

Peer Racial Discrimination, Temperament and Academics among Black Adolescents

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ABSTRACT

VANESSA V. VOLPE: Peer Racial Discrimination, Temperament and Academics among
Black Adolescents
(Under the direction of Eleanor K. Seaton)

The present study examined the role of peer perceptions of racial discrimination on academic self-concept. The sample (N=277) was drawn from a larger study (Seaton, 2013) of 314 African American adolescents aged 13 to 18. Effortful control was examined as a moderator in this relation. Results suggest that perceptions of peer racial discrimination do not significantly impact adolescents' academic self-concept. Effortful control was not a significant moderator in the relation between perceptions of peer racial discrimination and academic self-concept. However, a direct effect was observed such that effortful control significantly predicted academic self-concept. Results suggest the importance of individual differences in the development of effortful control capacities for African American adolescents' academic success.

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CHAPTER 1. REVIEW OF LITERATURE

The academic achievement gap between African American and European American students remains an important concern for American society. Empirical work has demonstrated that African American students academically underachieve in greater proportions when compared to their European American counterparts (e.g., Card & Rothstein, 2005). Regardless of socioeconomic background, African American students received substantially lower grades, attained less education, reported higher dropout rates, and scored lower on standardized tests (e.g. Gutman, Sameroff, & Eccles, 2002). The present study sought to evaluate one process by which some African American adolescents may demonstrate resilience through a positive academic self-concept. Academic self-concept was utilized as a subjective measure that has been found to be linked with academic achievement in the long term. The present study evaluated the potential risk factor of peer racial discrimination and the potential protective factor of effortful control in shaping academic self-concept.

Consideration of adolescents' academic outcomes has been best understood within the Phenomenological Variant of Ecological Systems Theory (PVEST; Spencer, Dupree, & Hartmann, 1997; Sameroff, Bartko, Baldwin, Baldwin, & Seifer, 1998). In determining how African American adolescents view and comprehend various environmental influences such as peer, family, and society, PVEST has integrated ecological factors as well as the individual's self-appraisal processes (Swanson, Spencer, & Peterson, 1998). The PVEST framework consists of five bi-directional components which marry both context and perception relevant to human

development: net vulnerability level, net stress engagement level, reactive coping strategies, stable coping responses, and coping outcomes. According to this framework, in the course of healthy adolescent development, each individual may experience the interplay of risk and protective factors, termed net vulnerability level. This net vulnerability level is then engaged with through environmental challenges or supports that the individual faces, termed net stress engagement level. Furthermore, the individual employs adaptive or maladaptive reactive coping strategies when facing this net stress engagement level. These reactive coping strategies thereby influence an individual's identity-based positive or negative stable coping responses. These stable coping responses are linked with coping outcomes, which then influence net vulnerability, beginning the cycle anew.

The present study was specifically concerned with examining one piece of the PVEST theoretical model – the net vulnerability level's risk and protective factors on the coping outcome. Risk factors are those individual or environmental influences which affect the likelihood that adolescents may face hazards to their healthy development and may predispose adolescents to adverse outcomes (Spencer et al., 2006), such as perceived peer racial discrimination. Protective factors attenuate the relation between risk factors and these hazardous outcomes (Spencer et al., 2006). PVEST specifically has implicated biological characteristics such as temperament in the self-appraisal processes in which African American adolescents engage. In this way, temperament may be considered either a risk or protective factor given the contextual demands. In the context of the present study, possessing high levels of one aspect of temperament in particular – effortful control – has been largely understood as a protective factor for academic self-concept in a school context (e.g. Rothbart & Bates, 1998). These risk and protective factors may shape outcomes in a variety of domains, impacting their tendency to be

either productive (resilient) or unproductive (Spencer et al., 2006). Therefore, the present study sought to understand whether the risk factor of perceived peer racial discrimination and the protective factor of effortful control influenced African American adolescents' academic self-concept.

