

Examining Educators' Attitudes Toward Multiracial Students  
in Michigan Charter Schools: A Quantitative Survey Design

by

Rachel L. Turner

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Education Leadership

University of Michigan-Flint

February 2024

Doctoral Committee:

Dissertation Chair: Dr. Nathaniel B. McClain, Ed.D.

Dissertation Committee Member: Dr. Pamela Ross McClain, Ph.D.

Dissertation Committee Member: Dr. Brian Boggs, Ph.D.

**Nathaniel B. McClain**  
**Pamela Ross McClain**  
**Brian Boggs**

## **Abstract**

Current research provides little insight into educators' attitudes toward multiracial learners. This lack of insight may impede the unique needs of multiracial learners, universal planning, and professional attitudes of educators. This survey design study addressed that problem by analyzing educators' attitudes in Michigan charter schools. Rooted in Whiteness theoretical framework, two research questions centered on whether there was a difference among White and non-White educators' attitudes toward multiracial students. Four months of survey data, using the Attitudes toward Multiracial Children Scale (AMCS) distributed randomly across all 380 Michigan charter schools were collected and analyzed using survey design methodology. The results of the study did not align with the literature. The results offer guidance as to how to alter the study as the current literature provided merit for continued study. This study provides promise and contributes to the body of survey design research through the expansion of methodological tools available for educational research.

## Dedication

This dissertation is dedicated to my incredible family! My parents Raymond and Christine (Howay) Fejedelem: For creating an "I CAN" person within me! I am ever so grateful and proud to have you as my parents! My husband Antonio Turner: For your unwavering support and unconditional love through this journey of life! My beautiful children: Mahogany Ranier (Turner) Francis, Ezekeial Earley Turner, Zapporah Raine Turner, and Zephaniah Wray Turner: For YOU and all other multiracial learners that I have held in my heart which propelled me to write this dissertation. You have inspired me! You kept me focused on ensuring I completed this important work. My mentor Dr. Fritz Esch: You saw in me more than I saw for myself as a young educator and told me I would earn a doctoral degree one day ~ much respect to you! My colleague, my friend, and my soul sister: Dr. Genevieve Godin: For your ability to coach me ~ truly indebted to how you stood *alongside* me ~ for allowing me to fail forward and you never gave up on me~ most appreciate you!

## **Acknowledgments**

This dissertation could not have been possible without the rigorous guidance of my Chair Dr. Nathaniel B. McClain, committee member Dr. Pamela Ross McClain, methodologist Dr. Brian Boggs, statistician Dr. David Treder, and my friend, Dr. Genevieve Godin.

## Table of Contents

Abstract	2
Dedication	1
Acknowledgments	2
Table of Contents	1
Chapter 1: Introduction to the Study	1
Background	3
Problem Statement	8
Purpose of the Study	10
Research Question(s) and Hypotheses	10
Theoretical Foundation	12
Nature of the Study	13
Definitions	14
Assumptions	14
Scope and Delimitations	15
Limitations	16
Significance	17
Summary	17
Chapter 2: Literature Review	18
Literature Search Strategy	19
Theoretical Foundation	20
Whiteness Theory	20
Literature Review Related to Key Concepts and Variable	24
Multiracial Learners	24
Constructively	25
Historically	27
Developmentally	30
Organizationally	32
Academically	35
State Expectations	42
Administrations	43
Jurisdictions	46
Educators' Attitudes	51
Dispositions	52
Perceptions	54

Summary and Conclusions	58
Chapter 3: Research Method	58
Setting	59
Research Design and Rationale	59
Research Questions and Hypotheses	60
Research Design Traditions	61
Research Design Selection	62
Methodology	63
Population Selection	63
Intervention/Treatment	64
Instrumentation	64
Procedures for Recruitment, Participation, and Data Collection	67
Test Assumptions	69
Data Analysis Plan	70
Assumptions of the Study	72
Limitations of the Study	72
Ethical Procedures	74
Summary	75
Chapter 4: Research Results	76
Introduction	76
Purpose of the Study	76
Research Questions	77
Updates to Chapter 3	79
Data Collection	80
Test Assumptions	81
Descriptive Findings	83
Table 1	85
Table 2	85
Table 3	86
Table 4	87
Table 5	87
Table 6	89
Table 7	89
Table 8	90
Table 9	91
Table 10	92

Table 11	93
Table 12	93
Table 13	94
Table 14	94
Table 15	95
Table 16	95
Table 17	96
Table 18	96
Table 19	98
Table 20	98
Table 21	99
Table 22	100
Table 23	100
Table 24	101
Table 25	101
Table 26	102
Table 27	102
Table 28	103
Data Analysis Procedures	104
Results Related to Central Research Question 1	106
Table 29	107
Table 30	108
Results Related to Central Research Question 2	109
Table 31	111
Table 32	112
Table 33	113
Table 34	114
Table 35	116
Table 36	117
Table 37	119
Table 38	120
Whiteness Theory Treatment	121
Summary	122
Chapter 5: Summary, Conclusion, and Recommendations	123
Summary of Results	123
Interpretation of Results for Central Research Question 1	124

Interpretation of Results for Central Research Question 2	125
Recommendations for Action	127
Limitations of the Study	130
Implications for Social Change	131
Conclusion	132
References	133
Appendix A: Attitudes Toward Multiracial Children Scale (AMCS)	156
Appendix B: AMCS Developer Confirmation Email	159
Appendix C: Invitation to Participate	160
Appendix D: Consent to Participate	161
Appendix E: Responsible Conduct of Research and Scholarship (RCRS) Training	167



