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In-service and Pre-service Teachers' Implicit Attitudes and Self-efficacy Beliefs Toward Teaching Racial Minority Students

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IN-SERVICE AND PRE-SERVICE TEACHERS' IMPLICIT ATTITUDES AND
SELF-EFFICACY BELIEFS TOWARD TEACHING RACIAL MINORITY STUDENTS

by

TIFFANY TAN

A thesis submitted in partial fulfillment of the requirements
for the Honors in the Major Program in Early Childhood Development
in the College of Community Innovation and Education
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at the University of Central Florida
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ABSTRACT

The racial dynamic between teachers and students in the United States is increasing. The population of racial minority students continues to grow while the teacher population stays predominantly White. Equity and inclusion, often the foreground in an educational setting, are now being undervalued when needed the most. This study examined and compared pre-service and in-service teachers' implicit attitudes toward racial minority students while also looking at their self-efficacy beliefs in teaching diverse classrooms. Participants included nine pre-service teachers from a four-year university and nine PreK-3 in-service teachers. All participants were from the Southeastern part of the United States. To test the hypothesis that pre-service teachers will have more negative implicit attitudes toward racial minority students, this study used an Implicit Association Test. Although the t-test result comparing both groups, pre-service teachers versus in-service teachers, showed insignificant differences, raw data from participants' Implicit Association Tests showed that more pre-service teachers showed a slight bias towards students from racial majority groups. Results support recommendations and implications for practitioners to better understand how biases may occur in classrooms and how pre-service teachers can be better prepared to teach in diverse classrooms.

Keywords: implicit attitudes, implicit bias, racial dynamics, racial minority students, early childhood education

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CHAPTER ONE: INTRODUCTION

The number of students from racial and ethnic minority groups is growing rapidly in the United States. Over the past decade, there has been an increase of approximately one and a half million ethnic minority students enrolled in public and private schools across the nation, with Hispanics now being 24.4% of the student population, and Asians being 4.8% of the population (*National Center for Education Statistics, 2018*). Appendix A shows the increase in numbers within these groups from 2016. With this vast increase of minority groups in our schools, teachers employed in the U.S. continue to be predominantly White. Although the numbers of ethnic minority teachers have slightly increased in the past decade, most recent data have shown that 79.3% of the teacher population identified as White in the 2017-2018 school year (*National Center for Education Statistics, 2018*). Appendix B shows the difference in number between White teachers and teachers from racial minority groups. With students of minority groups on the rise and teachers from these groups occupying only approximately 20% of the population, a majority of students in the United States will graduate without ever being taught by a teacher of color (Jordon-Irvine, 2004) if statistics continue to stay the same. Could this racial dynamic between students and teachers be one reason why racial and ethnic minority students experience more disadvantages throughout their educational careers compared to their White peers?

Based on past studies, teachers are more likely to hold higher prejudiced beliefs and more negative implicit attitudes toward ethnic and racial minority students (Glock & Bohmer, 2018; Glock et al., 2018; Picower, 2009; Bergh et al., 2010). With negative implicit attitudes toward ethnic and racial minority students, researchers then began noticing a pattern of also: lower

academic expectations of minority students (Blanchard & Muller, 2015; Marx, 2000; Glock & Cate, 2018), lower classroom placements or more negative program referrals of minority students (Riley, 2014; Tenenbaum & Ruck, 2007), and lower awareness in teaching classrooms with racial minority students (Glock & Bohmer, 2018; Glock, Kovacs, & Cate, 2019; Barry & Lechner, 1995). This will be discussed further in Chapter Two.

CHAPTER TWO: REVIEW OF LITERATURE

This review of literature examines research that revolves around how racial minority students are affected when teachers have negative implicit attitudes toward them. First, this section will define implicit attitude. Second, this section will define self-efficacy beliefs in teachers in academic settings. Next, the following section will provide an overview of theoretical background on learned behavior and how these behaviors may affect implicit attitudes and self-efficacy beliefs. The fourth and fifth section will discuss past studies that have been done regarding teacher implicit attitudes and how they may affect students from racial minority groups. Finally, the last section will discuss teacher self-efficacy belief in teaching a diverse classroom.

Defining implicit attitude

Psychology researchers Greenwald and Banaji (1995) who studied these implicit social cognition (attitudes, self-esteem, and stereotypes) state that the signature of implicit cognition occurs when traces of past experiences affect performances in the present day. According to Greenwald and Banaji (1995), these earlier experiences, though influential to a person's behavior, may not be remembered in a usual sense, which means that "it is unavailable to self-report or introspection" (Greenwald & Banaji, 1995, p.5). Greenwald and Banaji explains the term *implicit attitude* as follows:

"Implicit attitudes are introspectively unidentified (or inaccurately identified) traces of past experience that mediate favorable or unfavorable feeling, thought, or action toward social objects" (Greenwald & Banaji, 1995, p. 8).

Defining self-efficacy belief

Self-efficacy belief as defined by Albert Bandura (1997), states that it is the “beliefs in one’s capabilities to organize and execute the courses of action required to manager prospective situations” (Bandura, 1997, p. 2). In an academic setting through the lenses of a teacher, this means the belief in one’s capability to organize and execute the course of teaching students. Self-efficacy belief through the lenses of a teacher can also be interpreted as the level of investment in teaching, aspirational levels, and the goals that are set for themselves, which may also be known as teacher efficacy belief (Hoy & Spero, 2005). With the focus of this study being around racial minority students and teaching diverse classrooms; self-efficacy belief in this aspect will be centered around teachers’ beliefs in their capabilities of teaching racial minority students with various ethnic, cultural, and customs in a classroom.

Theoretical background

The social learning theory developed by Albert Bandura (1997) states that through the process of observational learning, behavior is learned and imitated from the environment (Bandura, 1977). Bandura's experiments focused on the transmission of aggression, where children were more aggressive towards a doll after observing an adult model who acted aggressively towards that same doll (Bandura et al., 1961). The same way aggression and non-

aggression can be learned through observation, one can also learn prejudice and discrimination (Hjerm et al., 2018). In a perfect society, there will be no prejudice and discrimination will cease to exist. However, we live in an imperfect society where discrimination and negative stereotypes are exceedingly familiar to many groups. When a teacher fails to unlearn these traits that have been embedded into our imperfect society, negative attitudes toward these groups start to arise in the classroom (Glock & Bohmer, 2018; Glock, Kovacs & Pit-ten Cate, 2018; Picower, 2009; Bergh et al., 2010). These groups, often viewed as the minority groups in the United States, experience disadvantages more frequently because of their race, ethnicity and cultural background (Mortenson & Netusil, n.d.; Downey & Pribesh, 2004; Glock & Pit-ten Cate, 2018). These societal factors are also known as the macrosystem, according to Urie Bronfenbrenner's (1979) ecological systems theory.

