

Exploring Contributors to the Success of High Achieving African American Students in Low
Income Urban Schools

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Abstract

The purpose of this study was to determine to what extent teachers used evidence-based practices and engaged in neutral and negative interactions during classroom instruction and if those practices and interactions were applied differentially across demographic groups in Title 1 schools located within the city limits of a large urban center. An additional focus of the study was to determine what behavioral practices were exhibited by high achieving African American students. A descriptive analysis was used to answer the research questions. Results of the study provide evidence that teachers use evidence-based practices at rates lower than advocated in the literature. Additionally, results demonstrated that when teachers did use evidence-based practices and neutral and negative interactions, they were distributed differentially across demographic groups. High achieving African American students received more opportunities to respond and positive specific feedback. Further, high achieving African American students exhibited behaviors proven to aid in academic success. Findings from the study support the need to research parsimonious strategies to increase teachers' equitable use of evidence-based practices and proactively teach students the self-regulation strategies needed to achieve academic success.

Consistent findings in educational reports and research regarding academic achievement and behavioral infractions are inundated with negative statistics regarding African American students from preschool to grade 12 (Aud, Fox, & Kewal Ramani, 2010; Aud, et al., 2011; Coleman, 1968; U.S. Department of Education, 2014). Consequently, data and research demonstrating the academic excellence and positive behavioral activities of African American students (Trust, 2014) has been less publicized. For example, National Assessment of Educational Progress (NAEP) data illustrates that between 2003-2013 fourth grade reading and eighth grade math scores for African American students have risen dramatically and gaps between them and their White peers have narrowed (Trust, 2014). However, despite a narrowing gap, too few African American students demonstrate the knowledge and skills needed to be successful in school and in life (Trust, 2014). For this reason, it is important to identify the factors that have contributed to the success of high achieving African American students as a means of providing strategies to help increase the number of African American students who have the knowledge and skills to be successful in school as well as postsecondary opportunities.

Current research, although limited, on the achievement of African American students mostly focuses on the use of Culturally Relevant Pedagogy (CRP; Ladson-Billings, 1995; Irvine, 2012). Qualitative research has identified CRP as a way for schools to acknowledge the home and community cultures of their students while sensitively integrating their cultural experiences, values, and understandings into the learning environment (Brown-Jeffy & Cooper, 2011), and has determined the academic achievement of culturally diverse learners will improve when taught through cultural filters (Townsend, 2000). However, CRP does not present itself without limitations. It is challenged to overcome factors of assessment bias, socio-economic variables, lack of teacher preparation, individual deficit thinking, disproportionality, and policy decisions at

the federal and state levels. Further, due to the dearth of empirical evidence demonstrating the implementation of CRP, it is challenging to prove, statistically, that CRP leads to student outcomes. Lastly, the use and professional development related to cultural responsiveness can be uncomfortable for the large, white, female teaching force that currently represents the majority of our nation's school teachers; approximately 85% of teachers are white and 75% are female (Aud, et al., 2011). Nonetheless, the classroom teacher and instructional variables are important to the success of all students; especially those students who have been historically underrepresented. Aside from theoretical frameworks such as CRP, there is a dearth of literature that reports teacher use of evidence based instructional practices and their contribution to the success of African American students specifically.

The field of special education has identified several classroom level evidence-based practices (EBPs) that result in academic achievement for all students (Myers, Simonsen, & Sugai, 2011; Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008; Sutherland, Wehby, & Copeland, 2000). Many classroom evidence based practices have been proven to successfully increase academic achievement for all students. Specifically, EBPs such as precorrection (PC; Lewis, Colvin, & Sugai, 2000), opportunities to respond (OTR; Sutherland, Alder, & Gunter, 2003), and positive specific feedback (PSF; Sutherland et al., 2000) are especially effective and easy to implement. However, research has not explicitly studied the effects of those evidence based practices on African American students (Artiles & Kozleski, 2010; Klingner & Edwards, 2006), especially those who are high achievers.