## **Chapter 1: Introduction to the Study**

Nine million people selected multiple racial identifications in the 2010 U.S. Census, the fastest-growing population in the past three decades (Albuja et al., 2018). Further, the 2020 U.S. Census saw “276% growth” in the multiracial population (Jones, 2022, p.1); or, 9.0-33.8 million (Roy et al., 2022). In contrast, the percentage of educators in the United States that identify as two or more races, is one percent (de Brey et al., 2019). Added to this, the majority of educators are White females which creates an imbalance in representation among learners who are multiracial (de Brey et al., 2019). As such, the comprehension of, actions for, and perceptions towards multiracial learners needs to be explored. Combined, this gap is important because more insights are needed among those in education who serve them. Given the disproportion of multiracial learners and the White educators who serve them, the goal of this study is to examine the attitudes of educators who serve multiracial learners in K-12 Michigan charter schools.

It is estimated that by 2050 there will be 68 million or one in five individuals that will identify with more than one racial heritage (Waring & Purkayastha, 2017). Yet, the multiracial learner experiences systemic and structural racism that exists in schools (Braveman et al., 2022). Although educators yield the highest impact on student achievement (Hattie, 2019), multiracial students continue to struggle in school (Winn-Tutwiler, 2016). Michigan charter schools are selected for this study due to the high concentration of non-White learners and the predominantly White female workforce of educators. The silence around Whiteness leaves White individuals unexamined and

unchallenged within the perceived norms (Frankenberg, 1997). This study will employ Whiteness Theory as a position of framework.

A survey design fits this inquiry the best. Little empirical research is available focusing on multiracial children in the educational setting (Williams, 2013). This quantitative method is inexpensive, known for a high rate of return, and efficient (Fraenkel et al., 2019). The AMCS instrument is designed to measure attitudes of educators (Jackman et al., 2001). This survey will be sent out to randomized K-12 Michigan charter schools. The tool is organized by four subscales of Self-Esteem, Multiracial Heritage, Multiracial Identity, and Psychosocial Adjustment. All subscales combine to form the AMCS tool. Each educator will self-identify with descriptors around White and non-White, gender, grade level taught, and years of service.

Schools have struggled to fully identify or acknowledge multiracial students (Campbell, 2020). An educator's implicit bias and unconscious beliefs created disparities in education which contributed to the gap in student achievement (Manns, 2021). With the emergence of White dominance being denounced it continued to habitually be reinstated with continual efforts of ownership over educational spaces (Grajeda, 2022). Given a predominantly White workforce of educators, a growing population of multiracial learners, and the scholarly gaps in literature, this study will examine the attitudes of educators towards multiracial learners in Michigan's K-12 charter schools. Therefore, this study has the ability to inform pedagogy for furthering diversity, inclusivity, and professional competency contributing to positive social change.

Given what is known in terms of the multiracial identity of learners, universal planning by state, and elusive understanding of educators, a [system perspective] seemed like a scope of investigation from which to address optimal learning opportunities for multiracial learners. However, a comprehensive review of literature yields gaps that could be filled in the future, but for a starting point of inquiry in the present - the professionals who stand before them in the service of teaching and learning every day. Hence, this study needs to be conducted to gain a better understanding of how educators perceive multiracial students albeit from their White or non-White positions.

### **Background**

As related to the scope of this study, a review of literature within the United States is summarized in three concepts. Little is known about educator perceptions for multiracial learners. Moreover, the extent to which the condition of being White impacts/influences those who serve them, requires further insight. With Whiteness theory in mind, literature pertaining to the multiracial learners, state expectations, and educators' attitudes is reviewed. Upon extensive analysis and synthesis, it is proposed that educators' attitudes towards multiracial learners may be informed by the component paradigms, pathways, and paucities that follow.

The first concept of this proposed study is multiracial learners. There are five academic paradigms that may inform the attitudes of educators about multiracial learners. Even with studies focused on identity elements, it appears that little is known about multiracial learners' unique needs.

Constructively, multiraciality involves delineation and interrelation. The multiracial construct is defined, described, and identified to represent a delineation among other identities (Choi et al., 2012; Parker et al., 2015; Merriam-Webster, n.d.c; Wardle, 1992). Additionally, there is an interrelation of terms used which informs and influences the lived experiences of the multiracial construct (Bailey, 2013; Choi et al., 2012; Lichter & Qian, 2018; Martschenko et al., 2022; McDonald, 2021; McIntyre, 2015; Mitchell, 2022; Song, 2021; Tornngren et al., 2021; West & Maffini, 2019). Multiracial challenges pertaining to delineation and interrelation may illuminate an educator's attitude towards multiracial learners.

Historically, multiraciality involves population, segregation, miscegenation, classification, exclusion, and relegation. The multiracial population continues to grow every decade (Davenport, 2016; Davenport, 2018; Farley, 2018; Henderson, 2022; Jones & Rogers, 2022; Roth, 2005; Roy et al., 2022; Winn-Tutwiler, 2016). Rulings document the segregation practices of multiracial learners (*Brown v. Board of Education*, 1954; Root, 1990). Anti-miscegenation laws recognize interracial marriages which eventually allowed for multiracial children to be recognized by the U.S. Census (Dillard, 2022; *Loving v. Virginia*, 1967; Rockquemore et al., 2009; Root, 1990). Multiracial learners are ascribed a fixed classification (Davenport, 2016; Sever, 2014; Stonequist, 1937), such that an exclusion of multiracial learners in schools exists (Dillard, 2022; Ginsberg, 2017; Hirsh & Kang, 2016). Archives describe the relegation defaults for multiracial individuals with Black race due to Black ancestry (Jones & Rogers, 2022; Root, 1990; Thornton, 2009). Multiracial issues can illuminate an educator's attitude towards multiracial learners.