Bronfenbrenner's ecological systems theory (1979) is based on the four systems in a child's life that will impact how they will grow and develop. For the purpose of this study, this thesis will look at the microsystem and macrosystem. The microsystem is the first and smallest system of Bronfenbrenner's ecological systems theory (Bronfenbrenner, 1979) It includes the child's immediate environment, the people who they are directly interacting with (Bronfenbrenner, 1979). For example, children's family members, teachers, or peers. A child's microsystem is said to have the greatest influence on how they will grow and develop (Bronfenbrenner, 1979). With teachers being in a child's microsystem, how a teacher chooses to act and react in a classroom will have a great impact on who their students will grow to become (Ulug et al., 2011). Next, one must consider the macrosystem. This ecological system is described as the largest and most distant system out of the four systems and it includes the

societal factors mentioned above, ethnicity and cultural beliefs (Bronfenbrenner, 1979). When these two systems inevitably interact, educators are forced to observe how a child's macrosystem affects their relationship with the people in their microsystem. In the case of this current study, one should consider how children's racial and cultural backgrounds may affect the teacher-student relationships and student academic growth in school settings.

Tying in what is now known about the social learning theory and ecological systems theory with our current study, the question was posed: What happens then when a teacher, who is seen as the most influential and impactful model in the classroom, holds more negative attitudes toward those of ethnic and racial minority groups? As mentioned in the previous chapter, past studies on teacher attitudes of ethnic and racial minority students have found evidence in these two aspects: lower academic expectations and lower classroom placements or more negative program referrals (e.g. special education). In the next sections, the literature review will discuss and analyze past studies on these aspects and how they affect students from ethnic minority groups.

Research concerning academic expectations and racial minority students

Lower academic expectations of ethnic and racial minority students may arise in a classroom depending on teachers' experiences, background, cultural beliefs, and more. When a racial dynamic between teacher and student (e.g. White teacher - ethnic minority student) exists, lower academic expectations of a student are more likely to happen. Marx (2000), who analyzed the perceptions of White and Hispanic pre-service teachers, found that White participants had lower expectations for their tutees, who were non-native English speakers from minority

backgrounds, to graduate high school and/or attend college, compared to Hispanic pre-service teachers. Whereas Hispanic participants had high expectations that their tutees will be successful in school, graduate, and even attend college (Marx, 2000). While analyzing in-service teachers, researchers have also found similar results regarding academic expectations in ethnic minority students. Bergh et al. (2010) found that when assessing the relationship between implicit prejudiced attitudes and academic expectations for students, teachers who held negative prejudiced attitudes toward ethnic minority students were more likely to evaluate ethnic minority students as being less intelligent and having less promising achievement in their academics. In addition, ethnic achievement gaps were also found to be larger in classrooms whose teachers held higher prejudiced beliefs against ethnic minority students (Bergh et al., 2010). This means, ethnic minority students with teachers who hold prejudiced beliefs against them will become lower achieving students. Lastly, a meta-analysis done by Tenenbaum and Ruck (2007) also found evidence from 32 separate reports that indicated teachers had higher and more positive expectations for European American students compared to ethnic minority students.

Research concerning program placements and racial minority students

Teachers and administrators are trusted by parents and their students to make accurate and appropriate decisions for students' program placements in schools. However, when a teacher demonstrates bias in their decision making and is influenced by a student's ethnic and cultural background, we get ethnic minority students who are placed in inaccurate classroom placements or programs. When academic information including student's ethnicity and English as a Second Language (ESL) labels were given to teachers to make program referrals, more than half of the

teachers referred ethnic minority students who had the same academic records as ethnic majority students to lower placement programs (Riley, 2014). Another study by Cate et al. (2015) showed that teachers were less accurate when making tracking decisions for ethnic minority students than ethnic majority students when students' race and ethnicity were shown in their academic profile. According to Cate et al., when teachers were also given students' cultural background, in addition to their academic records, they are more likely to use the category-based strategy when making decisions for ethnic minority students (Cate et al., 2015). This means, teachers are more likely to rely on biases and stereotypes when making a tracking decision for students, while neglecting other available information, such as their academic achievements (Glock et al., 2014; Cate et al., 2015). The meta-analysis studied by Tenenbaum and Ruck (2007) also showed that teachers were more likely to refer ethnic minority students inaccurately to more negative programs such as retention programs, special education programs, and ESL placement.

Although actions of negative prejudice may not always be done intentionally, decisions made by teachers from a prejudice stance will cause disadvantages to many students. Robert Merton's (1948) self-fulfilling prophecy is "in the beginning, a false definition of the situation evoking a new behavior which makes the originally false conception come true" (1948, p. 195). This indicates that lower academic expectations of students and inaccurate negative program referrals, will often also lead to lower academic performance and achievements (Merton, 1948; Bergh et al., 2010). Based on the evidence from the past studies stated, it is evident that negative attitudes and prejudiced beliefs of teachers have caused high disadvantages among racial and ethnic minority students.

Research concerning teacher self-efficacy beliefs and racial minority students

Teacher self-efficacy belief may affect racial minority students as Albert Bandura has described it to be inconsistent across various subject matter and various tasks (Bandura, 1997). This means, a teacher's self-efficacy belief may be affected by the racial and ethnic background of their students, or the racial and ethnic background of themselves. Pre-service teachers from ethnic minority groups have shown to be more enthusiastic and reported higher specific self-efficacy beliefs regarding teaching students from ethnic minority groups than preservice teachers from the ethnic majority (Glock & Kleen, 2019). Past research has shown that this may reflect "unrealistic optimism" among pre-service teachers, which often leads to the underestimation of difficulties to be faced in their early years of teaching (Hoy & Spero, 2005). In addition to these findings, teachers' self-efficacy beliefs in teaching racial minority students have also proven to have an effect on student achievement. Racial minority students whose teachers have shown higher self-efficacy beliefs in teaching them have demonstrated higher test scores in comparison to racial minority students whose teachers have shown lower self-efficacy beliefs (Hines, 2008).

Based on past studies that have been done on this topic, there are clear connections between teachers' years of classroom experiences, their implicit attitudes toward students from racial minority groups and their self-efficacy beliefs in teaching a diverse classroom. The goal of this current study is to investigate implicit attitudes toward racial minority students and self-efficacy beliefs in teaching a diverse classroom between two groups who may vary drastically in years of classroom teaching experiences, in-service teachers versus pre-service teachers. This study will answer the following research questions:

- i) In a comparison of pre-service teachers and in-service teachers, how do teachers' implicit attitudes differ toward racial minority students?
- ii) In a comparison of pre-service teachers and in-service teachers, how do teachers' self-efficacy differ in teaching racial minority students?

CHAPTER THREE: METHODOLOGY

Through a review of past studies that have been done regarding teacher implicit attitudes toward racial minority students and teacher self-efficacy beliefs in teaching diverse classrooms, the main purpose for this current study was to determine and compare the difference in implicit bias within two groups: pre-service and in-service teachers, while also considering both group's self-efficacy beliefs in teaching diverse classrooms. This section will first give an overview of the Collaborative Institutional Training Initiative (CITI) program training and the Institutional Review Board (IRB) process that was conducted. Second, participants and their demographics will be discussed. Third, this section will introduce the instruments and materials used, along with the origins these materials. Finally, a step by step process of the whole procedure will be discussed.