For the aforementioned reasons, the purpose of this study was threefold: first, to explore to what extent teachers are using EBPs during classroom instruction for African American high achievers in low income Urban schools; second, to determine the likelihood of African American

high achievers receiving EBPs when compared to peers who perform at average or below average levels; and third, to advance the field of education by providing ways to accelerate improvement and raise achievement for African American students. Specifically, the following research questions were addressed through a descriptive research design:

Research Question One: Do general education teachers use EBPs, specifically opportunities to respond, positive specific feedback, and precorrections at rates comparable to those advocated in the literature in classroom with high achieving African American students?

Sub Aim One: Are ratios of positive to negative interactions within the recommended 4:1 ratio?

Research Question Two: To what extent do general education teachers' use of targeted EBPs differ among students from varying demographic groups (i.e., high achieving African American students, non-high achieving students, African American students, and African American students at-risk)?

Research Question Three: What proactive academic engagement behaviors do high achieving African American students display during teacher instruction?

Method

A descriptive research design was used to determine to what extent teachers are using targeted EBPs during classroom instruction and if those practices were applied differentially across student groups. The three-targeted EBPs included: a) opportunities to respond (OTR), b) precorrection (PC), and c) positive specific feedback (PSF). In addition, teacher rates of negative and neutral interactions were also recorded. Furthermore, the study sought to identify what proactive academic engagement behaviors high achieving African American students demonstrated during classroom instruction. The study was conducted using this procedure: a)

teachers who met minimal inclusion criteria were recruited to participate in the study, b) teachers identified possible subjects in their classroom and distributed parent consent forms, and c) direct observation data were collected across several class periods on the teacher, target students, and other students in the class.

Participants and Setting

Schools. To participate in the study, schools had to be located in suburban or urban settings, serve children in 2nd through 5th grade, have high percentages of children from low-income families (i.e., Title 1), and have at least 15% minority student enrollment. Seven schools agreed to participate in the study. Schools were classified into three categories based on their student demographics; 15%- 40% minority enrollment (Category 1), 41%-70% minority enrollment (Category 2), or 71%-100% minority enrollment (Category 3; see Table 1). All were public schools in a Midwest state of the United States and within the city limits of large urban centers. School variables including socioeconomic status (i.e., number of students receiving free or reduced priced lunch) and percentage of racial/ethnic enrollment are provided in Table 1 for the seven participating schools.

Following school selection, administrators sent a list of 2nd through 5th grade teachers to the lead researcher. The lead researcher met with the teachers individually or in small groups to discuss the study, answer any questions, and obtain teacher consent for those who wished to participate.

Table 1

School Demographic Variables

School	School Category Type	Percent of Free/Red. Lunch	Minority Enrollment	Percent of White	Percent of African Am.	Percent of Latino	Percent of other minority
1	Cat 2	67.4%	45%	55%	20%	10%	15%
2	Cat 2	77.3%	51.6%	42.8%	25.8%	15.4%	10.4%
3	Cat 1	55%	35%	65%	19%	10%	6%
4	Cat 2	61.8%	42%	51.6%	15.4%	17.2%	15%
5	Cat 2	70%	44%	45.6%	27.6%	16.5%	0%
6	Cat 2	68.9%	52.4%	47.6%	16.7%	19.5%	16.2%
7	Cat 3	100%	90%	11%	82%	3%	5%

Note. 15%- 40% minority enrollment (Category 1), 41%-70% minority enrollment (Category 2), 71%-100% minority enrollment (Category 3); Free/Red.= free or reduced lunch.

Teachers. Fifteen general education teachers agreed to participate in the study. However, the final sample included thirteen teachers who were able to identify students in their class who met the inclusionary criteria for the study. To maintain consistency across observations, teachers were required to have at least two years of teaching experience, a teaching degree from a college or university, full certification by the state, and currently teaching second through fifth grade reading/language arts in one of the participating schools. Teacher demographic variables including gender, race/ethnicity, years of teaching experience, grade level taught, number of professional development opportunities attended related to classroom and behavior management, and highest educational degree completed were collected to determine how individual factors may contribute to the instructional measures (Table 2). Of the thirteen participating teachers, all were female; two teachers taught 2nd grade, three teachers taught 3rd grade, three teachers taught

4th grade, and five teachers taught 5th grade. Twelve teachers were white and one teacher was African American.

