et al., 1998, Urdan & Midgley, 2001).

METHOD

PARTICIPANTS

This study was conducted in partnership with two public middle schools located in Denver, Colorado (U.S.A.). Prior to beginning data collection, human subjects research approval was obtained from the research institution (HSPP ID: 1138766-2) and the school district's accountability office (Request ID: 475). A total of 327 sixth, seventh, and eighth grade students from two urban middle schools participated in this study (age M = 12.16 years, SD = 1.32 years). Students were invited to take a survey as part of a normal class period and were able to stop participation at any point. A waiver of parental consent was secured for the study by the ethics review board because the research involved no more than minimal risk to the participants and because principal and district consent were secured.

In sum, 99 sixth grade students (30.3%), 155 seventh grade students (47.4%), and 70 eighth grade students participated in this study (21.4%). There were 149 students who self-identified as female (45.6%), 149 as male (45.6%), and five as transgender (1.5%). Students self-identified their ethnicity; 211 White (64.5%), 55 Hispanic or Latinx (16.8%), 40 African American (12.2%), and 21 Asian or Pacific Islander (6.4%). Students also reported if they receive free and reduced lunch, a common indicator of socioeconomic status (SES). Of the total students, 80 reported yes to receiving free and reduced lunch (24.5%) and 243 reported no (74.3%).

Table 1. *Descriptive Data for Demographic Variables*

	Sample		School population	
	Frequency	Percent	Frequency	Percent
Race/Ethnicity				
1. White	211	64.5	1,089	57.3
2. African American	40	12.2	258	13.6
3. Hispanic/Latino	55	16.8	352	18.5
4. Asian/Pacific Islander	21	6.4	41	2.2
Gender				
1. Female	164	50.2	893	47.0
2. Male	149	45.6	1,006	53.0
3. Transgender	5	1.5	--	--
4. Missing	9	2.7	0	0
Free/Reduced Lunch				
1. Yes	80	24.5	421	22.2
2. No	243	74.3	1,478	77.8
3. Missing	4	1.2	0	0
Grade Level				
1. 6th Grade	99	30.3	650	34.2
2. 7th Grade	155	47.4	645	34.0
3. 8th Grade	70	21.4	605	31.8
4. Missing	3	0.9	0	0

Two groups of students were formed for analyses, URM (underrepresented minority) (n = 116) and non-URM (n = 211). The URM group consisted of all students who reported their ethnicity as African American, Hispanic or Latino, or Asian or Pacific Islander, (average age M = 12.10 years, SD =1.06 years). The non-URM group consists of all students who self-reported their ethnicity as White (average age M = 12.26 years, SD =1.53 years). This break down is common in the literature (Graham, 1992; National Science Foundation, 2014; Usher, 2018). Additional descriptive data for each group, with a comparison to the school population, can be seen in Table 1. The sample characteristics were similar to those of the general school population in terms of their gender, ethnicity, and SES. Seventh grade students were slightly overrepresented in the sample compared to the school population (i.e., 47% of sample vs. 34% of population) and eighth grade students were underrepresented in the sample compared to the school population (i.e., 21% of sample vs. 32% of population).

MATERIALS

This study examined students' motivational processes and academic achievement using a self-report survey and school reported standardized test scores. While the survey itself had many parts, only three sections relate to the specific hypotheses of this study (academic self-handicapping strategies, personal achievement goal orientations, and demographic information).

ACADEMIC SELF-HANDICAPPING STRATEGIES (ASHS). The ASHS measure was adopted from the Manual for the Patterns of Adaptive Learning Scales (PALS) (Midgley et al., 2000). It measures the degree to which students feel that forms of avoidant academic behavior (such as fooling around instead of studying or procrastinating) influence performance in fellow peers and themselves (Midgley, 2002; Midgley et al., 1995; Urdan & Midgley, 2003). The ASHS includes three features for each item: (1) a self-handicapping behavior; (2) a reason for the behavior (i.e. an excuse); (3) a priori timing of the behavior (Midgley et al., 1996). All three aspects are included because each step compounds the effects of self-handicapping on achievement (Schwinger et al., 2014). Responses are on a 5-point Likert scale (not at all true to very true). An example statement is, "Some students let their friends keep them from paying attention in class or from doing their homework. Then if they don't do well, they can say their friends kept them from working. How true is this of you?" The scale yielded a total range of scores between 5 and 30 whereby a higher score equals more self-handicapping behaviors. The scale has high observed internal consistency and reliability (Cronbach's α = .83).

PERSONAL ACHIEVEMENT GOAL ORIENTATIONS (PAGO). The PAGO is a 14-item measure from the PALS that again utilized the same Likert scale for responses (Midgley et al., 2000). This scale measured students' goal orientations yielding a score for each; mastery-approach orientation, performance-approach orientation, and performance-avoidance orientation. Performance-approach goals involve students' desire to demonstrate competence often by outperforming others; an example item that contributed to the performance goal orientation score is "One of my goals is to show others that I'm good at my class work." Students with performance-avoidance goals are focused on not appearing incompetent to fellow peers or classmates. An example item of performance-avoidance goals is "It's very important to me that I don't look stupid in class." Mastery-approach goal orientation represents students' level of concern with understanding, developing competence, and personal improvement in academia (Midgley et al., 1995; Midgley, 2002; Urdan & Midgley, 2003). An example item that contributed to the mastery-

approach orientation score is "It's important to me that I thoroughly understand my class work." All three scales had high observed internal consistency and reliability (mastery-approach orientation Cronbach's α = .91; performance-approach orientation Cronbach's α = .91; performance-avoidance orientation Cronbach's α = .86).