While measures of academic achievement such as test scores, grades, and GPA (grade point average) have been frequently considered as meaningful predictors of African American adolescents' academic achievement, a growing body of literature has examined academic self-concept as a meaningful *long-term* indicator of academic success. Academic self-concept refers to an individual's perception of how competently they can succeed at their schoolwork, get good grades, and be a "good student" (Harter, 1982). Studies have suggested that school completion and academic achievement are associated with how students feel about their academic selves and their academic abilities (Fordham & Ogbu, 1988; Oyserman, Gant, & Ager, 1995; Oyserman & Harrison, 1998; Ward, 1990; Witherspoon, Speight, & Thomas, 1997). More specifically, studies examining the role of academic self-concept have found that African American adolescents who report higher levels of academic self-concept had higher GPAs, higher grades, and were less likely to drop out of high school (Connell, Halpern-Felsher, Clifford, Crichlow, & Usinger, 1995; Gutman & Midgley, 2000; Saunders, Davis, Williams, & Williams, 2004). Increasingly, scholars have turned to subjective measures of academic outcomes to confirm that high levels of academic self-concept serve as key ingredients for African American adolescents' academic achievement in the face of the achievement gap (Aronson, Fried, & Good, 2002; Caldwell Howard, 2003; Noguera, 2003).

Perceptions of Racial Discrimination

Previous work has found perceptions of racial discrimination to be an important risk factor for academic outcomes among African American adolescents (e.g. Sellers et al., 2006). During adolescence, school has been found to be a major contextual setting in which African American students experience racial discrimination (e.g., Rosenbloom & Way, 2004). Racial discrimination is defined as systematic actions from the dominant racial group that result in differential and negative effects on non-dominant racial groups (Williams et al., 2003). A vast body of research has confirmed the prevalence of racial discrimination as a risk factor in African American adolescents' daily lives (e.g. Fisher et al., 2000; Garcia Coll et al., 1996; Seaton, Neblett, Upton, Powell Hammond, & Sellers, 2011; Sellers et al., 2006). The majority of African American adolescents self-reported at least one instance of discrimination in their lifetime (Gibbons et al., 2004), in the past year (Guthrie et al., 2002), and in the past three months (Prelow et al., 2004).

A number of scholars have asserted that the source of perceived racial discrimination merits consideration in understanding outcomes for adolescents (Chavous, Rivas-Drake, Smalls, Griffin, & Cogburn, 2008; Seaton & Yip, 2009; Wong, Eccles, & Sameroff, 2003). Indeed, different sources of perceived racial discrimination may have consequences for the impact of those perceptions on African American adolescents' academic outcomes. However, the majority of prior research has not distinguished between sources of racial discrimination. Thus, the present study sought to examine the specific risk impact of adolescents' perceptions of discrimination from their peers in school. Several studies have highlighted perceptions of peer racial discrimination as a potential risk factor for African American adolescents' academic experiences. African American adolescents specifically reported being picked on or socially

excluded due to race more frequently than members of other racial groups (Wong et al., 2003). Additionally, they experienced peer racial discrimination within a classroom setting concerning group projects and presentations (e.g., Romero & Roberts, 1998). Indeed, these perceptions have been found to be related to a decrease in academic self-concept (Wong et al., 2003).

Temperament as a Potential Protective Factor

Racial discrimination has been shown as a risk factor for African American adolescents' academic outcomes. Thus, the present study sought to examine one protective factor that could buffer the impact of this risk factor. To date no published research has examined the temperamental dispositions of African American adolescents. However, prior work with European American students has suggested that students' temperaments, and more specifically their effortful control capacities, are robustly predictive of their standardized test scores (Keogh, 1986). Furthermore, as adolescents encountered challenges to their adaptive functioning in an educational setting (e.g., school transition, new instructors or curricular demands) temperamental characteristics predicted how adolescents face these challenges (Rothbart & Jones, 1998). Thus, the current study sought to understand how one specific aspect of temperament – effortful control – may serve as a protective factor for African American adolescents who perceive the environmental challenge of peer racial discrimination.

In the present study, temperament followed Rothbart et al.'s conceptualization (2006) as reflecting individual differences in biologically-based reactivity and self-regulation. In the European American population, it has been shown that one specific dimension of temperament – effortful control (i.e. self-regulation) – supports on-task attention, inhibits immediate responses to distraction, and promotes proper planning and monitoring of educational goals (e.g. Keogh,

1986). The temperamental dimension of effortful control has been shown to predict positive teacher ratings of students' behavior and academic outcomes (Talwar, Schwab, & Lerner, 1989).