CITI Training Process and Institutional Review Board

Collaborative Institutional Training Initiative (CITI) program training that was completed to conduct this human subject research include: Human Subject Research- Group 2. Social / Behavioral Research Investigators and Key Personnel. Next, the thesis plan was submitted to the Institutional Review Board (IRB); this study qualified for an Exempt determination. This means, the protocol included a submission of the HRP 255 Exempt Determination form which will explain the purpose and procedures of this study. The letter of exemption determination is included in Appendix D. In addition, a submission of the HRP 254 Explanation of Research form will also be submitted and act as a consent form to participants. Data was collected after CITI training was completed and IRB forms were approved.

Participants

Participants were considered in two groups. The first group of participants included pre-service teachers from a four-year university in the Southeastern part of the United States. Pre-service teacher participants consisted of 9 females from an Early Childhood Development and Education program who ranged from ages 21 to 27. All participants from this group were final year students who were conducting their internships in PreK-3 classrooms in local schools. In addition to their current internship experience, this group of participants range from having 6 months to 7 years of volunteering and/or teaching assistant experiences. It is also important to note that these pre-service teacher participants have not finished coursework needed to complete their B.S. in Early Childhood Education. Out of nine of the pre-service teachers, four participants identified as Caucasian, three participants identified as Hispanic, and two identified as Asian. Next, the second group of participants included in-service PreK-3 teachers also from the Southeastern region of the United States. In-service teacher participants included nine females and ranged from ages 23 to 54. This group of in-service teachers have primarily taught only in early childhood classrooms and in private schools, with the exception of three teachers who have taught upper elementary classes. Out of nine in-service teachers, eight participants identified as Caucasian, while only one identified as Hispanic. In addition, eight of these in-service teachers are also currently teaching in a private school, with less than 25% racial minority students. All participants were chosen to aim to focus the study on an early childhood (PreK-3) setting. Participants were contacted through email; and of those who were contacted, 100% agreed and participated in the study.

Materials

To assess participants' implicit bias, this study will utilize the Implicit Association Test (IAT) created by Anthony Greenwald (1998). The IAT is a test that measures the strength of associations between concepts and evaluations. In the case of this study, the concepts were racial majority students versus racial minority students, and the evaluations were positive and negative traits. The IAT used adjectives from Stangor, Sullivan, and Ford's study (1991), who found three positive traits and three negative traits that were most associated with the following groups: White, Black, Asian, and Hispanic. Since the current study is investigating pre-service and in-service teacher perceptions of ethnic and racial minority groups, pictures used in our IAT showed pictures of Black, Asian, and Hispanic children as the minority, and White children as the majority. Pictures were all sized down to fit our test, and color-corrected to black and white. This is an individual test and took 10 minutes per participant. Table 1 includes the 5 task cards for this IAT and examples of each task card from the test is included in Appendix C.

Table 1

Implicit Association Test Task Cards

Sequence	Task 1	Task 2	Task 3	Task 4	Task 5
Task Instructions	(E) Positive, Negative (I)	(E) Racial majority, Racial minority (I)	Positive (I), (E) Negative	(E) Positive, Negative (I) ; (E) Racial majority, Racial minority (I)	(E) Positive, Negative (I) ; Racial majority (I), (E) Racial Minority

Next, the survey which will be created and taken on Qualtrics will include questions pertaining to each participant’s demographics such as their age, gender, ethnicity, years of teaching and/or volunteering experience, highest educational degree, and the ethnic composition of the school employees and students. The survey will also included the *Teacher Efficacy Scale for Classroom Diversity (TESCD)* (Kitsantas, 2012) that assessed participants’ self-efficacy beliefs toward teaching in a diverse classroom. Results were scored on a Likert scale ranging from (0- extremely uncertain to 100- extremely certain). Table 2 shows the scenario questions that participants scored.

Table 2*Teacher Efficacy Scale for Classroom Diversity (TESCD)*

1	You are teaching a diverse class with some students for whom English is a second language. When you teach, you encounter several verbal communication problems that confine comprehension of instructional material and effective discussions in the classroom. How certain are you that you can use strategies that enhance and maintain verbal communication in the classroom?
2	You are teaching a racially diverse class. Often during class discussions related to racial issues create friction which leads to hostility among the students. How certain are you that you can create a learning environment where your students can discuss these issues without being racially biased?
3	You are teaching a class consisting of an approximately equal number of male and female students. You have noticed that many girls and boys firmly reject activities, role playing, and academic subjects that they believe are inconsistent with their gender schemata. How certain are you that you can develop a classroom environment that encourages your students to adhere to nontraditional gender stereotypes?
4	You are teaching a culturally heterogeneous class. You have observed that most of your students' experience "cultural mismatch" between their homes and school culture. For example, some of your students have different standards about what behaviors are appropriate in the classroom. How certain are you that you can help your students to successfully adjust to the school environment?
5	You are teaching a class with students from diverse backgrounds that are at risk for academic failure. You have noticed that these students show signs of low self-esteem, disinterest in school activities, and at times exhibit disruptive behavior. How certain are you that you can develop culturally related context activities to encourage your students to participate in academic classroom tasks?
6	You are teaching a class with students from various ethnic backgrounds with different traditions, customs, conventions, values, and religious beliefs. You notice that some of your students have trouble tolerating one another's differences. How certain are you that you can provide your students with opportunities that foster awareness and appreciation of cultural differences?
7	You are teaching a culturally diverse class. You have noticed that your ethnically diverse students show different learning modality preferences (e. g., written vs. auditory). For example, some of your students prefer listening to a tape of their reading assignment while reading rather than only reading it. How certain are you that you can create a learning environment that accommodates your students' modality preferences?
8	You are teaching a class with students from various socioeconomic backgrounds. Some of these students show lower aspirations for academic achievement, are often lethargic, seem isolated in class, and rejected by their more economically advantaged peers. How certain are you that you can create a favorable climate that will promote social interaction among your students?
9	You are teaching a unit in religion. Your students' religious beliefs vary considerably and classroom discussions of different religions would be a challenging task. How certain are you that you can ensure that your students develop appreciation and respect for religious diversity?
10	You are teaching students whose cultural climate (e.g., values, norms, school expectations etc.), differs substantially from that of the school and community. In fact, sometimes your expectations may conflict with the students' personal beliefs and values. How certain are you that you can help your students understand how the school's core curriculum relates to their own cultural climate and life needs?
	Note: Scale ranges from 0 (Extremely uncertain) - 100 (Extremely certain)

Procedures

After giving informed consent using the IRB HRP 254 Explanation of Research form, participants will be seated in front of the computer screen. The Implicit Association Test administered to participants will be an independent test. Participants will first be given instructions for the test, prompting them to locate the “E” and “I” key on the keyboard. Then, the tasks will start. Task one will include the 20 traits from Stangor et al.’s study, participants will be asked to click on the “E” key if the trait is “Positive” and the “I” key if the trait is “Negative”. Next, participants will be asked to sort 20 pictures of racial majority and racial minority children. They will be given instructions to click the “E” key for “Racial majority children” and the “I” key for “Racial minority children”. The third task will then be the reverse of the first task. Participants will be asked to again sort the 20 traits by Stangor et al. (1991), however, participants will now click the “E” key for “Racial minority children” and the “I” key for “Racial majority children”. The fourth task will be the initial combined task, where participants will be given both the 20 traits, and the 20 photos. Participants will be asked to use the “E” key for “Positive” traits, and photos of “Racial majority children”, and then “I” key for “Negative traits, and photos of “Racial minority children”. And last, the reversed combined task will prompt participants to use the “E” key for “Positive” traits and photos of “Racial minority children”, and the “I” key for “Negative” traits and photos of “Racial majority children”. (See Appendix C for more info).