Developmentally, multiraciality involves oppression, socialization, and location. The educational system holds multiracial learners in oppression (Applebaum, 2008; Applebaum, 2016; Campbell, 2020; Chiong, 1998; Mawhinney & Petchauer, 2013; Peng, 2022; Sever, 2014; Williams, 2013). A multiracial identity is influenced by familial and school socialization (Brown et al., 2007; Campbell, 2020; Chaudhari, 2022; Csizmadia & Atkin, 2022; Phinney & Ong, 2007; Rollins & Hunter, 2013). Geographic location plays a part in the acceptance of multiracial individuals (Henderson, 2022; NCES, 1998; Reid & Henry, 2000; Williams, 2013). Multiracial circumstances can illuminate an educator's attitude towards multiracial learners.

Organizationally, multiraciality involves invalidation, aggregation, and navigation. Multiracial learners have experienced invalidation in education (Bratter et al., 2022; Csizmadia & Ispa, 2014; Franco et al., 2016; Sanchez et al., 2009; Waring & Purkayastha, 2017; Wright et al., 2022). In addition, there is an aggregation of the multiracial construct in schools (Marks, 2021; Sever, 2014; Tran et al., 2016; U.S. Census Bureau, 2021). Identifying as multiracial influences learner navigation in school (Campbell, 2020; Castillo 2022; Davenport, 2016; Davenport, 2018; Museus et al., 2016; Williams & Ware, 2019). Multiracial concerns may illuminate an educator's attitude towards multiracial learners.

Academically, multiraciality involves acknowledgement, achievement, and alignment. There was a general acknowledgement of multiracial learners in school (Durrant & Gillum, 2018; Harris et al., 2018; Winn-Tutwiler, 2016). However, the academic achievement of multiracial learners is misunderstood and overlooked (Boston & Warren, 2017; Clayton, 2020; de Brey et al., 2019; Herman, 2009; Lewis et al., 2018; Mitchell &

Warren, 2022; Musu-Gillette et al., 2016; Nitardy et al., 2015; West & Maffini, 2019; Williams, 2013; Williams & Chilungu, 2017). The alignment of attitudinal subscales can be used to discuss multiracial learner success (Albuja et al., 2019; Campbell, 2020; Csizmadia & Atkin, 2022; Fisher et al., 2017; Gabriel et al., 2022; Hong et al., 2016; INEE, 2016; Malaney-Brown, 2022; McDonald & Chang, 2022; McKie, 2018; Merriam-Webster, n.d.; Miloz & Wright, 2022; Patterson, 2015; 2017; Root, 1990; Shah et al., 2020; Williams & Ware, 2019). Multiracial success may illuminate an educator's attitude towards multiracial learners.

The second concept of this proposed study is state expectations. There are two academic pathways that may inform the attitudes of educators about multiracial learners. Even with studies focused on universal planning, it appears that state expectations are not inclusive nor explicit.

Administrations plan differently for multiraciality, albeit republican or democratic. Under the former republican administration, a pre-pandemic education plan lists six measurements for academic success (Campbell & Jeffries, 2017; Castillo, 2022; Davenport, 2016; Harris, 2018; Howard, 2018; Joy, 2017; Liu & Ball, 2019; MDE, 2019; Root, 1990; Waring & Purkayastha, 2017; Williams, 2013). Under the current democratic administration, a concurrent pandemic education plan details eight outcomes pertaining to learning and instruction (Copenhaver-Johnson, 2006; Jackson & Mumma, 2022; McDonald, 2021; MDE, 2022; Miloz & Wright, 2022; Nadal et al., 2015). Executive planning can influence an educator's attitude towards multiracial learners.

Jurisdictions program haphazardly for multiraciality, albeit (or not) in sensitive, passive, neglective, conducive, responsive, and representative ways. The revised state education plan is not sensitive to multiraciality in schools (Franco & O'Brien, 2018; Ginsberg, 2017; McDonald, 2021), thus a passive approach ensues (Chang, 2016; King, 2022; Lynch, 2022; MDE, 2021). Schools are neglective in their service of multiracial learners (Campbell, 2020; Campbell & Jefferies, 2017; Howard, 2018). The preparation of pre-service educators is not conducive to the instruction of/support for multiracial learners (Cherng & Davis, 2019; Howard, 2018; Liu, 2017; Ndemanu, 2018). In addition, the continued education by in-service educators is not responsive to multiracial learners (Liu & Ball, 2019; MDE, 2023; Tornngren et al., 2021). The educator workforce is not representative of the diverse student population (CEPI, 2021; Gay & Howard, 2000; Ndemanu, 2018; NCES, 2020; MDE, 2022). Executive programming may influence an educator's attitude towards multiracial learners.

The third concept of this proposed study is educators' attitudes. There are two academic paucities that may inform the attitudes of educators about multiracial learners. Even with studies focused on an elusive understanding, it appears that educational attitudes are not reflective nor diversified.