DEMOGRAPHIC QUESTIONS. A short questionnaire, written by the current researchers, was included to acquire participants' demographic characteristics. The demographic characteristics that were measured included gender identity, ethnicity, grade-level, age, and whether they receive free or reduced lunch.

ACADEMIC ACHIEVEMENT. While there is a consistent negative relationship between self-handicapping and academic achievement, previous studies have found varied results on the strength of this relationship (Midgley et al., 1996; Schwinger et al., 2014). There are different methods used to define academic achievement; previous studies use either grade point average (GPA) or standardized test scores. The measurement of achievement impacts the strength of the negative relationship between self-handicapping and academic outcomes. Meta-analysis revealed the relationship between self-handicapping and GPA is stronger than for test scores (Schwinger et al., 2014), which may be due to teacher bias towards students that exhibit self-handicapping behaviors that reveal themselves in GPA but not on standardized testing. Therefore, in the current study, we used standardized test scores to minimize the potential influence of teacher bias in evaluation.

This study utilized standardized test scores from assessments already implemented in middle schools across the state to evaluate academic achievement and performance. The standardized test used is the Partnership for Assessment of Readiness for College and Careers (PARCC). This test assesses math and English language arts achievement aligned to the common core standards outlined by the U.S. Department of Education as part of the "Every Student Succeeds Act" (U.S. Department of Education, 2015). The PARCC assessment was recently validated as a high-quality assessment tool to ensure students are meeting grade level standards (Gewertz, 2018) in math and English language arts. Students complete this academic assessment annually. For the purpose of this analysis, the test scores from the previous academic year (May, 2017) were used to assess achievement.

PROCEDURE

The students completed the survey online via Qualtrics Survey Software during an existing advisory class period that is typically used for independent reading. The class period was led by the school's foreign language teachers. The teachers received training to administer the survey by the researchers. As part of this training, they were provided with the instructions to be shared verbally with the students and given the online link to the survey. The survey took no more than 20 minutes and the students used school-issued laptop computers. The students were surveyed on a single day towards the end of the fall semester 2017, essentially, a mid-point of the academic year.

Student standardized test scores were provided to the researchers by school administration. These scores were collected as part of the schools pre-existing evaluation system. The standardized tests were required for all students by the school district as a standardized evaluation measure and were administered by school staff. Individual students test scores were linked to their surveys by

school staff. After linking the test scores and surveys the school staff de-identified the data and only then was it sent to the researchers.

RESULTS

To determine if prior achievement predicts differences in self-handicapping behavior, when controlling for socioeconomic status (SES), we performed a moderated mediation regression analysis using the PROCESS macro in SPSS (Hayes, 2013); see Figure 1 for a path diagram. Using PROCESS allowed for investigation of whether the indirect effect of achievement goals in mediating the relation between prior achievement and self-handicapping behavior was moderated by URM status (Hayes, 2015). Additionally, we used separate models for each achievement goal and domain due to multicollinearity and statistical suppression (Cury et al., 2006).

PRELIMINARY ANALYSIS

Prior to regression analysis, we assessed intercorrelations between the variables of interest and descriptive statistics; details are included in Table 2. We also examined scatter plots of the variables of interest and the residuals to ensure all statistical assumptions were met. There was evidence of a linear relationship between prior achievement and self-handicapping, as well as normality and homoscedasticity of the residuals.

Table 2. *Means, Standard Deviations, and Intercorrelations for the URM and Non-URM Samples*

	1	2	3	4	5	6	7
1. Mastery approach	–	-.04	.04	-.22**	.17*	.19**	-.16*
2. Performance approach	**.13**	–	.67***	.24**	-.05	.01	.05
3. Performance avoidance	**.12**	**.70***	–	.10	.01	-.02	-.05
4. Self-handicapping	**-.02**	**.35***	**.31****	–	-.22**	-.11	.13
5. Math achievement	**-.04**	**-.18**	**-.15**	**-.49***	–	.67***	-.19**
6. ELA achievement	**-.04**	**-.30***	**-.19**	**-.55***	**.75***	–	-.14
7. Free/reduced lunch	**-.02**	**.06**	**-.06**	**.36***	**.51***	**-.40***	–
M	4.34	2.47	3.08	1.94	4.14	4.42	0.08
	(0.78)	(1.05)	(1.10)	(0.90)	(0.82)	(0.75)	(0.27)
(SD)	**4.28**	**2.43**	**2.90**	**2.50**	**3.03**	**3.35**	**0.56**
	(0.78)	**(1.08)**	**(1.16)**	**(1.20)**	**(1.26)**	**(1.18)**	**(0.50)**
N	210	209	210	211	192	192	210
	116	**116**	**115**	**115**	**102**	**102**	**113**

Note. The values that are in **bold** and in the bottom diagonal represent correlations for the URM sample and the values that are in the top diagonal represent correlations for the non-URM sample.
Goal orientations were rated on a 5-point Likert scale (*1 = strongly disagree, 5 = strongly agree*).
Math and ELA standardized test scores were on a 1 – 5 scale.
Free/reduced lunch was coded as no = 0, yes = 1.
$^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