Then, participants will fill out their demographics on the first part of the Qualtrics survey that will ask their age, gender, ethnicity, years of teaching and/or volunteering experience,

12 highest educational degree, and the ethnic composition of the school employed and/or volunteered at. Lastly, participants will fill out the second part of the survey, the Teacher Efficacy Scale for Classroom Diversity (TESCD) by Anastasia Kitsantas (2012). This test tool will use a Likert scale that ranges from extremely uncertain to extremely certain. Participants will be thanked for their participation; they may also request a copy of their results from the IAT.

Looking ahead, the next chapter will discuss the results found from the Implicit Association Test and the Teacher Efficacy Scale for Classroom Diversity (TESCD). Data will be shown with tables and figures.

CHAPTER FOUR: RESULTS

In order to assess and compare in-service and pre-service teachers' implicit attitudes toward racial minority students and their self-efficacy beliefs toward teaching diverse classrooms, chapter four will show these results in two parts. First, the results of pre-service and in-service teacher implicit attitudes from the Implicit Association Test (IAT) will be discussed. Then, results from participants' self-efficacy beliefs in teaching a diverse classroom using the Teacher Efficacy Scale of Classroom Diversity (TESCD).

Participants' implicit attitudes toward racial minority students

Participants' implicit attitudes were analyzed by the strength of associations between the concepts (racial majority students, racial minority students) and evaluations (positive traits, negative traits). First, the differences in both associations from Task 4 and Task 5 were calculated by subtracting the results from Task 5 from Task 4. This data was calculated on an Excel sheet and is shown in Table 3 on the right. Table 3 shows that the number of pre-service teachers who displayed more implicit bias toward racial majority students was more than the number of in-service teachers who displayed implicit bias.

Table 3

Participants' association differences in Task 4 and Task 5

	In-service	Pre-service
	746.66	129.31
	-222.45	2233.08
	688.18	690.94
	103.61	192.95
	23.33	-382.5
	-775.89	812.37
	1699.34	-544.02
	113.6	-314.34
	-945.34	-395.39

However, when the data was inserted into an independent t-test, the t-test generated that there was no significant difference when comparing the results of both groups. As shown in Table 4, the two-tailed test did not determine significance at the 5% level ($0.79 > 0.05$). In conclusion, even though the number of pre-service teachers who showed more implicit bias toward racial majority students was higher than the number of in-service teachers, the difference in both groups were not significant enough to conclude that pre-service teachers hold more of an implicit bias when compared to in-service teachers.

Table 4

t-Test: Two-Sample Assuming Equal Variances

	<i>In-service</i>	<i>Pre-service</i>
Mean	159.004444	269.155556
Variance	657581.109	777918.081
Observations	9	9
Pooled Variance	717749.595	
Hypothesized Mean Difference	0	
df	16	
t Stat	-0.2758091	
P(T<=t) one-tail	0.39311258	
t Critical one-tail	1.74588368	
P(T<=t) two-tail	0.78622516	
t Critical two-tail	2.1199053	

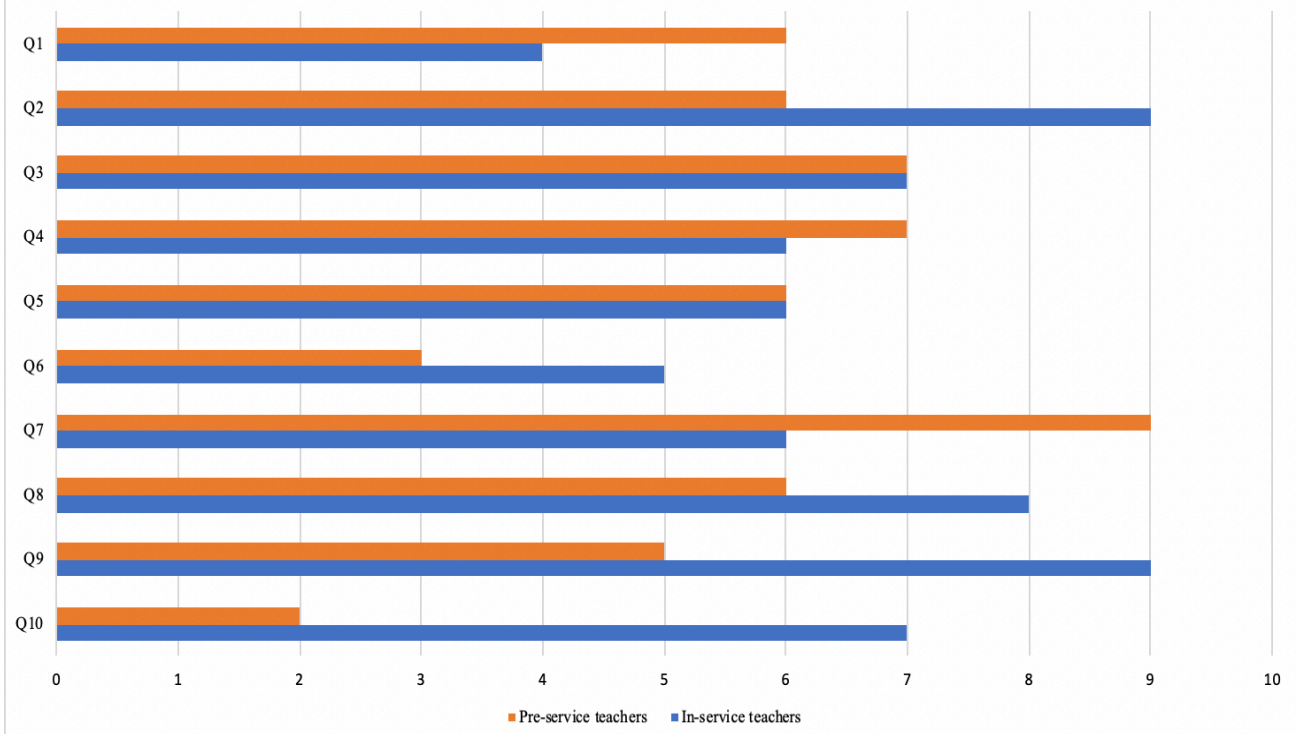
Participants' self-efficacy beliefs in teaching diverse classrooms

The Teacher Efficacy Scale for Classroom Diversity (TESCD) included ten scenario questions regarding teaching a diverse classroom. Each question was answered using a Likert scale that ranged from extremely uncertain to extremely certain, every question was examined individually. Although not all questions on the scale included questions regarding racial issues or

cultural backgrounds, 5 out of 10 of the questions touched on the topic; while the other 5 questions discussed the following: gender stereotypes, student self-esteem, socioeconomic background, learning modality, and religion. Figure 1 shows the number of participants who answered either *certain* or *extremely certain* on questions 1 to 10. Questions regarding teaching English Language Learners, solving racial conflicts, acknowledging cultural diversity and norms include Q1, Q2, Q4, Q6, and Q10. The data from these questions will be discussed next.