Dispositions specific to an educator's knowledge of, skills for, and attitudes towards multiraciality are not accounted for within the literature on educators' attitudes. Knowledge around teaching multiracial learners consists of a singular or nonexistent race (Chang, 2016; Chaudhari, 2022; Leon & Osetek, 2017; Winn-Tutwiler, 2016). Educators lack the skill set to teach a multiracial population (Agosto et al., 2019; Choi, 2008; Harris et al., 2018;

Malaney-Brown, 2022; McDonald & Chang, 2022). Limited research is conducted concerning educators' attitudes and multiracial learners (Belisle & Dixon, 2020; Irizarry, 2015; Loo & Rolison, 1986). Professional competencies can infuse an educator's attitude towards multiracial learners.

Perceptions conscious of a learner's self-esteem, multiracial heritage, multiracial identity, and psychological adjustment are under researched. Self-esteem is grounded in a positive self-identification (Ginsberg, 2017; Jackson & Mumma, 2022; Peng, 2022; Puckett, 2020; West & Maffini, 2019; Torngren et al., 2021). A multiracial heritage exists but is not recognized for multiracial learners (Bowles, 1993; Elsheikh et al., 2020; Puckett, 2020; Tatum, 1994). There is a dual identity that is not acknowledged within the multiracial identity of learners (Davenport, 2016; Davis, 2016; Harris, 2019; Townsend et al., 2012). Psychosocial adjustment may be needed for multiracial learners who are at a higher risk for psychological issues (Albuja et al., 2019; Hong et al., 2016; INEE, 2016; Merriam-Webster, n.d.e; Shah et al., 2020; Williams & Ware, 2019). Professional ponderings may infuse an educator's attitude towards multiracial learners.

### **Problem Statement**

Upon review of the literature, it appears that multiracial learners are not seen nor heard, state expectations are not inclusive nor explicit, and educators' attitudes are not reflective nor diversified. Respectively, there are gaps in application concerning the unique needs of multiracial learners, the targeted planning objectives for multiracial learners, and the professional attitudes towards multiracial learners. To the latter, the problem related to this study is that little is known about the attitudes of educators towards multiracial learners



in K-12 schools. With respect to Whiteness in particular, research about educators' attitudes towards multiracial learners albeit, self-esteem, multiracial heritage, multiracial identity, and psychosocial adjustment has yet to be conducted and/or published.

Among scholars, there is an acknowledgement that this problem is current, relevant, and significant. Most recently, the problem has been well documented in the literature with respect to the identity elements of, universal planning for, and an elusive understanding about multiracial learners. The problem is relevant in several contexts including healthcare and education. Respectively, studies involving psychologists (Chen & Hamilton, 2012; Jackman et al., 2001) and counselors (Braveman et al, 2022; West & Maffini, 2019) can be found among the literature. The problem is significant because studies have yet to examine the extent to which an educator's race contributes to their attitudes toward multiracial learners.

To be noted, the following researchers attempted to solve the problem through various approaches. When Harris, BrckaLorenz, and Laird (2018) explored the engagement practices of biracial students at the post-secondary level and found multiraciality to be uninformed, the authors encouraged additional room for multiracial identification. Williams (2013) explored the schooling experiences of biracial students at the secondary level and found multiraciality to be inexistent; her study distinguished the experiences of biracial students from other associated race/minority groups. And when Davenport, Iyengar, and Westwood (2022) examined racial identity, group consciousness, and attitudes, the authors found multiraciality to be tethered; their study drew attention to society's depiction of multiraciality. With all this said and sought, there is a need for increased understanding

about the extent to which the position of Whiteness impacts an educator's attitude towards multiracial learners in K-12 schools.

### **Purpose of the Study**

Given the scant literature on how educators perceive multiracial learners, the purpose of this quantitative study is to examine White and non-White educators' attitudes toward multiracial learners in Michigan's K-12 charter schools. Simply stated, the condition and theory to be investigated is Whiteness.

### **Research Question(s) and Hypotheses**

The research questions are based in part, on the theoretical foundation and propositions that emerged from the literature review for this study. These questions are proposed on a central and hypothetical research level.

CRQ1: When analyzing measurable attitudes toward multiracial students, is there a difference between White and non-White educators on their combined AMCS subscale scores?

$H_0$  There is no difference between attitudes of White and non-White educators on their combined AMCS subscale scores.

$$H_0: \mu_1 = \mu_2$$

$H_1$  There is a difference between attitudes of White and non-White educators on their combined AMCS subscale scores.

$$H_1: \mu_1 \neq \mu_2$$

CRQ2: When analyzing measurable attitudes toward multiracial students, is there a difference between White and non-White educators on their individual AMCS subscale scores?

$H_0$  There is no difference between attitudes of White and non-White educators on their individual *Self-Esteem* subscale scores.

$$H_0: \mu_1 = \mu_2$$

$H_1$  There is a difference between attitudes of White and non-White educators on their individual *Self-Esteem* subscale scores.

$$H_1: \mu_1 \neq \mu_2$$

$H_0$  There is no difference between attitudes of White and non-White educators on their individual *Multiracial Heritage* subscale scores.

$$H_0: \mu_1 = \mu_2$$

$H_1$  There is a difference between attitudes of White and non-White educators on their individual *Multiracial Heritage* subscale scores.

$$H_1: \mu_1 \neq \mu_2$$

$H_0$  There is no difference between attitudes of White and non-White educators on their individual *Multiracial Identity* subscale scores.

$$H_0: \mu_1 = \mu_2$$

$H_1$  There is a difference between attitudes of White and non-White educators on their individual *Multiracial Identity* subscale scores.