DIRECT EFFECTS

To answer the first research question, we examined whether the relation of prior achievement with self-handicapping behavior was explained by achievement goals (see Tables 3 and 4). First, we found that prior achievement in math was negatively associated with self-handicapping behavior in all three achievement goal models (mastery-approach: $\beta = -.19$, $p < .02$; performance-approach: $\beta = -.21$, $p < .02$; performance-avoidance: $\beta = -.22$, $p < .001$), but prior achievement in literacy was not significantly related to self-handicapping behavior. However, prior achievement in both literacy and math showed similar patterns of direct relations with achievement goals (see Table 3 for detailed results of moderated mediation analysis predicting achievement goals). Prior achievement in both domains was positively associated with mastery-approach goals (math: $\beta = .15$, $p = .04$; ELA: $\beta = .19$, $p = .01$), but was not associated with performance goals. All three types of achievement goals were associated with self-handicapping behavior in both the domains. Specifically, mastery-approach goals were negatively related to self-handicapping (math: $\beta = -.15$, $p = .03$; ELA: $\beta = -.16$, $p = .02$) and performance goals were positively associated with self-handicapping behavior (performance-approach: math: $\beta = .21$, $p < .001$; ELA: $\beta = .19$, $p < .001$; performance-avoidance: math: $\beta = .16$, $p < .001$; ELA: $\beta = .15$, $p < .01$). Additionally, we found that URM status was positively associated with mastery-approach goals for both domains (math: $\beta = .88$, $p = .02$; ELA: $\beta = 1.08$, $p = .01$), but was not associated with performance goals. Furthermore, URM status was positively associated with self-handicapping behavior in literacy, but not in math, for all three achievement goal models (mastery-approach: $\beta = 1.50$, $p < .01$; performance-approach: $\beta = 1.14$, $p = .02$; performance-avoidance: $\beta = 1.22$, $p < .01$). Finally, SES was not significantly associated with achievement goals, but was positively associated with self-handicapping behavior in both domains across all three goal models. Detailed results of the moderated mediation analysis predicting self-handicapping can be found in Table 4.

MODERATED MEDIATION EFFECTS

To answer the second research question of whether the relation of prior achievement with self-handicapping behavior is explained by achievement goals (i.e., mediation) and depends on URM status (i.e., moderation), when controlling for SES, we examined the conditional direct and indirect effects of our moderated mediation regression analysis. First, we found that the relation of prior achievement status with mastery-approach goals was attenuated by URM status (math: $\beta = -.21$, $p = .03$; ELA: $\beta = -.24$, $p = .02$). The simple slope of this interaction, (demonstrated in Figure 2a-b) illustrates that when URM students had low achievement, they had higher mastery-approach goals in comparison to non-URM students, but that when they had higher achievement, their mastery-approach goals were lower than non-URM students. We also found that the relation of prior achievement in literacy, but not in math, was enhanced by URM status in all three goal models (mastery-approach: $\beta = -.38$, $p < .01$; performance-approach: $\beta = -.28$, $p = .02$; performance-avoidance: $\beta = -.31$, $p < .01$). The simple slopes (seen in Figure 3), indicate that when URM student had low literacy achievement their self-handicapping behavior was higher than non-URM students, but that when they high literacy achievement, their self-handicapping behavior was lower than non-URM students. Additionally, the results showed that both types of performance goals explained the relation of prior literacy achievement with self-handicapping behavior for URM students, but not for non-URM students (i.e., conditional indirect effects; performance-approach: $\beta = -.05$, 95% CI [-.11, -.01]; performance-avoidance: $\beta = -.04$, 95% CI [-.08, -.01]).

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Table 3. *Moderated Mediation Analysis: Mediator variable models predicting achievement goals*

	Mastery-Approach				Performance-Approach				Performance-Avoidance			
	Adj. R^2	*β*	*SE*	*p*	*Adj. R^2*	*β*	*SE*	*p*	*Adj. R^2*	*β*	*SE*	*p*
Math Achievement	.03				.01				.02			
Math Achievement		**.15***	.07	.04		-.06	.10	.54		-.01	.10	.90
URM Status		**.88***	.38	.02		.03	.51	.95		.54	.54	.32
MATH X URM		**-.21***	.10	.03		-.07	.13	.59		-.18	.14	.20
SES		-.20	.14	.14		.06	.19	.74		-.30	.20	.13
	Adj. R^2	*β*	*SE*	*p*	*Adj. R^2*	*β*	*SE*	*p*	*Adj. R^2*	*β*	*SE*	*p*
Literacy Achievement	.03				.03				.02			
Literacy achievement		**.19***	.08	.01		.01	.10	.95		-.05	.11	.68
URM Status		**1.08***	.43	.01		.79	.57	.17		.62	.61	.32
ELA X URM		**-.24***	.10	.02		-.26	.14	.06		-.19	.15	.18
SES		-.19	.13	.14		.03	.18	.88		-.29	.19	.13

Note. URM = underrepresented minority; ELA = English Language Arts; SES = socioeconomic status
$^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

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Table 4. *Moderated mediation analysis: Dependent variable models predicting self-handicapping*