According to teachers, an "ideal" student possesses high levels of effortful control, a quality which makes it easier for teachers to manage classrooms and students to facilitate their own academic success (Rothbart & Jones, 1998). Therefore, high levels of effortful control may be one protective factor for African American adolescents, as those students who may not match this ideal have been found to suffer academically. Indeed, research with European American students found that a mismatch resulted in adolescents receiving more criticism from teachers (Martin, 1989), being viewed as less teachable, and being disciplined with more punitive and coercive techniques (Pullis, 1985). Furthermore, a mismatch also has been found to result in long-term impacts, such as higher risk of dropping out and lesser tendencies towards orienting goals, preserving in the face of failure, and demonstrating self-initiative (Nunn & Miller, 2000). Thus, examining effortful control may provide important insights in the relation between perceived peer racial discrimination and academic outcomes.

To date, no published research has examined the role of effortful control in the relation between perceived peer racial discrimination and academic self-concept for African American adolescents. The present study sought to fill this gap in the present literature through examination of the following questions: 1) Do perceptions of peer racial discrimination impact academic self-concept? 2) Does effortful control moderate the relation between peer racial discrimination and academic self-concept? Based on previous research, it is hypothesized that perceptions of peer racial discrimination will negatively predict academic self-concept for African American adolescents in the present sample. Additionally, it is anticipated that effortful control will moderate the relation between perceptions of peer racial discrimination and

academic self-concept. Regarding the direction and magnitude of this moderation effect, I expect that hypotheses are consistent with Luthar and Cicchetti's (2000) protective reactive classification. For adolescents high on effortful control, the negative relation between perceived peer racial discrimination and academic outcomes will be weaker. It is predicted that the strength of the same relation will be amplified for students low on effortful control.

CHAPTER 2. METHOD

Participants

Data for the present study drew from a sample of the larger Daily Experiences and Realities of Black Youth Study (Seaton, 2013), a cross-sectional investigation of 314 Black adolescents. The present sample included 277 participants, as cases with incomplete temperament data were removed. Thus, the participants in the present study included 277 Black adolescents ranging in age from 13-18. The sample was largely female ($N=185$, 67%), and reported an average age of 15.6 ($SD = 1.25$) years. In terms of grade level, 32.4% of participants were in 9th grade, 24% of participants were in 10th grade, 23.3% of participants were in 11th grade, and 20.4% of participants were in 12th grade at the time of this study. Participants were asked to self-report their GPAs, with the mean standardized GPA for this sample being 3.24 on a 4.0 scale ($SD=.59$).

The adolescents reported their racial/ethnic background as African American (70%), Afro-Latino (15%), Biracial/multiracial (8%), Caribbean Black (6%) or Continental African (3%). In terms of family composition, participants reported their familial situation as: female headed (38%), male headed (2.9%), married (42%), grandparents or extended family care (4.7%), parents and extended family care (5.8%), and foster parent or other (.7%). An additional percentage of participants elected to not report (6.5%). The participants also reported the following educational levels for their primary parent/guardian: less than a high school diploma (4.5%), high school diploma (23.8%), one year of college or an associate's degree (30.4%), a

bachelor's degree (29.7%) or a graduate degree (11.5%). In terms of geographic location, while participants came from 33 states, the majority of the sample came from North Carolina (N=158, 57%). More specifically, the regions of residence for the sample consisted of the following: Western (4.3%), Midwestern (6.9%), Northeastern (7.6%) and Southern (81.2%).

Procedure

The DERBY recruitment process involved two separate methodologies –in-person/in-schools and online. Initially, adolescents in high schools in a group of southeastern cities were recruited in-person in their respective schools. In the present sample, about half of participants were recruited in person/in-schools (N=125, 45.1%). Approval was obtained from two school districts and eight schools were selected on the basis of principals' individual decisions to participate. After recruitment sessions in classrooms, adolescents who desired to participate were required to first obtain parental consent via paper-and-pencil forms. Once paperwork was complete questionnaires were administered by research assistants and a lead graduate student in small groups in school libraries or unused classrooms. Participants were reminded that their participation was voluntary and that their answers would remain confidential. Questionnaire completion ranged from 30 to 60 minutes. Upon completion, participants were compensated \$20 and debriefed.