$$H_1: \mu_1 \neq \mu_2$$

$H_0$  There is no difference between attitudes of White and non-White educators on their individual *Psychosocial Adjustment* subscale scores.

$$H_0: \mu_1 = \mu_2$$

$H_1$  There is a difference between attitudes of White and non-White educators on their individual *Psychosocial Adjustment* subscale scores.

$$H_1: \mu_1 \neq \mu_2$$

### **Theoretical Foundation**

The theoretical foundation is Whiteness theory. The examination of educators' attitudes toward multiracial learners is the point of entry for inquiry with Whiteness as the theoretical foundation. The position of Whiteness is examined by Frankenburg (1997). Whiteness (Frankenburg, 1997) is a foundational theory based on three dimensions with connections to components for this inquiry topic:

1. a location of structural advantage, of race privilege
2. a place from which White people look at ourselves, at others, and at society and
3. a set of cultural practices that are usually unmarked and unnamed.

While the notion of Whiteness is recognized in literature reviews, the health sector, and higher education, it has yet to be proposed in the context of K-12 education and/or for multiracial learners. From a quantitative position of inquiry, evidence of the Whiteness dimensions could inform how multiracial learners are perceived by educators with Whiteness in mind, the extent to which multiracial learners, state expectations, and educator attitudes can be found in Chapter 2.

### **Nature of the Study**

The approach for this study is quantitative in nature. This approach is appropriate because it aligns with the nature of research problems, questions, and objectives of the investigation (Fraenkel et al., 2019). A quantitative research approach is helpful to examine attitudes of educators toward multiracial learners in K-12 Michigan charter schools.

In this study, the key phenomenon investigated is educators' attitudes toward multiracial learners. Educators will respond to the AMCS, respectively, in serving multiracial learners. Therefore, a survey design, examination study approach is appropriate for several reasons. First, it allowed for examining the phenomenon among attitudes (Fraenkel et al., 2019). This approach allows for the data collection on what is occurring in the natural setting. Finally, the study is bound by the unit of analysis - K-12 Michigan charter school educators. The unit of analysis for this study, its selection logic, sampling strategy, and selection criteria are detailed in Chapter 3.

Within the unit of analysis, educators from various roles are invited to respond to questions on attitudes toward multiracial learners that they serve. In preferred order, participants will remotely respond via survey about their professional attitudes for multiracial learners. Data analysis will take place by employing descriptive and inferential statistics described in Chapter 3. As the primary lead investigator, it is my responsibility for testing the conditions under certain phenomenon conditions by collecting, managing, analyzing, interpreting, challenging, and reporting the data and results (Fowler, 2013). Understanding and serving multiracial learners is a relatively new niche of investigation, whereby examining educators' attitudes is an appropriate entry point for inquiry.

## Definitions

In this section, key concepts or constructs are defined related to this proposed topic of inquiry. Terminology may be applied to different meanings in different fields. There is a need for the lead investigator to define the terms to ensure readers understand the precise meaning of each term used in this study. Key terms with multiple meanings will also be disclosed. A list of terms and definitions used are delineated below.

*White* - A person having origins in any of the original peoples of Europe, the Middle East, or North Africa (U.S. Census, 2021).

*non-White* - Denoting or relating to a person whose origin is not European (U.S. Census, 2021).

*Multiracial* - A construct referring to populations born through diverse forms of intermarriage that were complex, multifaceted, and defined in many ways (Torngren et al., 2021). Terms including biracial (Choi et al., 2012), transracial (Bailey, 2013), multicultural (McIntyre, 2015), interracial (Lichter & Qian, 2018), bicultural (West & Maffini, 2019), multiple heritage (McDonald, 2021), multiracial (Song, 2021), multiethnic (Torngren et al., 2021), ethnoracial (Mitchell, 2022), and mixed (Martschenko et al., 2022) have been recognized intentionally and interchangeably by scholars.

## Assumptions

For this study, there are assumptions believed to be true by the lead investigator. First, it is assumed that participants will be proficient in English. In addition, there is an assumption that participants will have access to the survey and answer in a way required by

the lead investigator (Fraenkel et al., 2019). Second, standardization is assumed. Finally, the variables are considered continuous (Fraenkel et al., 2019). In the context of this study, these assumptions are necessary to notate on the participants, survey design, and methodology.

### **Scope and Delimitations**

The scope of a study delineates the parameters of the study and rationale for selection. This study aims to examine educators' attitudes toward multiracial learners. This specific focus was chosen because it would contribute to the gaps in literature around the education of multiracial learners.

Within this quantitative inquiry, several boundaries exist. By design, this descriptive study is bound by K-12 Michigan charter schools. By timeframe, it is bound by a certain point in time and not longitudinal. By population, the participants include educators who knowingly serve multiracial learners in K-12 Michigan charter schools. There have been studies involving multiracial learners at the post-secondary level previously (Harris et al., 2018), where multiraciality was found uninformed. Therefore, for this study a similar population of educators of multiracial learners at the K-12 level are chosen instead. The components examined in the literature are grounded in the conceptual framework of Whiteness theory (Frankenberg, 1997). By participants, the educators will be recruited through the random sampling of K-12 Michigan charter schools.

To ensure the study is more manageable and relevant there are elements outside the boundaries that have been set. In terms of design, all 370 K-12 Michigan charter schools will be used to select schools through simple random sampling. Through randomization, the unit of analysis is among 11,233 K-12 charter school educators. It is a goal of the study to

have a participant response rate among 189 charter schools. In terms of timeframe, this study will be conducted in Spring 2023. Stated formally, these delimitations provide for a more detailed and narrowed-down formulation of the scope to support generalization in other educational settings.