	Self-Handicapping														
	Mastery-Approach Model					Performance-Approach Model					Performance-Avoidance Model				
Math Achievement	*Adj. R^2*	*β*	*SE*	*p*	*95% CI*	*Adj. R^2*	*β*	*SE*	*p*	*95% CI*	*Adj. R^2*	*β*	*SE*	*p*	*95% CI*
Direct effects	**.22*****					**.51*****					**.49*****				
Math Achievement		**-.19***	.08	<.02			**-.21***	.08	<.02			**-.22*****	.38	<.001	
URM Status		.73	.45	.11			.61	.43	.16			.49	.43	.26	
MATH X URM		-.20	.11	.08			-.15	.11	.16			-.14	.11	.22	
Achievement goal		**-.15***	.07	<.03			**.21*****	.05	<.001			**.16*****	.05	<.001	
SES		**.40***	.17	<.02			**.43****	.16	<.01			**.44****	.16	<.01	
Conditional direct effects															
Non-URM		**-.19***	.08	<.02	-.36, -.03		**-.20***	.08	<.02	-.36, -.04		**-.22****	.08	<.01	-.38, -.06
URM		**-.39*****	.08	<.001	-.55, -.23		**-.35*****	.08	<.001	-.51, -.20		**-.36*****	.08	<.001	-.52, -.20
Conditional indirect effects															
Non-URM		-.02	.02	--	-.06, .01		-.01	.03	--	-.06, .05		-.01	.02	--	-.04, .04
URM		.01	.01	--	-.02, .04		-.03	.02	--	-.08, .01		-.03	.02	--	-.08, .01
Difference		.03	.02	--	-.01, .08		-.01	.03	--	-.09, .04		-.03	.03	--	-.09, .02
Literacy Achievement	*Adj. R^2*	*β*	*SE*	*p*	*95% CI*	*Adj. R^2*	*β*	*SE*	*p*	*95% CI*	*Adj. R^2*	*β*	*SE*	*p*	*95% CI*
Direct effects	**.24*****					**.27*****					**.25*****				
Literacy Achievement		-.10	.09	.28			-.14	.09	.11			-.12	.09	.16	
URM Status		**1.50****	.51	<.01			**1.14***	.49	<.02			**1.22****	.49	<.01	
ELA X URM		**-.38****	.12	<.01			**-.28***	.12	<.02			**-.31****	.12	<.01	
Achievement goal		**-.16***	.07	<.02			**.19*****	.05	<.001			**.15****	.05	<.01	
SES		**.45****	.16	<.01			**.48****	.15	<.01			**.50****	.15	<.01	
Conditional direct effects															
Non-URM		-.10	.09	.28	-.27, .08		-.14	.09	.11	-.31, ..03		-.12	.09	.16	-.29, .05
URM		**-.48*****	.08	<.001	-.65, -.32		**-.42*****	.08	<.001	-.59, -.26		**-.44*****	.08	<.001	-.60, -.27
Conditional indirect effects															
Non-URM		-.03	.03	--	-.08, .01		.01	.03	--	-.05, .06		-.01	.02	--	-.05, .04
URM		.01	.01	--	-.02, .04		**-.05***	.03	--	-.11, -.01		**-.04***	.02	--	-.08, -.01
Difference		.04	.03	--	-.01, .10		-.05	.04	--	-.14, .01		-.03	.03	--	-.09, .02

Note. URM = underrepresented minority; ELA = English Language Arts; $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Figure 1. *Conceptual path diagram of moderated mediation model*

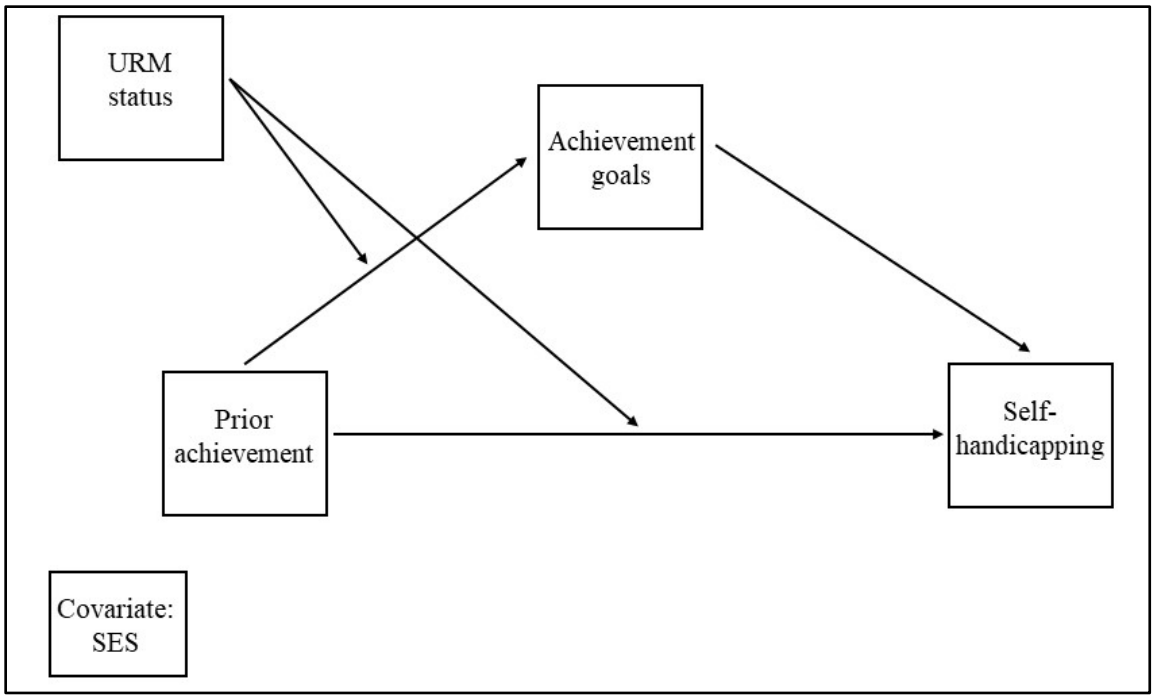


Figure 2a. *Simple slopes for the math achievement and URM status interaction predicting mastery-approach goals*