The second procedure used Facebook to increase the original study sample. In the present sample, about half of participants were recruited via Facebook (N=152, 54.9%). A paid advertisement was placed on Facebook that targeted African American youth between the ages of 13 and 18 who lived in the continental United States. The advertisement was run during the peak hours of adolescent consumption, typically Wednesday through Sunday between 3 and 11 PM. An interested adolescent would click on the advertisement and was then directed to an

initial page in Survey Monkey which assessed if the individual was eligible to participate based on their age and racial self-identification. Eligible adolescents were then asked to provide their residential address. These adolescents were mailed a packet that included parental consent forms, information sheets, adolescent assent forms and self-addressed return envelopes. Upon return of the packet, the adolescents were emailed a link to complete the survey in Survey Monkey. In order to be eligible for compensation participants needed to have at least 75% of the online survey completed. Additionally, questions were added to each scale which served as checks for data that should be flagged for unusual data patterns. When flagged data was detected participants were asked to re-complete the survey in order to receive their compensation. Upon completion, adolescents were given a payment preference for iTunes gift cards, Walmart gift cards, Target gift cards or cash.

Measures

Demographic Information. All adolescents completed questions requesting information about their gender, racial self-identification, grade level, household composition, and parental education level.

Perceived Racial Discrimination from Peers. Perceptions of racial discrimination from peers were measured using the Peer Adolescent Perpetrator Scale (Way, 1998). Participants were presented with a list of 21 discriminatory experiences they may have experienced from other students in school. Example items include “how often do you feel that other students in school treat you like you’re smart because of your race or ethnicity?” and “how often do you feel that others students in school are uncomfortable around you because of your race or ethnicity?” Participants were asked to indicate how often these things happened to them “from other students in school” on a Likert scale from 0 (*never*) to 4 (*all the time*). To obtain a total representation of

perceived racial discrimination from peers for each participant, items were reverse-coded as necessary and a mean score was calculated. Internal consistency as calculated by Cronbach's alpha was adequate ($\alpha = .91$).

Temperament. Effortful control was measured using the Early Adolescent Temperament Questionnaire – Short Form (EATQ; Caspaldi & Rothbart, 1992). The EATQ was originally designed for adolescents from 9 – 15 years of age. While the present sample includes adolescents from 13-18 years of age, the EATQ was selected in the absence of a measure for mid-to-late adolescents. It was assumed that the language in the EATQ would likely be more developmentally appropriate for the present sample than an adult self-report measure of temperament. From the original EATQ scale of 65 items, 16 items measured effortful control. In general, participants were asked to report how often they had done the list of things presented on a Likert scale from 1 (*almost always untrue of you*) to 5 (*almost always true of you*). Effortful control items assessed participants' self-reported attention, inhibitory control, and activation control capacities. Example items include “When trying to study, I have difficulty tuning out background noise and concentrating,” “When someone tells me to stop doing something, it is easy for me to stop,” and “If I have a hard assignment to do, I get started right away,” respectively. To obtain a total representation of effortful control for each participant, items were reverse-coded as necessary and a mean score was calculated. Internal consistency as calculated by Cronbach's alpha was adequate ($\alpha = .75$ effortful control).

Academic Self-Concept. Academic self-concept was assessed via self-report measure, as high levels of academic self-concept are associated with high levels of academic achievement (e.g., Gottfried, 1985). Academic self-concept was measured with 5 items from the Academic Competence Scale (Harter, 1982). These items asked participants about their perceptions of

themselves as students and their ability to perform successfully in school. This specific subset of questions measured "cognitive competence" in the form of perceptions of competence at academic performance (doing well at schoolwork, being smart, feeling good about one's classroom performance). Participants were asked to rate how much they agree or disagree with each item relating to themselves on a Likert scale from 1 (*strongly disagree*) to 4 (*strongly agree*). Example items include "I am just as smart as other people my age" and "I finish my work pretty slowly." To obtain a total representation of academic self-concept, items were reverse-coded as necessary and a mean score was calculated. Internal consistency as calculated by Cronbach's alpha was adequate ($\alpha = .71$).

CHAPTER 3. RESULTS

Means, standard deviations, and bivariate correlations for the main study variables are presented in Table 1. Bivariate correlations between measures revealed non-significant negative relations between perceptions of peer racial discrimination and adolescents' self-reported academic self-concept. Effortful control was significantly positively correlated with academic self-concept. As two different strategies were used to recruit the present sample (in-person/in-schools and online), it was feasible that elements of these different strategies may have resulted in group differences on key study variables in the present sample. To address this concern, t-tests were conducted to evaluate group differences in academic self-concept, peer racial discrimination, and effortful control as a function of recruitment strategy. These T-tests did not detect significant group differences as a function of recruitment strategy.