Figure 1

Teacher Efficacy Scale for Classroom Diversity (TESCD)



As shown in Figure 1, more pre-service teachers (6>4) stated higher self-efficacy beliefs when teaching English Language Learners in Q1. This question discussed strategies that will enhance communication in the classroom when teaching students who are English learners. Next, Q2 asks how certain participants are when creating a learning environment that is racially

unbiased. The data showed that more in-service teachers (9>6) showed higher self-efficacy beliefs when discussing a racial matter in the classroom without being racially biased. Q4, Q6, and Q10 ask participants scenario questions regarding teaching students whose cultural background varies. Since these 3 questions discussed the same topic, data will be looked at as a whole. Figure 1 tells that there are only major differences in Q10 out of the three questions. Q10 asks how certain participants are when teaching students whose beliefs and values may conflict with theirs. As shown, only two pre-service teachers were certain or highly certain, while seven in-service teachers were certain or highly certain.

The data gathered and analyzed for this thesis highlighted that the difference between in-service and pre-service teachers' implicit attitudes toward racial minority students were insignificant. This thesis was unable to accept the hypothesis that that pre-service teachers may possess more negative implicit attitudes toward racial minority students when compared to in-service teachers. Additionally, the Teacher Efficacy Scale for Classroom Diversity (TESCD) showed that pre-service teachers had higher self-efficacy beliefs in some respects when teaching diverse classrooms, compared to in-service teachers, but not all.

CHAPTER FIVE: DISCUSSION AND CONCLUSIONS

This chapter will discuss the results in which recommendations and educational implications will be established, limitations from this study, and future steps.

Discussion

The main purpose of this thesis was to determine pre-service and in-service teachers' self-efficacy beliefs for teaching in diverse classrooms while also determining if a difference in implicit attitudes toward racial minority students exists across in-service and pre-service teachers. Although this study failed to show a significant difference when testing the hypothesis that pre-service teachers may possess more negative implicit attitudes toward racial minority students when compared to in-service teachers, the raw data from the IAT did show that the number of pre-service teachers who showed more negative implicit attitudes toward racial minority students was higher than those of in-service teachers. These results were parallel to past studies regarding pre-service teachers and their implicit attitudes toward racial minority students (Glock & Bohmer, 2018; Glock, Kovacs & Pit-ten Cate, 2019; Picower 2009). Similar to the results from the IAT, the results from the Teacher Efficacy Scale for Classroom Diversity also showed parallel results to past studies (Glock & Bohmer, 2018; Glock & Kleen, 2019). As discussed, the difference in implicit attitudes toward racial minority students and self-efficacy beliefs in teaching a diverse classroom between both groups were not significant enough to draw strong and generalizable conclusions.

However, discussing the results from this study as they relate to the parallel results from past research studies on the topic, many of which were not conducted in the United States is

important. The argument can be made that although this is current discussion in schools across the United States is critical, it is indeed a global matter for racial minority students all over the world. It is evident that there is more work to be done in teacher education reform everywhere. In the United States, teacher education reform is an important part of a more comprehensive educational reform that intends to improve teaching practices, which in turn will enhance student performance (Darling-Hammond, 2005). Adding to this discussion, past studies on teacher education reform have concluded the need to “develop a more democratic knowledge system in teacher education where academic, school-based, and community-based knowledge come together in new ways to develop teacher preparation that better prepares teachers to teach specific groups of students who are now underserved by our schools” (Wang et al., 2010).

In addition to the past studies from outside of the United States, the U.S. studies discussed in the literature review were published more than 10 years ago (Picower, 2009; Tenenbaum & Ruck, 2007). This means that these studies were published before current active organizations came into existence that are working to shine light on racial injustices and to promote racial equity, for example, the Black Lives Matter movement. The Black Lives Matter movement was founded in 2013 as a global organization whose mission is to eradicate white supremacy and fight racism against Black people (“Black Lives Matter: About”, 2020). This movement, although founded in 2013, made a huge mark in 2020. In March of 2020, a Black woman by the name of Breonna Taylor was murdered by White policemen in Louisville, Kentucky; many found that her murder was unjust (“Black Lives Matter: About”, 2020). Some took to social media and some took to the streets to protest this incident. This event led to a nationwide talk about systemic racism, implicit bias and racial equity. Consequently, many

Americans, especially White Americans, have been challenged to unlearn the stereotypes, biases, and racism engrained into our society over decades and decades. This new wave of “unlearning systemic racism” may have impacted the results of this study as more Americans are starting to become aware of this topic.

Limitations

The limitations of this study included the following. First, the sample size of this study was smaller than anticipated, due to COVID-19. A typical quantitative study is usually not less than a sample size of 30 and this study had a total of 18 participants. Second, pre-service and in-service teachers that were able to participate in the study were almost homogeneous. This means, all of the participants were female, all pre-service teachers came from the same early childhood education program and from the same university, almost all in-service teachers taught at the same school, and only 11% of participants were part of the racial minority group. Third, the IAT included some design flaws. The test included two words that could work as either positive or negative, the two words were *traditional* and *selfish*. When designing the test, *traditional* was marked as a positive trait, and *selfish* was marked as a negative trait. Some participants argued that the two words could be an either or.

Future steps

No doubt future action is required to reach educational equity. This study serves as a broad overview of how negative treatments may occur in a classroom due to a teacher’s implicit bias. Considering there are extensive research on racial inequality in American schools, work

needs to be done to reform teacher education immediately. This includes teacher training for in-service teachers and administration, diversity courses in college education programs where pre-service teachers are forced to challenge their thinking of systemic racism, and diversifying staff at schools and universities.