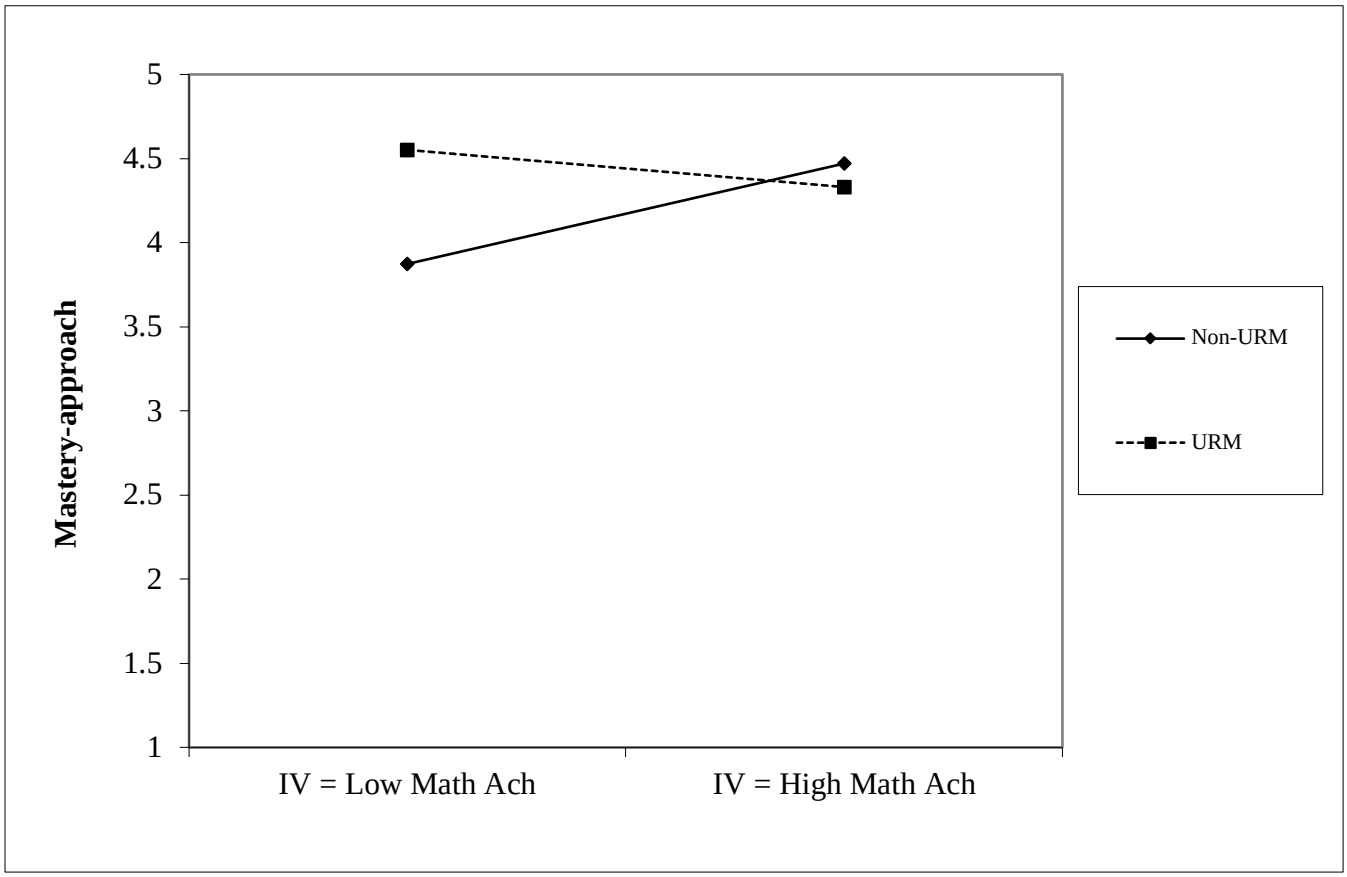


Figure 2b. *Simple slopes for the ELA achievement and URM status interaction predicting mastery-approach goals*