Following Baron and Kenny's (1986) recommended analyses, hierarchical regression analyses were conducted to assess the relation between perceived peer racial discrimination and academic self-concept by levels of effortful control. Previous literature has suggested that gender (e.g., Saunders, Williams, & Williams, 2004), household composition (e.g., Barbarin & Soler, 1993), and parent's education (e.g., Patterson, Kupersmidt, & Vaden, 1990) are meaningful predictors of African American adolescents academic outcomes, and thus these variables were controlled for in the moderation model.

Effortful control, perceived peer racial discrimination, and the interaction term were regressed on academic self-concept (see Table 2). Results suggested a significant main effect for

effortful control but not perceived peer racial discrimination. In other words, participants who self-reported a higher propensity for effortful control were more likely to report higher levels of academic self-concept ($B = .41, p < .01$). The results did not indicate a significant interaction.

CHAPTER 4. DISCUSSION

The results shed light on the potential impact of individual differences in effortful control for African Americans' academic outcomes. Contrary to the first hypothesis, the present study finds that perceived peer racial discrimination is not significantly related to academic self-concept in this sample. There are a few potential reasons for this unexpected finding. The participants in the present sample may come from relatively homogenous school systems or classrooms, thereby reducing the availability of their peer-based racial discrimination experiences within the classroom. Therefore, incorporating classroom- and school-level variables into similar empirical investigations remains an important future direction. Also, there may be something specific about the role of peers during later adolescence which stresses social comparison via popularity and attractiveness rather than academics. Indeed, as proposed in Garcia-Coll's Integrative model (1996), these findings suggest that different sources of racial discrimination may have differential effects on adolescents' outcomes by virtue of the power spheres they occupy. In other words, perceptions of racial discrimination from teachers may have more influence when it comes to impacting students' self-concept and effort, as these measures are more directly tied with classroom performance, behavior, and schoolwork – situations in which teachers have power and the final judgment via grades. In contrast, both teachers and peers may have power over students' perceptions of the importance of academics. More research is needed to further examine the processes and significance behind potential differences in the impact of sources of racial discrimination among African American youth.

The results also indicate that effortful control is directly linked with academic self-concept. As expected, with an increase in adolescents' self-reported effortful control capacities, academic self-concept consequently improves. This finding is in line with previous research with European American children (e.g., Keogh, 1986; Rothbart & Bates, 1998). Effortful control is linked with academics over time among European American children (e.g. Liew, McTigue, Barrois, & Hughes, 2008). Indeed, higher levels of effortful control beginning in first grade predict academic self-beliefs as well as achievement. While the majority of empirical work has been conducted with children, the present study was novel in confirming that effortful control – even at a more advanced developmental age – appears to be an important factor for some African American adolescents' academic self-concepts. Therefore, the results of the present study stress the importance of considering the role of normative developmental capacities – such as effortful control – on the academic trajectories of African American adolescents. While African American adolescents face unique risk factors such as peer racial discrimination, they also are a diverse group with many individual differences, one of which may be their continuing development of effortful control capacities.

The results do not support the hypothesis that effortful control is a protective factor in the relation between the risk of perceived peer discrimination and academic self-concept. One potential reason may be that the present study was not able to capture the role of effortful control where it may make the most difference for academic self-concept– at especially high and low levels. In other words, it is possible that the most significant difference in academic self-concept may be observed for those individuals who report the lowest and highest levels of effortful control. Ideally, further research should seek to contrast processes for those individuals with even higher levels of effortful control and even lower levels of effortful control. The present

sample size did not allow us to make these comparisons. However, it may be that informative instances of the most protection and the most risk were not adequately captured by the present study. Future empirical investigations should consider what might be happening at the extreme tails of the effortful control spectrum. Those individuals extremely high and extremely low on effortful control may be most in need of tailored interventions.