Table 2

Teacher Demographic Variables

Teacher	School Category Type	Grade Level Taught	Gender	Ethnicity	Completed years teaching	Number of PD taken	Highest Degree
1	2	2	Female	AA	14	5 or more	Ed Specialist
2	2	3	Female	W	5	10 or more	Bachelors
3	2	5	Female	W	5	20 or more	Masters
4	2	4	Female	W	18	1	Masters
5	2	5	Female	W	4	4	Masters
6	2	5	Female	W	14	0	Masters plus 32 hours
7	1	3	Female	W	9	0	Bachelors
8	1	4	Female	W	27	10 or more	Special Ed
9	2	5	Female	W	4	5 or more	Masters
10	2	3	Female	W	18	4	Masters
11	2	5	Female	W	18	5	Bachelors plus hours
12	2	4	Female	W	10	5 or more	Masters
13	3	2	Female	W	17	5 or more	Masters plus 30 hours

Note. PD=professional development, W=White, AA=African American.

Students. Teachers were asked to nominate a minimum of three African American students within their classroom who were high achievers. For the purpose of the study, African American high achievers were defined as (1) having a 3.0 or better GPA in the core content area

observed (i.e., reading and language arts) and (2) having their race/ethnicity classified as black or African American on their school record. Of the possible 89 African American students across classrooms, 26 students were found eligible. To recruit these individuals, parental invitations through a cover memo explaining the study along with consent forms to participate in the study were sent home by the classroom teacher. Twenty-three high achieving African American students (HAAA) consented and participated in the study.

Of the consented pool of students who met inclusion criteria (n=23), there were 12 female students and 11 male students. Three students were in 2nd grade, four were in 3rd grade, six were in 4th grade, and ten were in 5th grade.

Three additional groups of students were observed within the classroom to provide comparative data for the HAAA; African American students (AA) were defined as any other black or African American student in the class; African American students at-risk (AAAR) were defined as any black or African American student determined at-risk by a Systematic Screener for Behavioral Disorders (SSBD; Walker, Severson, & Feil, 2014) administered by the teacher, and non-high achieving students (NHA) were defined as all other students in the class.

The AA student group included 57 students; 36 females and 21 males. Of the AAAR student group, there were 5 female students and 9 male students. Three students were in 2nd grade, two were in 3rd grade, two were in 4th grade, and seven were in 5th grade. Of the NHA students across the 13 teacher's classrooms (n=279), 50% were white, 24% African American, 12% Latino, 5% two or more ethnicities, and 7% other ethnicities. The total sample of subjects included 48% female and 42% male. Intersectionality across groups were accounted for during data collection.

Measures

Teacher direct observation measures included three evidence-based instructional practices: (a) opportunities to respond (OTR), (b) precorrection, and (c) positive specific feedback (Simonsen et al., 2008). Number of negative interactions and neutral interactions per student were also collected. Operational definitions of each teacher measure are described below (Table 3).

Direct observation behavioral measures for students included three evidence-based learning strategies (Ellis, 1989): (a) active thinking, (b) naming key information, and (c) tracking the speaker. Additional direct observation measures included volunteering for a leadership role, following directions the first time given, and using time wisely. Operational definitions of each student measure are defined below (Table 4).

Table 3

Teacher Instructional Measures

Variable	Operationalized Definition	Example/ Non- example	Measure
Opportunity to Respond (OTR)	OTR is any teacher behavior that provides opportunities in which students have to actively respond to academic material or request during instruction.	Example: Asking question about related curriculum, asking student to read aloud, asking student to write answers to a problem (Kern & Clemens, 2007). Non-example: Teacher giving instructions (i.e., spelling test).	Frequency Count
Precorrection (PC)	A precorrect is a statement that prompts a student to exhibit a more appropriate behavior before the predictable problem behavior occurs. Precorrection statements are planned, teacher-directed activities that prepare students for a situation by explaining the desired behavior before starting a task or entering a new environment (Lewis et al., 2000).	Example: “Before starting, make sure your name is on the top of the page” or “During a test your voice level is zero.” Non-example: “You are taking a test; your voice should be off.”	Frequency Count