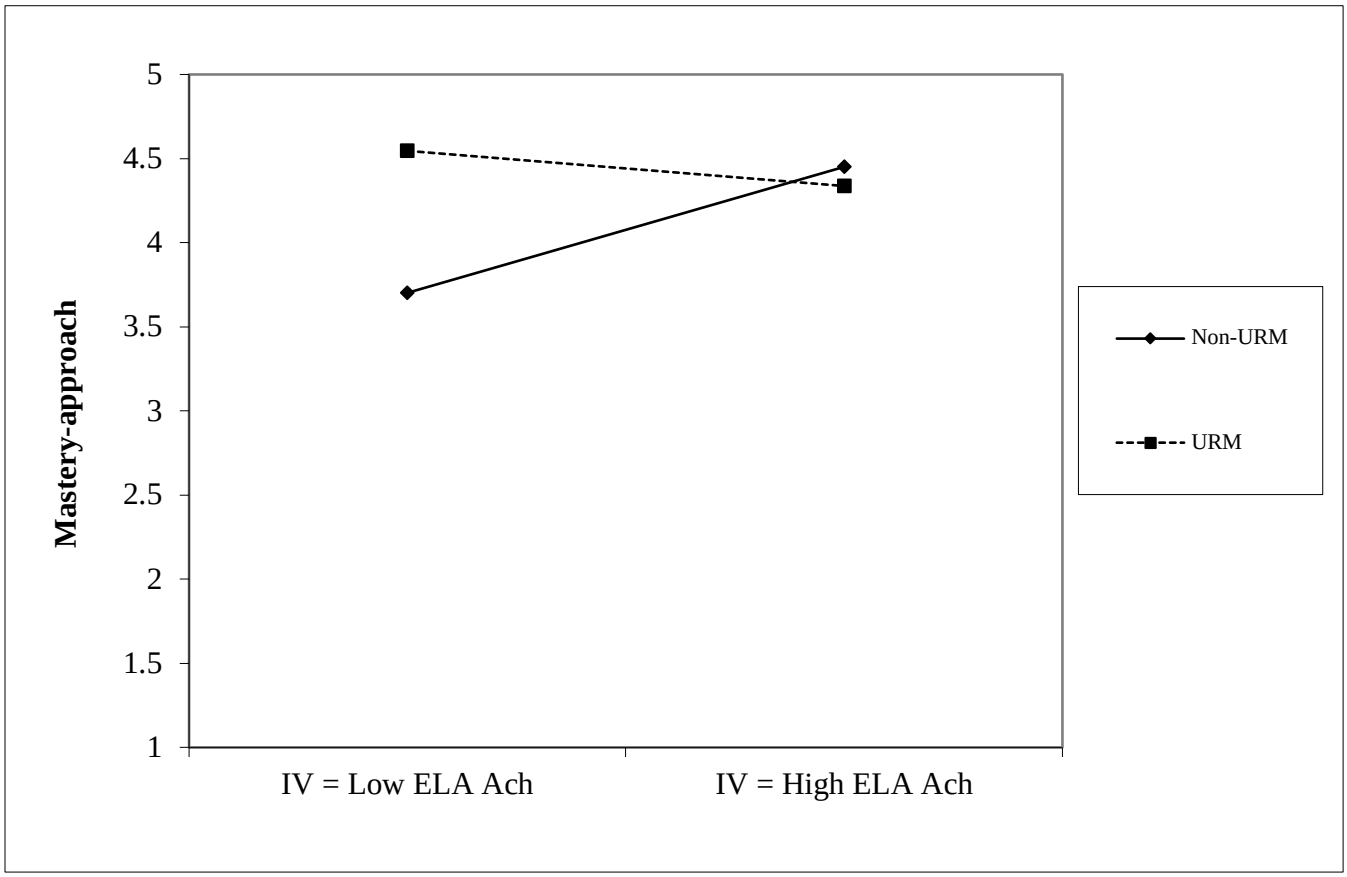
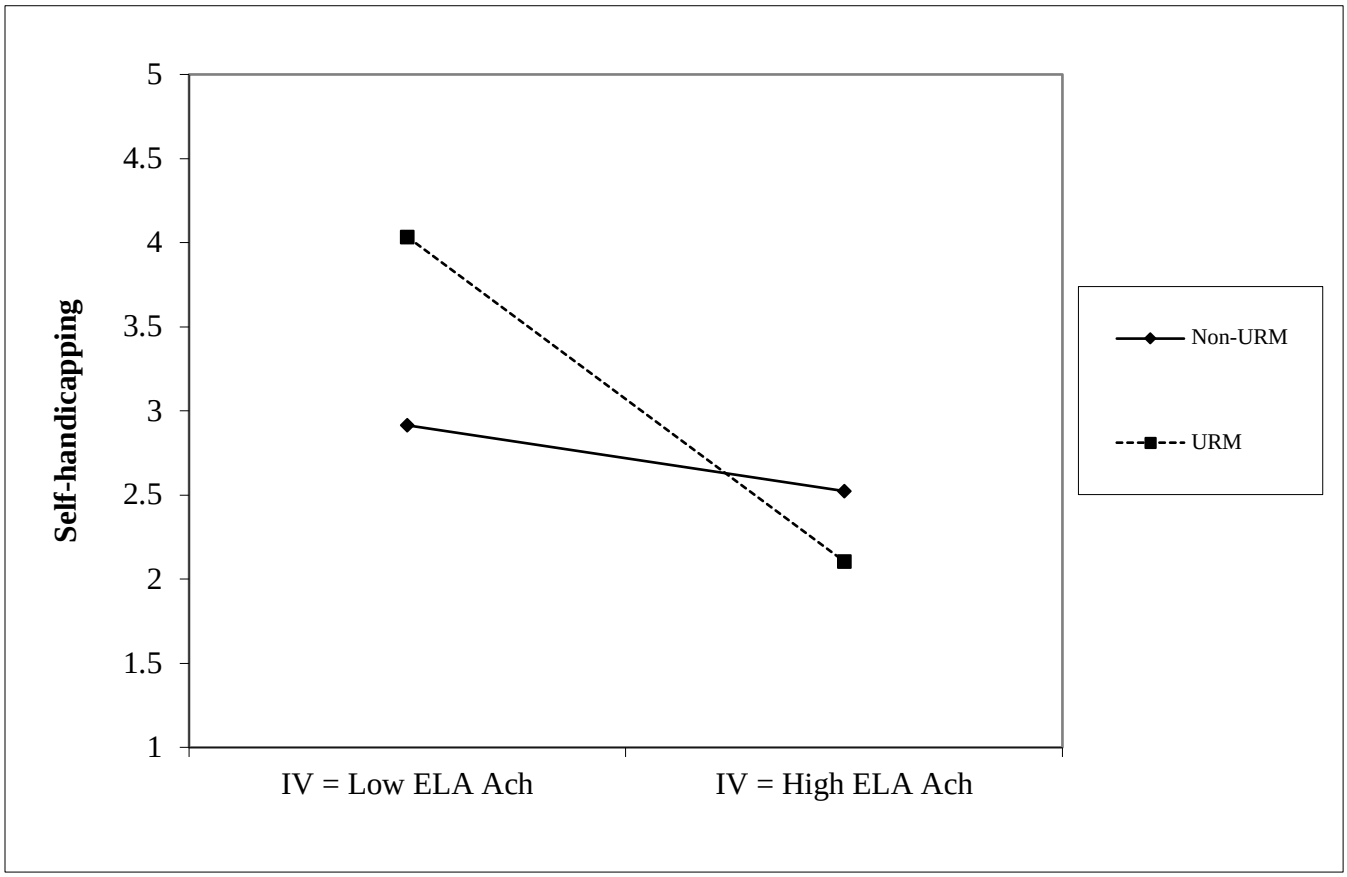


Figure 3. *Simple slopes for the literacy (ELA) achievement and URM status interaction predicting self-handicapping behavior*



Note. The estimates from the mastery-approach goals model were used to develop this figure.