### **Limitations**

Limitations are inevitable in any method of inquiry (Fraenkel et al., 2019). This study is subject to several limitations. In a survey design, limitations are present in the design, population, intervention/treatment, instrument, and procedures. These limitations are explicitly stated and detailed with strategic preparedness in Chapter 3. As the lead investigator responsible for the proper alignment, sequence, and follow through of design components, the potential for undocumented oversights may exist. As the lead investigator who has served multiracial learners as an educator practitioner, research bias may exist. Therefore, the potential limitations for this study of most concern for the lead investigator pertained to bias and data collection. Respectively, reasonable measures, such as simple random sampling and an instrument that has question-order structure will be used to control bias.



### **Significance**

In quantitative research, significance is predicted, as compared to proposed in qualitative research (Fraenkel et al., 2019). The significance of this study by predicated contributions are found in two central research questions. This study's findings will redound to society's benefit, considering that educators play a vital role in the education of all learners today. The greater demand for multiracial learners to thrive in school justifies the need to further look at educators' attitudes. Thus, schools that apply the recommended findings derived from the results may be more inclusive of multiracial learners. For the lead investigator the research will uncover if there are differences in White and non-White educators' attitudes toward multiracial learners justifying the need to proceed with this inquiry. If educators' attitudes are not addressed, multiracial students will continue to struggle (Hope et al., 2015) because racial factors are embedded within educational policies and practices whether intentional or not (Apple, 2004; Ginsberg, 2017).

### **Summary**

Chapter 1 provides context of the study that has been introduced. The gaps found in the literature and in reality, pertaining to educators' attitudes toward multiracial learners warrants further exploration. An examination of educators' attitudes has the potential to contribute to positive social change for multiracial learners, state expectations, and educators' attitudes. Literature around the paradigms around the concept of multiracial learners, pathways presented of state expectations, and paucities of educator attitudes are a problem. The background, problem statement and purpose of the study cued two central research questions and hypotheses. Therefore, a quantitative study to examine educators'

attitudes toward multiracial learners was designed. A theoretical foundation of Whiteness theory grounded the two CRQs about analyzing whether there is a difference between White and non-White educators on the AMCS combined scales and four subscales. These questions were provided in a cross-sectional survey design with educators from various roles in K-12 Michigan charter schools. Data will be collected from the survey. In addition, a set of definitions and assumptions are stated. Similarly, the scope and delimitations and limitations created the boundaries of this survey design. Finally, the significance of the study with a quantitative inquiry was derived from the review and analysis of the literature in Chapter 2. Chapter 2 explains the literature search strategy, elaborates on the theoretical foundation, outlines the literature review related to key concepts and variables, and concludes with the summary and conclusions related to serving multiracial learners.

## **Chapter 2: Literature Review**

To provide context for this literature review, the problem and purpose is restated. To date, the credible discourse and scholarly inquiry have been primarily focused on what being a multiracial learner entails (Harris et al., 2018; Root, 1990; Torngren et al., 2021), what is expected of them (McDonald, 2021; Ndemanu, 2018; Sutchter et al., 2019; Williams, 2013), and how they are perceived (Davenport, 2016; Museus et al., 2016;) in a predominantly White society. However, the problem that remains is scholars have yet to understand educators' attitudes towards multiracial learners in K-12 schools. Specifically, an examination of White and non-White educators' attitudes toward multiracial learners in Michigan's K-12 charter schools is needed.

A concise synopsis of the current literature establishes the relevance of this problem via paradigms, pathways, and paucities related to multiracial learners, and appears to inform the attitudes of White and non-White educators. The theoretical foundation of Whiteness will be used to examine attitudes of educators toward multiracial students. In terms of paradigms, the literature is constructively, historically, developmentally, organizationally, and academically represented around the concept of multiracial learners. With respect to pathways, the literature is presented via administrations and jurisdictions of state expectations. Regarding paucities, the literature provides for the dispositions and perceptions of educator attitudes.

The literature review is divided into four distinct sections. The first section describes the literature search strategy used. The second section presents the theoretical foundation of Whiteness. The third section synthesizes the research conducted for the key concepts of multiracial learners, state expectations, and educator attitudes. The final section is a summary of the literature and conclusion for this chapter.

### **Literature Search Strategy**

The strategies used for this literature search involved the browser selection, search terms, and literature saturation. The Chrome browser is used to access Google Scholar and the University of Michigan Library search engines. The databases selected are EBSCOhost, ERIC, ProQuest Research, PsycInfo Central, and SAGE Research Methods.

The following terms and phrases were used in the search fields. In the first field, the search terms include biracial, transracial, multicultural, interracial, bicultural, multiple

heritage, multiracial, multiethnic, ethnoracial, and mixed. The second field includes schools, schooling, or education. The third field includes educator or teacher and attitudes or perceptions. A fourth field includes diversity, people of color, Whiteness, identity, and psychosocial. Any combination of these terms or phrases were filtered for peer-reviewed items.

To ensure saturation, literature types and time frames are selected with intent. Peer-reviewed items including journals, articles, reports, and books are filtered by the five-year and beyond as needed. To understand the crux of this inquiry, current research and formative literature spans the past thirty years. Of all the literature read (N=265) and selected (n=161) thus far, \*84% (n=136) is referenced in Chapter 2. A detailed ledger of references by publishing date, chapter heading, and research method was kept for organization purposes.