Positive Specific Feedback (PSF)	Positive specific feedback is a positive statement or gesture, given by the teacher, immediately after a desired behavior occurs to inform students specifically what they did correctly (Simonsen et al., 2008). Positive specific feedback can be directed at an individual or an entire class and can be verbal and non-verbal.	Example: “Class, you are doing a good job following expectations” or “James, that is correct. You multiply first then add.” Non-example: “Good job.” “That’s right!”	Frequency Count
Negative Interaction	Negative interactions include teacher initiated verbal statements, physical gestures, or consequences as a result of a presently occurring behavior (Stichter et al., 2009; Wehby et al., 1995). Examples include, but are not limited to, verbal statements that request the immediate termination of a behavior, phrases such as “Don’t do” or “Stop” when referring to a current event and is not a precorrection, removal or attempt to remove materials in possession of the student, and statements or gestures indicating disapproval.	Example: “Don’t do...”, “Stop...”, “shhh”, “Jon, your eyes should be on me,” shaking head at student, placing finger over mouth to quiet the student, or removing a student from the environment. Non-example: “No, go back and check number 4,” or “No, the word is treat.”	Frequency Count
Neutral Interaction	A neutral interaction is any teacher initiated interaction that is neither positive nor negative. Examples include but are not limited to, monitoring student progress on work, conversation unrelated to current academic task or behavior.	Example: “No, go back and check number 4,” or teacher looking over student shoulder to check and monitor progress. Non-example: “Don’t do that,” or “You need to be quiet.” A response <i>after</i> a student asks a question.	Frequency Count

Table 4

Student Behavioral Measures

Variable	Operationalized Definition	Example/ Non- example	Measure
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Volunteered/ asked to assume leadership role	Any activity in which the student offers to help peers or an adult or is selected by an adult to assume a leadership role.	<p>Examples: Passes out papers to the class, helps peers with and without being asked by an adult, takes charge during group work, leads the line.</p> <p>Non-examples: Helps peer after being asked by the peer.</p>	Frequency Count
Active thinking	Any attempt to ask or answer a question during instruction (Ellis, 1989).	<p>Examples: Student raises hands after teacher provides an OTR, student asks a question pertinent to the lesson or task.</p> <p>Non-examples: Student does not raise hand to answer a question provided by the teacher, student asks a question that is not related to the instruction of task.</p>	Frequency Count
Track the speaker	Students is tracking the speaker around the room while they are talking. For the purpose of this study, the speaker will only include the teacher or an adult speaker (Ellis, 1989).	<p>Examples: Eyes on the speaker.</p> <p>Non-examples: Head looking at paper, working on a task, eyes not on the speaker.</p>	Frequency Count
Name/locate key information	Student identifies and locates resources of key information on their own (Ellis, 1989).	<p>Examples: Refers to anchor charts around the room, dictionary, encyclopedia, key terms in text.</p> <p>Non-examples: Asks where to find key information.</p>	Frequency Count
Followed directions the first time given	An adult gives a direction and the student immediately complies within 30 seconds.	<p>Examples: Student puts up work after begin told, student is quiet when teacher asks for quiet.</p> <p>Non-examples: Student takes longer than 30</p>	Frequency Count

Uses time wisely	A student uses time wisely when they have completed their assignment and begin another academic but unassigned task.	seconds to comply to direction, told more than once to follow teacher directive.	Frequency Count
		Examples: Reading a book, work on assignment not finished from earlier in the day	
		Non-examples: Lays head on desk, helps another student with their independent task, plays with objects around desk	

Data Collection Procedures

Training. Three data collectors were trained to code targeted teacher variables and were required to achieve an inter-observer agreement (IOA) of at least 80% with the primary researcher on four different training videos. Inter-observer agreement was calculated by dividing the smaller number of recorded occurrences by the larger number of recorded occurrences and multiplying by 100 (smaller number/larger number X 100). Once observers reached 80% or better, in vivo practice data collection began in the participating teacher’s classroom during a language arts instructional period (these data were not included in the final data set). The data collectors observed one 30-minute session with the primary researcher, in which IOA rates were calculated once more. If IOA was above 80%, the data collectors could begin independently collecting data. If at any time IOA fell below 80%, data collectors were retrained using the training videos and debriefed about disagreements until minimal percentages were met.