The present study has several limitations that need to be considered. First, as the study is cross-sectional, causality cannot be inferred from the results presented. It may be that academic self-concept contributes to perceptions of peer racial discrimination rather than the reverse relation. Further research should seek to examine this relation with a longitudinal design. Second, measurement of peer discrimination and effortful control may limit the results that were observed. Measurement remains a critical area in discrimination research and scholars should continue to explore the types, content and sources of discrimination African American adolescents experience (Seaton, Yip, & Sellers, 2009). It is possible that the measure of temperament in the present study was not ideal for the present age group. Additionally, as temperament is biologically-based, future research should seek to incorporate additional physiological and laboratory measures of effortful control for African American adolescents. Budding work on physiological measures of stress reactivity (e.g. Neblett & Carter, 2012) and laboratory measures may allow for better controlled or acute measures of these biologically-based individual differences. Other aspects of temperament such as reactivity, negative affect, and affiliativeness should also be examined with this population as they may teach us new things about the role of temperament in academic outcomes. Lastly, the results presented may not be generalized to all African American adolescents as the present study utilized a sample of convenience.

Without previous literature to help further contextualize these results, much remains unknown about the processes underlying the joint impact of perceptions of discrimination and temperament on academic outcomes. The present study contributes to the body of literature on the nuanced influences that may contribute to the achievement gap between African American and European American academic outcomes. The findings suggest that individual variability in effortful control may impact African American adolescents' academic self-concept. However, effortful control did not moderate the relation between perceptions of peer racial discrimination and academic self-concept. These results provide important steps in understanding the role and meaning of temperament for African American adolescents' experiences in school and academic outcomes. Further work is necessary in order to inform interventions which target school-level processes to help reduce the achievement gap.

Table 1. Descriptive Statistics and Correlations

<i>Variable</i>	<i>N</i>	<i>M(SD)</i>	<i>Bivariate Correlations</i>			
			1	2	3	
1. Peer Racial Discrim	277	1.16(.92)		-.11	-.05	
2. Effortful Control	277	3.37(.35)			.43**	
3. Self-Concept	275	3.30(.54)				

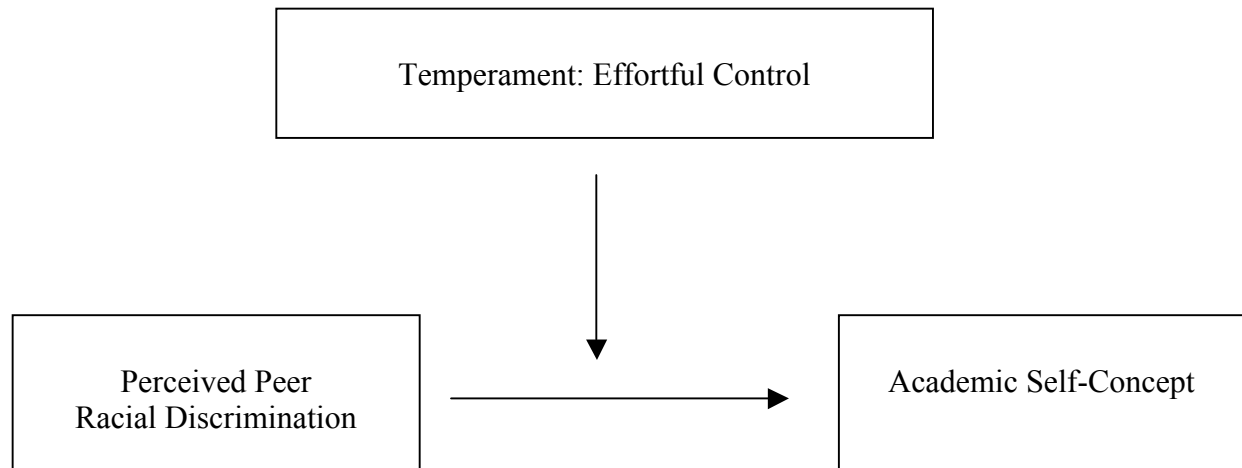
* $p < .05$, ** $p < .01$.

Table 2. Moderation Analysis For Peer Discrimination on Academic Self-Concept

Variable	β	Se	R^2
Step 1		.52	.03
Gender	-.01		
Household	.10		
Parent's Education	.13		
Step 2		.52	.03
Gender	-.01		
Household	.10		
Parent's Education	.13		
Peer Discrimination	-.01		
Step 3		.47	.20**
Gender	-.01		
Household	.07		
Parent's Education	.14		
Peer Discrimination	.03		
Effortful Control	.42**		
Step 4		.47	.22
Gender	-.01		
Household	.07		
Parent's Education	.15		
Peer Discrimination	.02		
Effortful Control	.41		
Interaction Term	.08		

*p<.05 **p<.0

Figure 1. Moderation Model for the Relation between Perceived Peer Racial Discrimination and Academic Self-Concept



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