### **Theoretical Foundation**

There are six themes reviewed among the literature within Whiteness Theory for this proposed study. Themes of position, consideration, validation, conversation, investigation, and summation are discussed in relation to Whiteness. Additionally, research themes are summarized, and gaps identified in relation to educators' attitudes and multiracial learners.

#### **Whiteness Theory**

Whiteness is a position. Grammatically defined, Whiteness is “the quality or state of being White; something (such as an area or a substance) that is white in color; and the fact or state of belonging to a population group that has light pigmentation of the skin: the fact or state of being white” (Merriam-Webster, n.d.f, p.1). Whiteness as a state of being was

initially presented by Frankenberg in her book, *White Women, Race Matters* (1993), and formally summarized in her editorial, *Displacing Whiteness* (1997). To the latter, in her compilation of scholarly essays in social and cultural criticism, Frankenburg argued three related dimensions of Whiteness as: “(1) a location of structural advantage, of race privilege, (2) a place from which White people look at ourselves, at others, and at society, and (3) a set of cultural practices that are usually unmarked and unnamed” (Frankenberg, 1997, p.1). Her work shaped a strong scholarly and activist agenda for exploring how White racial power continues to operate (Frankenberg, 1993), essentially launching the field of ‘whiteness studies’ (Frankenberg, 1997). Frankenburg insisted on thinking about race as a question of how power is exercised when those who have it, can see only others as different (Frankenberg, 1997). Whiteness involves privilege, place and practice, and power.

In consideration of power, educators are unaware of their communication style and underlying emotions. In a political action research project surrounding emotions of disgust, whiteness ideology, and teacher education, Matias and Zembylas (2014) argued that educators “fail to investigate the complexity of [care, empathy and love]” (p. 323) of underlying emotions, which needs to be critically and sensitively unpacked (p.1). Added to this, in a literature review conducted by Matias (2016), she asserted that educators cannot fully love multiracial students until they explore their Whiteness. Whiteness was explored in education using various critical lenses. A collection of educator reflections about the emotional roller coaster of teaching and learning about Whiteness (Matias et al., 2017), a trifecta of Critical Race Theory (CRT), Critical Whiteness Studies (CWS), and Critical Emotional Studies (CES) was used to discuss findings. There is an opportunity for educator

dispositions towards multiracial students to be examined using other theoretical frameworks and foundations.

Whiteness is examined in psychometric validation. In 2009, Hartmann, Gerteis, and Croll assessed “the invisibility of white identity; the understanding (or lack thereof) of racial privileges; and adherence to individualistic, color-blind ideals” through a national survey of (N=2081) Americans (p. 1). The survey included items that specifically queried these tenets of Whiteness theory. Findings were reported by color tenet and related factors. Regarding the claim of White identity, White Americans were found to be “less salient” (p. 412) and attach “less importance to race” (p. 413) than non-Whites. Interesting note, education and geography were main predictors of (White) identity saliency. In terms of understanding White privilege, Whites did not “fully see or grasp racial inequalities and White advantages” (p.418). Moreover, White Americans were less likely to “accept explanations involving direct racial preferences” (p. 414) albeit (interpersonal or institutional) than non-Whites. With respect to colorblind ideology, Whites credited their success to “hard work and effort, upbringing, and access to schools and social connections [noting] no significant differences between White and minority responses” (p. 415) versus non-Whites. However, when it came to topics of race, Whites stuck to color-blind ideologies. Among all three tenets, one’s gender (man) and their affiliation with a political party (Republican) made Whites least likely to understand the sociological sources of their privilege. Three core propositions of whiteness theory are validated among diverse Americans.

Scholars engage in conversation about Whiteness Theory. In a book chapter on white fragility, DiAngelo (2018) reminded how forces can foster definitions and perceptions of

Whiteness, as well as the creation and reinforcement of “White people as inherently superior through society’s norms, traditions, and institutions.” As such, being White bestows benefits materially and psychologically that are often invisible and taken for granted by Whites” (DiAngelo, 2018, p.103). And so, the argument could have been made that for Whites to assume this privilege without question or objection in spaces of influence warranted diligent deliberation by those in positions of power. Through Mayor’s (2018) literature review exploring (in part) the force of whiteness theory on trauma training for educators, it stood to reason that “construction of the competent teacher” (p.1) could mitigate the recurring cycle of Whiteness within schools including the avoidance and unacknowledged treatment of learners harmed by White society. Scholarly interest in not only *who*, but *how* whiteness shaped experiences, influenced interactions, “and [reproduced] its power” was acknowledged by Martin and Nakayama (2021, p.1) in their article on intercultural communication. Conversations about Whiteness Theory include elements of fragility, responsibility, and curiosity.

A quantitative investigation about bicultural and biracial individuals reinforces an argument presented earlier. In 2019, Albuja, Sanchez, and Gaither, “tested identity autonomy, the perceived compatibility of identities, and social belonging as mediators of the relationship between identity denial and well-being among bicultural and biracial individuals” (para. 1). Essentially, participants completed a questionnaire about themselves in relation to themselves across two studies. The total sample included undergraduate students (14%) from a large Northeastern university. Of those participants who fit the bicultural criterion, the first study included females (64%), American citizens (88%), and

second-generation immigrants (63%); the average age of 21.97 years. Of those individuals who fit the biracial criterion, the second study included females (69%), White Asian (38%), White Black (28%), White Latino (20%), and White Multiracial (14%) identities; the average age of 21.97 years. While the study included Whites and non-Whites per se, it did not use Whiteness Theory as a foundation. Most importantly, the authors recognized a need to advance the understanding of the multiracial construct by focusing on the identities of the “denial perpetrators [and] group membership of the person” (para. 48). Whiteness identifiers or deniers influence a person’s race identity, perceived identity, and sense of community.