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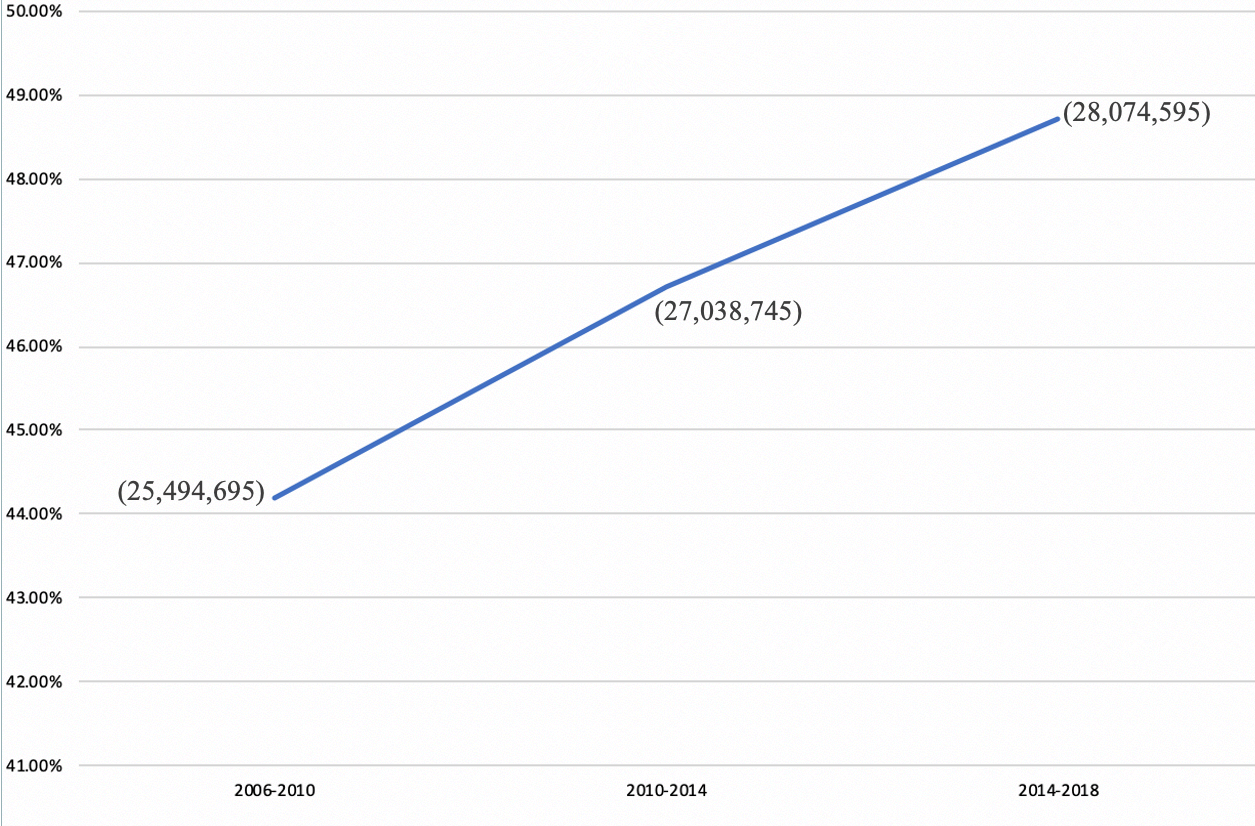
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APPENDIX A

ETHNIC MINORITY STUDENTS IN THE UNITED STATES

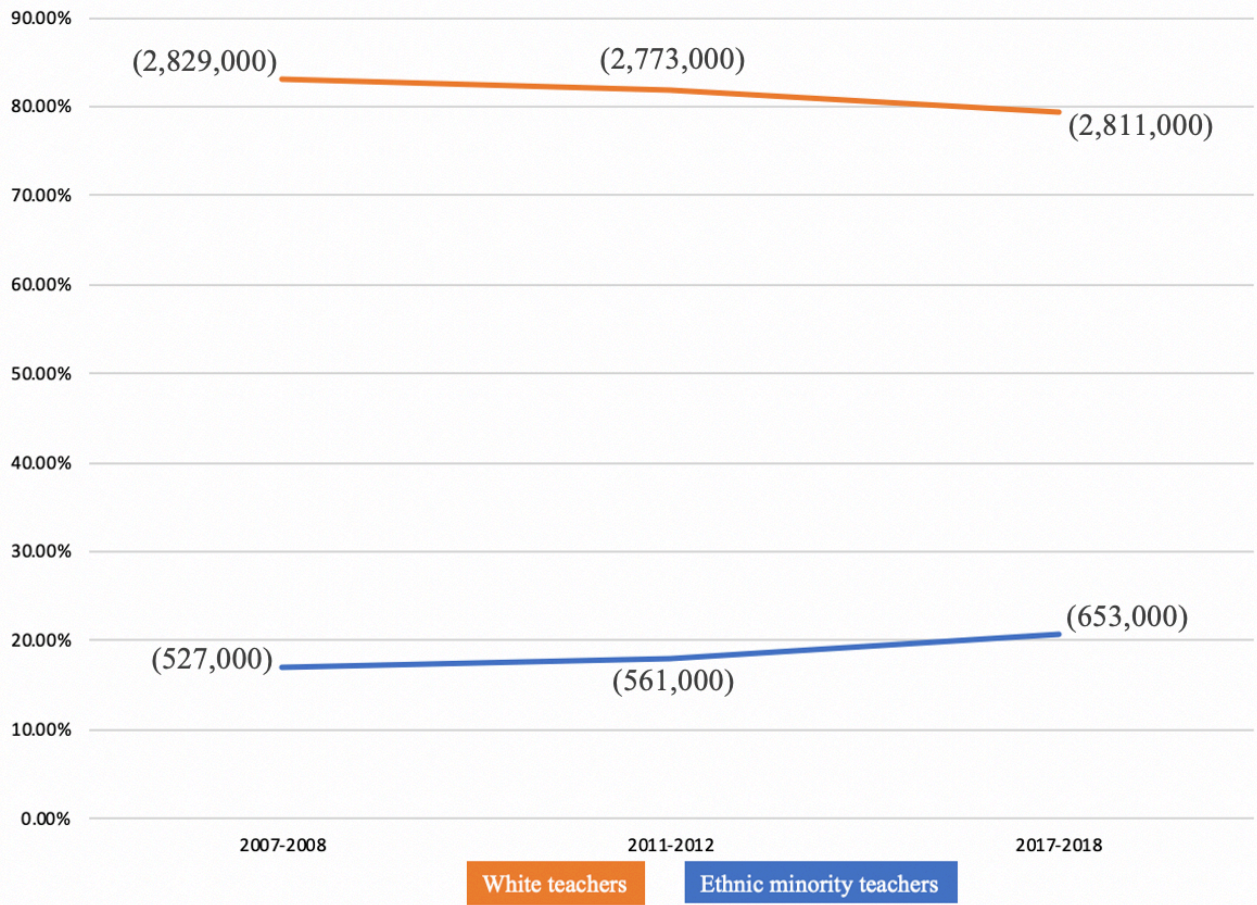
Percentage of ethnic minority students in the United States