DISCUSSION

This study provides a new understanding of how key motivational constructs may function differentially depending on students' race and ethnicity due to experiences with systemic racism (Allen et al., 2013; Merolla & Jackson, 2019). To this end, we sought to fill a gap in existing literature by taking "racialized experiences of students of color" into account in when studying the mechanisms underpinning students' achievement motivation (Kumar et al., 2018, p. 78). This study examined whether relations between achievement, achievement goals, and self-handicapping are moderated by students' membership in an underrepresented racial or ethnic groups and therefore, add to extant understanding of student motivation because these constructs have traditionally been studied using predominantly White samples (Graham, 1992; Henrich et al., 2010).

We found that educational domain and achievement goals are differentially associated with middle school students' self-handicapping behavior. The results suggest that prior achievement in math is negatively related to self-handicapping behavior regardless of URM status, but that the relation of prior achievement in literacy with self-handicapping behavior is strengthened by URM

status. While this finding could support the view that URM students have a maladaptive behavioral pattern, we assert another viewpoint. The negative relation that self-handicapping has with literacy achievement could be evidence of an adaptive behavioral pattern that helps students protect their sense of self-esteem or self-presentation (Urdan et al., 1998; Urdan & Midgley, 2001) in an education system where they have been marginalized (Usher, 2018).

Why does URM status moderate the relation of prior literacy achievement with self-handicapping behavior in literacy and not math? A potential reason could be that experiences of marginalization may be more salient in literacy than math classrooms as language has been used as a method to maintain power by implying that White culture and discourse patterns are superior (Delpit, 1988; Souto-Manning, 2009). The focus of texts used in ELA classrooms do not fully reflect the contributions on minority writers (Whitcomb, 2004) which may promote URM students seeing "academic success as white people's prerogative" (Fordham & Ogbu, 1986, p. 177). Furthermore, the potential impact of domain on URM students' motivation was affirmed by our analysis of the role of achievement goals as a mediator of the relation of prior achievement with self-handicapping behavior.

We were surprised to find that mastery-approach goals were positively associated with prior achievement in both math and literacy, but not performance goals across both URM and non-URM students as prior research has found achievement goals to be related to achievement (see Scherrer et al., 2020 for a review). Achievement goal theorists hypothesized that it is important to consider the role that different goal-oriented messages in the classroom may play in students' achievement goal endorsement (Ames, 1992). Therefore, it could be that the schools in our sample had an enhanced emphasis on mastery focused messages leading to a significant association between achievement and mastery-approach goals, but not performance goals.

Nevertheless, there is variability in how students interpret the broader classroom goal structures because students' perceptions are influenced by other social-contextual factors (e.g., students are not necessarily treated the same way; Turner & Patrick, 2004). In the present study, we found evidence of the role that URM status may play in how students' experience and make sense of the broader goal structures of the school. Specifically, we found that the relation of prior achievement with mastery-approach goals was moderated by URM status. For URM students, they had lower levels of mastery-approach goals in comparison to their non-URM peers when they had high achievement (in both math and ELA). In other words, for URM students, higher achievement is associated with lower endorsement of mastery-approach goals, which could be due to a heightened pressure to continue to perform at high levels. This pressure may be particularly salient for URM students due to distinct social contextual pressures, such as stereotype threat (i.e., the fear of confirming a negative stereotype about one's group; Steele, 1997). It is important to note that we did not measure racialized experiences directly, so we cannot definitively say that the URM students in this study faced such threats regularly and that stereotype threat influenced their achievement goal endorsement, but such an explanation is aligned with theory and ought to be further investigated in future work. Similarly, while achievement goals were associated with self-handicapping behavior as expected for all students (i.e., negatively associated for mastery-approach goals and positively associated with performance-approach and performance-avoidance goals), we found that the role of performance goals as an underlying mechanism of the relation of literacy achievement with self-handicapping behavior depended on URM status. In particular, we found that performance goals mediated the relation of literacy achievement with self-handicapping behavior for URM students, but not for non-URM students. This finding provides further evidence that URM students may experience heightened stigmatization and marginalization in ELA

classrooms, in comparison to other domains (Delpit, 1988; Souto-Manning, 2009), leading to a heightened need to appear competent or avoid the appearance of incompetence (i.e., performance-approach or -avoidance goals; Elliot, 1999). In sum, we found that the academic domain may play an important role in how motivational constructs function as URM students respond to distinct pressures at school due to structural racism (Allen et al., 2013; Merolla & Jackson, 2019). It would be interesting to conduct further research on other domains, such as STEM or the arts.

IMPLICATIONS FOR EDUCATIONAL PRACTICE

The preliminary findings of this study imply that self-handicapping behavior has a stronger negative relation to literacy achievement for URM students, so providing additional support for URM students and structural reforms should be considered. Educators are constantly working to increase achievement, which might help decrease self-handicapping behavior. Though we did not specifically measure the racialized experiences of the students in this study, interventions that promote a greater sense of belonging and protect students from stereotype threat might still be beneficial to consider. Recent work investigating "wise interventions" provide one potential avenue for addressing these issues and increasing student achievement in spite of the social pressures (e.g., stereotype threat or lack of social belonging) they may face in school (Walton, 2014). In particular, growth mindset (Aronson et al., 2002; Blackwell, et al., 2007), social belonging (Walton & Cohen, 2011), and value affirmation (Sherman et al., 2013) show promise in helping students to fend off, or reframe, negative messages they may encounter which leads to increased achievement. There is evidence that these interventions help students process and reframe negative experiences in school, such as racial stigmatization (Walton, 2014).