Data Collection. Data was collected in two phases. In phase one, participating teachers identified target students who met the inclusionary criteria. Once consent and assent forms were

returned, the teacher provided demographic information for target students in their classroom and themselves. Phase two included direct observation using a pencil and paper method.

Data was collected during reading/language arts instruction. The mean length of observations across teachers was 300 minutes or 5 hours across an average of 4.38 days. Within the study, IOAs were collected across 20% of the observations with the principal investigator serving as the second coder.

Results

Data were analyzed using two methods of measurement. First, to answer research questions one and three, frequency counts of teachers' use of each of the instructional measures tracked across student groups, were converted to rate per minute. Means of each teacher variable by student group were computed. Mean rates for teacher use of EBPs were then compared to those advocated in the literature (Jenkins et al., 2015; Kern & Clemens, 2007; Miao et al., 2002; Yu et al., 2002). Additionally, frequency counts of student variables were tracked across target students and computed into group frequency counts by classroom teacher. Group counts were converted to rate per minute. Mean and range of each student variable were also computed. To answer research question two, 13 teacher Composition Indexes (CI) were matched between 3 combinations of comparison groups: HAAA and NHA students, HAAA and AA students, and HAAA and AAAR students. CI were defined as the percentage of students in a specific category (e.g., students receiving OTR) represented by a given racial/ethnic group. CI identified whether there were more students from a given group in this category than expected given their overall representation in the total population (Skiba et al., 2008). This accounts for differences between group sample sizes. To determine whether there were mean differences between these different types of students, multiple paired sample t-test were conducted across the five teacher

instructional measures. Preliminary analyses included testing for normality and homogeneity of variances. There were no violations of normality and if homogeneity of variances was violated, a Welch paired t-test was used as a correction. In addition, Cohen’s D was calculated by the mean of group one minus the mean of group two divided by the pooled standard deviation. According to Cohen, an effect size of .1 is small, .3 is medium, and .5 is large (Cohen, 1988). Results are discussed by research question.

Research Question One

Teacher rates of OTR did not meet the recommended minimal rate of 3 per minute. While all teachers did attempt to use OTR, 12 of the 13 teachers had OTR rates that were less than 1 per minute (Table 5). Rates of PSF and PC were also less than 1 per minute (Table 5).

Table 5

Teacher Average Rates of Targeted Evidence-based Practices per Minute

Teacher	Opportunities to Respond	Positive Specific Feedback	Precorrection
T1	.03	.06	.05
T2	.21	.19	.13
T3	.33	.24	.30
T4	.19	.24	.18
T5	.19	.05	.10
T6	.34	.01	.07
T7	.20	.05	.08
T8	.25	.27	.17
T9	.25	.24	.17
T10	.09	.26	.05
T11	.26	.15	.14
T12	.19	.38	.19
T13	1.06	.18	.11
Mean	.27	.17	.13

Sub-Aim One: Ratios of positive to negative interactions were not in the recommended 4:1 ratio as advocated in the literature across all teachers. For nearly half of the teachers, ratios indicated more negative interactions than PSF (see Table 6).

Table 6

Ratio of Positive Specific Feedback to Negative Interactions by Classroom

Teacher	Positive : Negative Ratio
T1	1 : 3.27
T2	3.27 : 1
T3	1.32 : 1
T4	1.21 : 1
T5	1 : 2.46
T6	1 : 10.33
T7	1 : 3.2
T8	1.78 : 1
T9	2.96 : 1
T10	1 : 1.17
T11	1 : 1.24
T12	1.08 : 1.0
T13	1.24 : 1.0

Research Question Two

The mean differences of 13 teacher CIs were compared between HAAA students and NHA students for the five teacher instructional measures using paired t-tests. For OTR, there was a significant difference between HAAA and NHA students, $t(12)=4.00, p<.001$, with HAAA students ($M=3.29, SD=2.37$) receiving significantly more OTR compared to NHA ($M=1.16, SD=.74$). The effect size for this relationship was large at 1.21 (Cohen, 1988). A paired samples t-test for PSF also revealed significant mean differences, $t(12)=2.24, p<.05$, with HAAA students ($M=3.68, SD=3.94$) receiving significantly more PSF than NHA students ($M=1.78, SD=1.32$). This effect size was large at .65 (Cohen, 1988).