APPENDIX B

ETHNIC MINORITY TEACHERS IN THE UNITED STATES

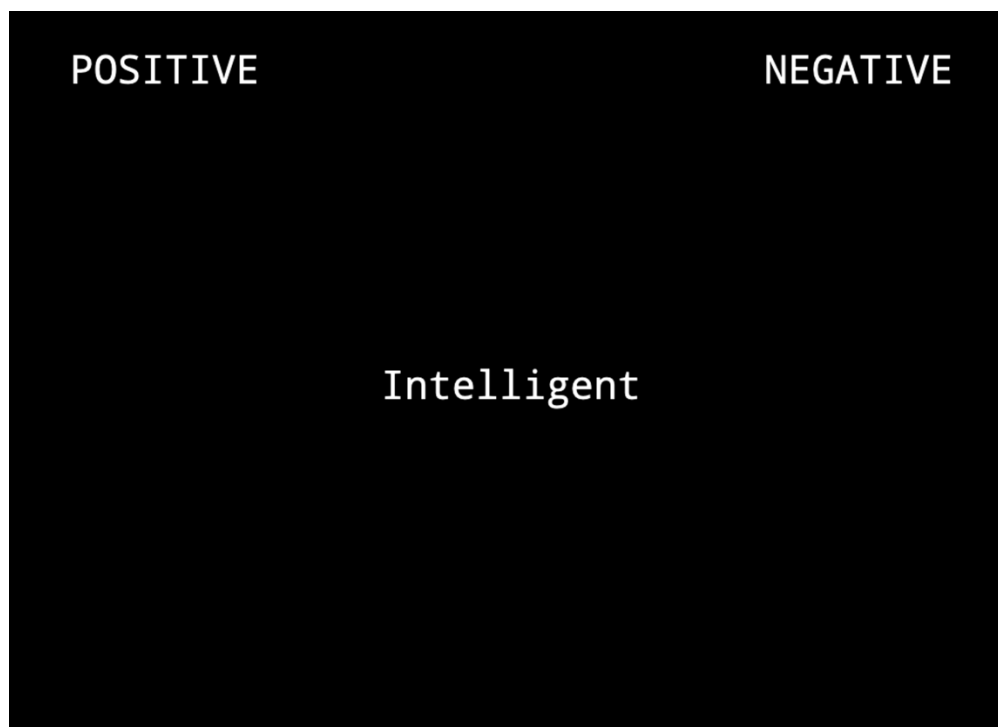
Percentage of ethnic minority teachers vs. White teachers in the United States



APPENDIX C

IMPLICIT ASSOCIATION TEST TASK CARDS

Task card 1 example:



Words that will be shown in part one:

	stimulus	category	correct_response
1	Athletic	positive	e
2	Rhythmic	positive	e
3	Sociable	positive	e
4	Aggressive	negative	i
5	Lazy	negative	i
6	Inferior	negative	i
7	Industrious	positive	e
8	Intelligent	positive	e
9	Friendly	positive	e
10	Stubborn	negative	i

10	Stubborn	negative	i
11	Materialistic	negative	i
12	Selfish	negative	i
13	Gentle	positive	e
14	Aggressive	negative	i
15	Passive	negative	i
16	Cheerful	positive	e
17	Traditional	positive	e
18	Proud	positive	e
19	Lazy	negative	i
20	Dirty	negative	i

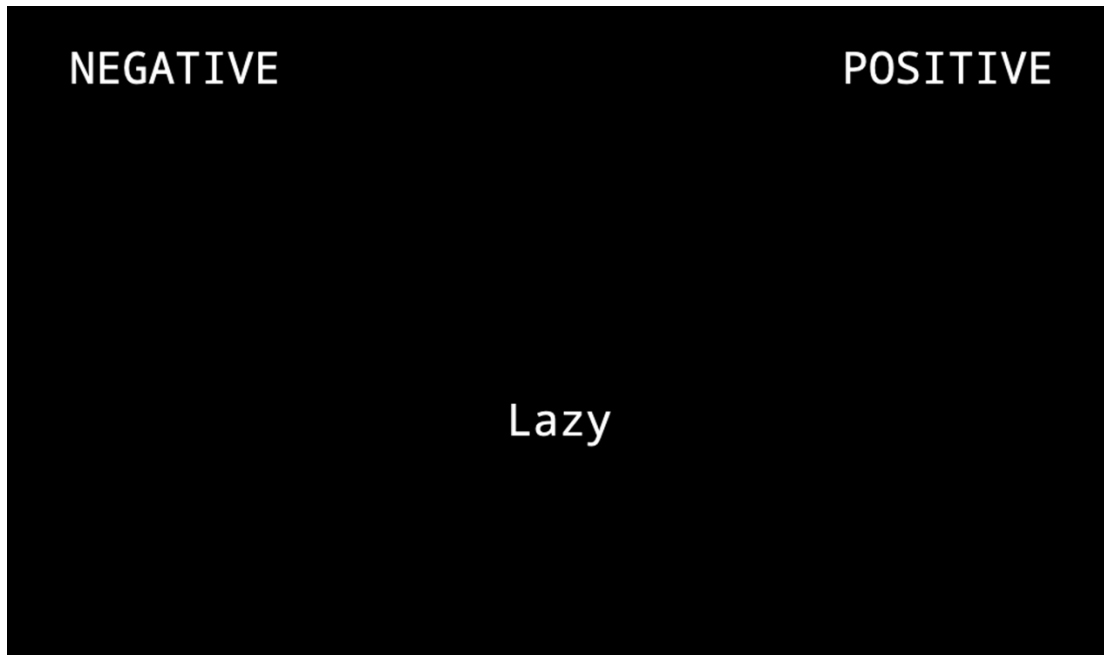
Task card 2 example:



Part two will include 10 photos of [racial minority children] and 10 photos of [racial majority children]:

	stimulus	category	correct_response				
				11	wc1.png	racial majority children	e
1	dc1.png	racial minority children	i	12	wc2.png	racial majority children	e
2	dc2.png	racial minority children	i	13	wc3.png	racial majority children	e
3	dc3.png	racial minority children	i	14	wc4.png	racial majority children	e
4	dc4.png	racial minority children	i	15	wc5.png	racial majority children	e
5	dc5.png	racial minority children	i	16	wc6.png	racial majority children	e
6	dc6.png	racial minority children	i	17	wc7.png	racial majority children	e
7	dc7.png	racial minority children	i	18	wc8.png	racial majority children	e
8	dc8.png	racial minority children	i	19	wc9.png	racial majority children	e
9	dc9.png	racial minority children	i	20	wc10.png	racial majority children	e
10	dc10.png	racial minority children	i				

Task card 3 example:

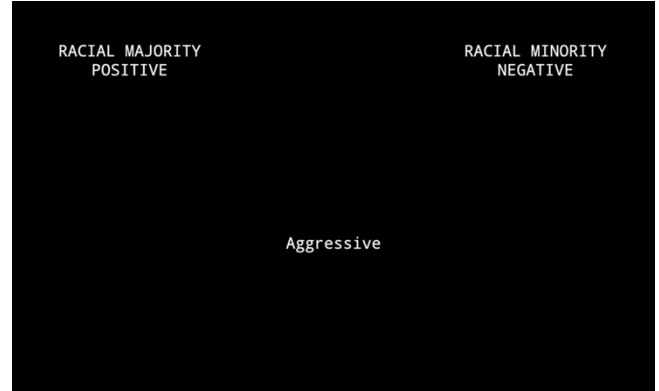


Words that will be shown in part three:

	stimulus	category	correct_response
1	Athletic	positive	i
2	Rhythmic	positive	i
3	Sociable	positive	i
4	Aggressive	negative	e
5	Lazy	negative	e
6	Inferior	negative	e
7	Industrious	positive	i
8	Intelligent	positive	i
9	Friendly	positive	i
10	Stubborn	negative	e

11	Materialistic	negative	e
12	Selfish	negative	e
13	Gentle	positive	i
14	Aggressive	negative	e
15	Passive	negative	e
16	Cheerful	positive	i
17	Traditional	positive	i
18	Proud	positive	i
19	Lazy	negative	e
20	Dirty	negative	e

Task card 4 examples:



Note: Part four will use the same words & photos from part one & part two.