Interventions that directly target self-handicapping behavior may also be worth exploring, however, there have been very few (Schwinger et al., 2014). Kearns et al. (2007) developed a cognitive behavioral coaching intervention to reduce perfectionism and self-handicapping behavior that showed promising results. This intervention was based upon a cognitive behavioral therapy framework in which participants attended a series of workshops held by psychotherapists over a course of five weeks that targeted inaccurate thinking and assumptions about schoolwork. Another intervention studied taught students problem solving skills over the course of six weeks (Zarshenas et al., 2019). This intervention had similar positive results. Participants had reduced self-handicapping behavior one month after the intervention completion. An additional successful intervention was completed by Finez and Sherman (2012). These researchers had athletes focus on using self-affirmations to promote their self-worth and in doing so they saw a decrease self-handicapping behavior. While these interventions were beneficial, it may not be feasible for most schools due to the time and resources needed but at least ought to be considered.

In addition to interventions that target students, there are several things educators can do to help prevent self-handicapping behavior. Self-handicapping is a strategy used by students when performance feedback is not immediate, and the outcome is uncertain (Tice & Baumeister, 1990). Delayed feedback provokes anxiety for students and may have more deleterious effects for students with low perceived competence. To lower self-handicapping behavior, we (and Tice & Baumeister, 1990) recommend more immediate feedback and the use of rubrics to provide certainty in assessment. In addition to providing feedback quickly, educators should be mindful of the type of feedback provided. Any feedback that promotes social comparison between students, such as displaying test scores or exemplar work, should be avoided (Urdan & Midgley, 2001). Furthermore, teachers should avoid using language that implies intelligence or ability is fixed, such as praising students for their talent (Schmidt et al., 2015).

Teachers also play an important role in stemming conditions that enhance stereotype threat, which may lead students to increase their self-protective behavior (i.e., performance goals and self-handicapping). Culturally responsive teaching methods that support students from diverse ethnic and racial groups should be a priority (Gunn et al., 2013). Finally, in addition to these more subtle interventions, there is a need to "systematically assess how structures maintain white supremacy" (McCluney et al., 2020). The fact is, that until there are broader structural reforms to address the roots of racism, URM students will inevitably continue to exhibit different patterns of motivation and achievement because these responses are adaptive given the heightened need for esteem protection.

LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

This research has created as many questions as it has answered. We cannot infer causal conclusions about the variables that might trigger self-handicapping behavior. However, the data collected does provide interesting and useful predictions that ought to be considered in educational settings with middle school students. At the forefront is the need to measure both classroom goal structures and students racialized experiences. Adding this information would help us more concretely ascertain potential explanations for the associations revealed in this analysis. The results we have are in fact a springboard that provide the justification to conduct more research.

In this study we chose to analyze the data based on the URM vs. non-URM grouping rather than on more specific sub-groups (African American, Latinx, and Asian-Pacific Islander). In the future, collecting more data would provide additional students within each specific sub-group and a more nuanced analysis would be possible. We are specifically interested in better understanding Latinx students as this group was prominent in our sample (n = 55) and deserves greater attention. The few previous studies that have investigated group differences in self-handicapping behavior did so with African American and European American samples only (Midgley et al., 1996; Urdan et al., 1998). In addition, when doing this research, it will be important for us, and others, to follow the recommendations set forth by Usher (2018) to utilize culturally attentive research methods pertaining to the academic motivation of diverse students.

Similar to race, the self-identified gender of the current sample was not investigated for any quasi-experimental differences that might exist. Research that has investigated gender has concluded that men have higher rates of self-reported self-handicapping behavior than do women (Hirt & McCrea, 2009; Midgley & Urdan, 1995, 2001; Schwinger et al., 2014; Urdan et al., 1998). The current study did not consider gender, but we ought to, along with URM status, which might reveal some interesting intersectionality results.

Future directions also include the development and assessment of new interventions targeting self-handicapping behavior. The interventions that focus on decreasing self-handicapping behavior (Kearns et al., 2007; Zarshenas et al., 2019) did not specify the differences in effectiveness of their respective programs based on URM status and the "wise interventions" targeting other psychological dimensions such as values and mindset did not specifically target self-handicapping behavior (Walton, 2014, p. 79). An intervention considering both URM status and self-handicapping is a needed and welcomed next step. Finally, as Török et al. (2018) point out in their recent critical review of self-handicapping literature, the use of self-report measures can sometimes yield different results. As such, these measures should not be the only way we understand this construct. Development of a behavioral measure would be greatly beneficial.

CONCLUSION

In sum, this study found that URM status moderated the relation of achievement with self-handicapping and that performance goals explained these relations in literacy, but not in math. While these findings beckon schools to consider interventions to decrease self-handicapping, we assert the more salient is the need is to address the roots of structural racism that plague U.S. public schools. The goal of future work in this area must be to support URM students' academic motivation, and in turn increase achievement. As mentioned, the results of this study provide a starting point for additional research. We hypothesize that URM students engage in more self-protective patterns of behavior (such as self-handicapping) because of heightened stereotype threat within the school environment. Directly testing this hypothesis is recommended, and more broadly, this study points to a need to continue to investigate how motivation constructs may function differently for students traditionally underrepresented in research.

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