Research Question Three

Table 7

Target Student Frequency of Behavioral Measures by Student

Teacher	Student	Volunteered/ asked to assume leadership role	Ask/answer questions	Track the speaker	Name/locate key information	Followed directions first time given	Uses time wisely
1	1	0	3	3	1	9	0

2	2	2	5	19	0	18	0
3	3	7	18	19	3	24	1
	4	3	15	13	3	19	1
	5	8	23	18	1	17	0
4	6	5	16	19	3	23	4
5	7	1	4	9	3	14	3
	8	0	2	7	3	11	3
6	9	5	20	19	8	8	0
7	10	4	9	20	1	17	1
8	11	3	11	6	2	19	8
	12	2	7	8	2	17	6
9	13	1	20	13	7	12	2
	14	2	12	10	7	12	6
10	15	0	6	22	1	15	0
	16	6	12	19	3	5	0
11	17	3	9	11	2	19	3
	18	9	15	25	3	9	3
	19	9	19	18	5	22	1
12	20	1	9	33	1	23	2
13	21	23	48	9	2	19	0
	22	18	45	6	0	14	0
	23	28	48	6	2	1	0
Mean		6.08	16.34	14.43	2.73	15.08	1.91

Table 8

Target Student Frequency of Behavioral Measures by Teacher

Teacher	Volunteered/ asked to assume leadership role	Ask/answer questions	Track the speaker	Name/locate key information	Followed directions first time given	Uses time wisely
1	0	3	3	1	9	0
2	2	5	19	0	18	0
3	18	56	50	7	60	2
4	5	16	19	3	23	4
5	1	6	16	6	25	6
6	5	20	19	8	18	0
7	4	9	20	1	17	1
8	5	18	14	4	36	14
9	3	32	23	14	24	8
10	6	18	41	4	30	0
11	21	43	45	10	60	7
12	1	9	33	1	23	2
13	69	141	21	4	49	0
Sum	140	376	323	63	392	44

Table 9

Group Rate of Behavioral Measures

	Volunteered/ asked to assume leadership role	Ask/answer questions	Track the speaker	Name/locate key information	Followed directions first time given	Uses time wisely
Mean	0.46	1.25	1.07	0.21	1.30	0.14

As a group, HAAA were most observed following directions the first time given by the teacher at a rate of 1.30 per minute. Sequentially, target students asked or answered questions prompted by the teacher at a rate of 1.25 per minute and tracked the speaker at a rate of 1.07 per minute. Less observed behavioral measures were volunteering or asking to assume a leadership role, naming or locating key information, and using time wisely. Target students were observed volunteering or asking to assume a leadership role about once every 2 minutes across observations, naming or locating key sources of information approximately once every 5 minutes, and using time wisely about once every 7 minutes.

Inter-Observer Agreement

Across all observations, 20% included a second observer to measure reliability through inter-observer agreement (IOA). IOA was computed by dividing the smaller number of agreements by the larger number of agreements and multiplying by 100 (smaller number/larger number X 100) across sessions. The range of IOA was from 80% to 97% with a mean of 87.36%.

Discussion

Nationally reported data are inundated with negative academic and behavioral outcomes for students of color, particularly African American students (U.S. Department of Education

Office for Civil Rights, 2014), while the successes experienced by African American students are less reported; especially for those that are high achieving. While some literature and current research in the area of African American achievement has documented teacher related contributions, most have used qualitative analysis with minimal reports of student outcome data (Brown-Jeffy & Cooper, 2011; Irvine J. J., 2012; Klingner & Edwards, 2006; Ladson-Billings, 1994). Therefore, the purpose of this study was to explore the extent to which teachers are using EBPs during classroom instruction while determining the likelihood of African American high achievers receiving EBPs when compared to peers. This advances the field by providing ways to accelerate improvement and raise achievement for African American students.