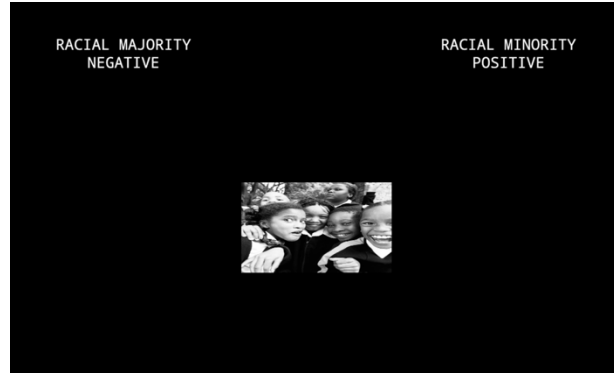
	stimulus	category	correct_response	stimulus_type
1	Athletic	positive	e	word
2	Rhythmic	positive	e	word
3	Sociable	positive	e	word
4	Aggressive	negative	i	word
5	Lazy	negative	i	word
6	Inferior	negative	i	word
7	Industrious	positive	e	word
8	Intelligent	positive	e	word
9	Friendly	positive	e	word
10	Stubborn	negative	i	word
11	Materialistic	negative	i	word
12	Selfish	negative	i	word
13	Gentle	positive	e	word
14	Aggressive	negative	i	word
15	Passive	negative	i	word

16	Cheerful	positive	e	word
17	Traditional	positive	e	word
18	Proud	positive	e	word
19	Lazy	negative	i	word
20	Dirty	negative	i	word
21	dc1.png	racial minority children	i	face
22	dc2.png	racial minority children	i	face
23	dc3.png	racial minority children	i	face
24	dc4.png	racial minority children	i	face
25	dc5.png	racial minority children	i	face
26	dc6.png	racial minority children	i	face
27	dc7.png	racial minority children	i	face
28	dc8.png	racial minority children	i	face
29	dc9.png	racial minority children	i	face
30	dc10.png	racial minority children	i	face

31	wc1.png	racial majority children	e	face
32	wc2.png	racial majority children	e	face
33	wc3.png	racial majority children	e	face
34	wc4.png	racial majority children	e	face
35	wc5.png	racial majority children	e	face
36	wc6.png	racial majority children	e	face
37	wc7.png	racial majority children	e	face
38	wc8.png	racial majority children	e	face
39	wc9.png	racial majority children	e	face
40	wc10.png	racial majority children	e	face

Task card 5 examples:

Note: Part five will be part four, swapped.



Note: Part five will use the same words & photos from part one & part two.

	stimulus	category	correct_response	stimulus_type
1	Athletic	positive	i	word
2	Rhythmic	positive	i	word
3	Sociable	positive	i	word
4	Aggressive	negative	e	word
5	Lazy	negative	e	word
6	Inferior	negative	e	word
7	Industrious	positive	i	word
8	Intelligent	positive	i	word
9	Friendly	positive	i	word
10	Stubborn	negative	e	word
11	Materialistic	negative	e	word
12	Selfish	negative	e	word
13	Gentle	positive	i	word
14	Aggressive	negative	e	word
15	Passive	negative	e	word

16	Cheerful	positive	i	word
17	Traditional	positive	i	word
18	Proud	positive	i	word
19	Lazy	negative	e	word
20	Dirty	negative	e	word
21	dc1.png	racial minority children	i	face
22	dc2.png	racial minority children	i	face
23	dc3.png	racial minority children	i	face
24	dc4.png	racial minority children	i	face
25	dc5.png	racial minority children	i	face
26	dc6.png	racial minority children	i	face
27	dc7.png	racial minority children	i	face
28	dc8.png	racial minority children	i	face
29	dc9.png	racial minority children	i	face
30	dc10.png	racial minority children	i	face

31	wc1.png	racial majority children	e	face
32	wc2.png	racial majority children	e	face
33	wc3.png	racial majority children	e	face
34	wc4.png	racial majority children	e	face
35	wc5.png	racial majority children	e	face
36	wc6.png	racial majority children	e	face
37	wc7.png	racial majority children	e	face
38	wc8.png	racial majority children	e	face
39	wc9.png	racial majority children	e	face
40	wc10.png	racial majority children	e	face

APPENDIX D

INSTITUTIONAL REVIEW BOARD: EXEMPT DETERMINATION

LETTER



UNIVERSITY OF CENTRAL FLORIDA

Institutional Review Board
FWA00000351
IRB00001138, IRB00012110
Office of Research
12201 Research Parkway
Orlando, FL 32826-3246

EXEMPTION DETERMINATION

August 28, 2020

Dear Marisa Macy:

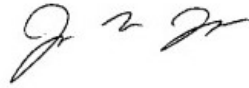
On 8/28/2020, the IRB determined the following submission to be human subjects research that is exempt from regulation:

Type of Review:	Initial Study, Category 2
Title:	A Comparison of Two Perspectives on Students of Minority Groups: In-service Teachers versus Pre-service Teachers
Investigator:	Marisa Macy
IRB ID:	STUDY00001998
Funding:	None
Grant ID:	None
Documents Reviewed:	<ul style="list-style-type: none"> • _HRP-254-FORM Explanation of Research 8.24.20.pdf, Category: Consent Form; • _HRP-255-FORM- Request for Exemption_8.26.2020-1.docx, Category: IRB Protocol; • _IRB-Qualtrics.pdf, Category: Survey / Questionnaire; • _Recruitment Email.docx, Category: Recruitment Materials; • IN SERVICE FLYER.pdf, Category: Recruitment Materials; • IRB-Implicit Association Test.pdf, Category: Test Instruments; • PRE SERVICE FLYER.pdf, Category: Recruitment Materials;

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made, and there are questions about whether these changes affect the exempt status of the human research, please submit a modification request to the IRB. Guidance on submitting Modifications and Administrative Check-in are detailed in the Investigator Manual (HRP-103), which can be found by navigating to the IRB Library within the IRB system. When you have completed your research, please submit a Study Closure request so that IRB records will be accurate.

If you have any questions, please contact the UCF IRB at 407-823-2901 or irb@ucf.edu. Please include your project title and IRB number in all correspondence with this office.

Sincerely,

A handwritten signature in black ink, appearing to read 'Racine Jacques'.

Racine Jacques, Ph.D.
Designated Reviewer