Results of this study align with past research in two ways. First, the current study supports findings from previous research demonstrating the overall low rates of general education teacher use of EBPs (Jenkins et al., 2015; Lewis, Sugai, & Colvin, 1998; Reinke, Lewis-Palmer, & Merrell, 2008; Sutherland et al., 2003) and high rates of negative interactions. Although optimal rates have not been identified by the field for all EBPs, rates of at least 3 per minute for OTR (Sutherland et al., 2003) and at least 4 PSF to 1 corrective feedback statement (Myers et al., 2011) are suggested. While there are not suggested rates for PC, it is recommended that teachers use them often.

While all teachers did attempt to use OTR, rates were less than recommended. Additionally, the type of OTR (Sutherland et al., 2003) used across all teachers was the traditional choral or individual responding. The low rates and lack of versatility of OTRs may have been due to the teachers' lack of knowledge regarding OTR variations. Although teachers in this study indicated having many professional development opportunities related to classroom and behavior management, it is uncertain if the strategies taught were specific to the targeted

EBPs. Haydon and colleagues (2009) found that when teachers are taught how to use OTR during instruction at rates advocated in the literature, the time on-task and correct academic responding increased while disruptive behavior decreased. Further, past research suggests teacher low rates of use of EBPs are potentially due to the typical use of lecture format during large group instruction (Stichter et al., 2009).

Ratios of positive to negative interactions were not in the recommended 4:1 ratio as advocated in the literature. In fact, ratios indicated the opposite for six of the teachers. Teachers used more negative comments than PSF. The study used PSF only as the direct observation variable while other research has included general praise statements in their analysis of ratios (Reinke, Herman, & Stormont, 2013; Sutherland et al., 2000). Teachers were observed providing general praise statements and gestures but it was not a measured variable. It is possible that if general praise statements or gestures and PSF were both measured, the ratio of positive to negative feedback may have been closer to the recommended 4:1 ratio.

Teacher rates of PC were less than 1 per minute. Ideally, PCs should be used often, especially prior to transitions. Although the classroom environments provided many opportunities for PCs (e.g., moving from carpet to desk, transition from group work to independent work, lining up), teacher's interactions were often reactive and negative towards those students not appropriately transitioning. As previously mentioned, teachers reported having many professional development opportunities related to classroom and behavior management, however, the specific content and length of time provided for direct instruction on how to use the targeted EBPs is unknown.

Second, while there is a dearth of literature regarding the academic achievement of high achieving African American students, results from this study related to teacher practices and

student achievement align with past research (Wiggan, 2008). For example, through a phenomenological study integrated with grounded theory, Wiggan (2008) found that high achieving African American students perceived teacher practices and engaging pedagogy as the main contributors to their academic success. Although teacher rates of EBPs were below recommended rates across the class, high achieving African American students received more instructional measures as demonstrated through research to increase academic achievement (i.e., OTR) and prosocial behaviors (i.e., PSF). These findings are critical as research regarding EBPs includes a small sample size of students of color and therefore yields inconclusive results regarding the effectiveness of those practices for that population of students (Artiles & Kozleski, 2010; Klingner & Edwards, 2006).

Results of this study contribute to existing research in two ways. First, findings from this study adds to research by suggesting that teacher instructional variables as well as student self-regulation of their own behaviors, may contribute to the success of high achieving African American students in low income schools within urban centers. Although there is minimal research with methods of observing and quantifying the behaviors of African American students that attribute to their academic or behavioral success, self-regulation or self-regulated learning (SRL) theory holds that students can have academic and behavioral success if they learn self-regulation strategies (Zimmerman, 2008). Zimmerman (2008) define self-regulation as the degree to which students are metacognitively, motivationally, and behaviorally active participants in their own learning process (Zimmerman, 2008). In order to engage in self-regulatory activities individuals must has some sort of choice presented to them, such as whether to participate, which method to use, what outcomes to pursue, and which social and physical setting to work in (Schunk, 2012). Each of the student variables measured were strategies

grounded in self-regulation. Additional literature to support student self-regulatory behaviors can be found regarding internal factors such as the resiliency of African American learners (Marsh, Chaney, & Jones, 2012) and general student behavioral strategies that can increase the probability of academic success (Ellis, 1989) irrespective of race and ethnicity.

Second, the results from this study demonstrate the importance of having students engage in and continue self-regulatory behaviors. To get students to engage in such behaviors teachers should use PSF. Generally, the purpose of utilizing PSF is to increase desired behaviors (Simonsen et al., 2008). In practice, teachers use PSF to reinforce (a) successful academic attempts (e.g., “Great job of adding before subtracting, Austin!”) and (b) prosocial behavioral interactions (e.g., “Nice job lining up using your walking feet, Avery.”; Jenkins, Floress, & Reinke, 2015). According to applied behavior analysis (Cooper, Heron, & Heward, 2007), if teachers use PSF to reinforce student self-regulatory behaviors as well, there is a high likelihood that students, both high achieving and non-high achieving, will increase or maintain those behaviors.

Limitations

There are limitations to be considered when evaluating the results of this study. First, the study set out to determine whether there were differences in teacher behaviors across student groups. However, the sample size was small. The small sample size may have been a result of the fact that many of the districts solicited for participation were in the midst of racial turmoil. Further, the inclusionary criteria included Title 1 schools which is historically known for educating students that are underperforming.

Second, although teachers were observed for a mean of 4.24 hours, it is unknown whether the total length of observations was sufficient enough to support clear trends. Current research has not indicated a standard length of time for observations that will yield clear trends.

Third, while teachers tried to make sure target students were present during observations, a few absences were unavoidable. Although these absences were few, they may have influenced the rate teachers interacted with the student and the overall data for target students.

Fourth, many of the teachers utilized the scripted district curriculum for language arts instruction. This scripted curriculum may have affected the rates at which teachers utilized the measured instructional practices.

Fifth, the current study did not set to observe the rates of student behavioral measures for non-target groups. Therefore, a comparison of rates of behavioral measures across groups could not be determined. A potential way to address this limitation through additional research is provided below.

Implications for Research

The current study was descriptive and exploratory; therefore, causal relationships cannot be determined and more research is needed. The field of education has much more work to do with regards to ensuring teacher use of EBPs at recommended rates and reinforcing students' self-regulatory behaviors. Building on past research and results from this study, implications for this research are discussed below.

First, future research should focus on ways to increase and maintain teacher use of EBPs over time. School-based intervention literature has placed greater emphasis on evaluating the effectiveness of an intervention rather than on treatment integrity (McIntyre, Gresham, DiGennaro, & Reed, 2007; Noell et al., 2000). Prevention research should focus on teacher

preparation programs, courses and accompanying coursework, and increased opportunities for preservice teachers to practice and receive feedback on implementing EBPs. Intervention research to build teacher fluency should focus on scripted lesson planning templates imbedded with fidelity checks of EBPs (Green & Stormont, 2017) that require teachers to use each practice directly when completing and presenting their lessons.

Second, future research should conduct direct measurements of student behavior. Conducting research in which student measures are key variables will provide a more comprehensive look into the daily interactions between teachers and students in the classroom. Additional research should measure the types of student behaviors teachers typically reinforce as well as compare the rates of self-regulatory behaviors of high achieving students with non-high achieving students.

Third, due to most research on teacher bias being qualitative and therefore, lacking variance and statistical significance, future research should use quantitative analysis to adequately interpret whether or not, and how much, teachers differentiate between groups and if this pattern can be attributed to one of the explanations for African American student outcomes. If students are placed in classrooms with individuals utilizing effective teaching practices, then the likelihood of being a high achieving student with academic and behavioral success will increase as demonstrated in this study.

Conclusion

The purpose of this study was to (a) investigate the extent to which teachers are using EBPs during classroom instruction, (b) determine the likelihood of African American high achievers receiving EBPs when compared to their peers, and (c) to advance the field by providing ways to accelerate improvement and raise achievement for African American students.

The study found that rates of teacher use of EBPs were below recommended levels and that teachers differentiated their behavior across and between groups. For example, high achieving African American students in this study received more opportunities to respond and more positive specific feedback than other groups of students. Additional findings included target student use of strategies proven to increase academic success. For example, high achieving students used self-regulatory behaviors such as answered or asked questions, tracked the speaker, and followed directions the first time given which are proven to aid in student academic success. The present study provides a fervent case for more rigorous examinations into the differential treatments received by various groups of students at the classroom level.

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