An investigation of White versus non-White educators and multiracial learners has yet to be examined using Whiteness Theory as a theoretical foundation. Research on Whiteness has been criticized for the dearth of empirical grounding (Hartmann et al., 2009). With Whiteness Theory in mind, an examination of Michigan educators could establish a baseline of inquiry and data that informs scholarly practice (Hartmann et al., 2009). Hence, there is an opportunity to use Whiteness Theory with multiracial queries in education.

### **Literature Review Related to Key Concepts and Variable**

There are three key concepts reviewed among the literature for this proposed study. The concepts of multiracial learners, state expectations, and educators’ attitudes are discussed in relation to Whiteness. Additionally, research themes are summarized by foci and identified by gaps in relation to educators’ attitudes and multiracial learners.

### **Multiracial Learners**

The concept of multiracial learners is informed by paradigms in academia. Scholars have contributed literature about this concept, albeit constructively, historically,



developmentally, organizationally, and academically that may inform an educator's attitude towards multiracial learners. Therefore, the following themes could underwrite in part, the mindsets of educators who interact with multiracial learners.

Constructively, multiraciality is complexed by delineation, and interrelation. Historically, multiraciality is documented by population, segregation, miscegenation, classification, exclusion, and relegation. Developmentally, multiraciality is nurtured by oppression, socialization, and location. Organizationally, multiraciality is confounded by invalidation, aggregation, and navigation. Academically, multiraciality is discussed through acknowledgement, achievement, and alignment. If community relations, equity issues and ethical leadership are to be improved for multiracial learners, then educators need to be knowledgeable about what multiraciality entails.

### **Constructively**

The multiracial construct was complex in its delineation. Multiracial is defined formally as "(1) composed of, involving, or representing various races, or (2) having parents or ancestors of different races" (Merriam-Webster, n.d.c, p.1). Descriptions of the multiracial construct varied by scholars. In Wardle's (1992) literature review, the author explained multiracial is a heritage with a rich collection of equal and varied parts. In addition, Kenney (1999) pointed out in her book that the term biracial is used synonymously with the term multiracial indicating individuals whose parents are of two or more different racial/cultural backgrounds. In Choi, Herrenkohl, Catalano, and Toumbourou's (2012) empirical study, the authors specified multiracial as an individual that self-reports more than one racial background. Although multiracial can be viewed grammatically, parentally, and

numerically, it is not simply claimed. In a national report (Parker et al., 2015), it was found that (a) less than forty percent of mixed parentage individuals identified as multiracial, and (b) 86% of whom felt pressured to identify with one race or another due to perceived physical and societal characteristics. Definitions, descriptions, and identifications contribute to an intricate understanding of the multiracial construct.

There was an interrelation of terms for the multiracial construct. Multiracial populations were born through diverse forms of intermarriage that were complex, multifaceted, and defined in many ways (Torngren et al., 2021). Terms including *biracial* (Choi et al., 2012), *transracial* (Bailey, 2013), *multicultural* (McIntyre, 2015), *interracial* (Lichter & Qian, 2018), *bicultural* (West & Maffini, 2019), *multiple heritage* (McDonald, 2021), *multiracial* (Song, 2021), *multiethnic* (Torngren et al., 2021), *ethnoracial* (Mitchell, 2022), and *mixed* (Martschenko et al., 2022) have been recognized intentionally and interchangeably by scholars. As pointed out by Martschenko, Wand, Young, and Wojcik (2022) in their article about genomics stemming, the underrepresentation of diverse populations (especially multiracial individuals) was attributed to: “(1) how society defines and labels individuals; (2) how populations are defined for research; and (3) how research findings are translated to benefit human health” (Martschenko et al., 2022, p. 1). Words mattered and human health was factored in part by lived experience. In a mixed-methods effort to understand the experiences of multiethnic and multiracial individuals across nine countries multiracial individuals experienced stigmatization and discrimination based on race and a color-blind approach (Torngren et al., 2021). Given a long-standing practice of national statistics to categorize multiracial populations based on societal perceptions rooted

in race and ethnicity (Martschenko et al., 2022), it was suggested that an intentional effort to include multiracial individuals could reimagine the field of human intersectionality. Varied unions, actions, and perceptions inform the multiracial construct and influence the lived experiences of multiracial individuals.

### **Historically**

The multiracial population grows substantially from decade-to-decade Farley (2018) deemed the 2000 U.S. Census to be “the greatest change in the measurement of race in the history of the United States because it was the first-time individuals were able to identify with more than one racial group. The ability to self-identify as a multiracial individual has provided a better account of people who are multiracial. The 2000 U.S. Census also reported multiple-race identifiers as (one of) the fastest-growing groups in the nation (Davenport, 2016). Furthermore, the role of gender, class, and religion in biracial Americans’ racial labeling decisions, “gender [was] the single best predictor of identification, with biracial women markedly more likely than biracial men to identify as multiracial” (Davenport, 2016, p.1). In addition, Winn-Tutwiler (2016) described the multiracial population as the ‘fifth minority’ beyond the White majority and the four other major racial minorities outlined in the U.S. Census. Over the next 15 years, the number of individuals who identified as multiracial grew by 105%, a growth rate that was seventeen times higher than the single race population (Davenport, 2018). In the decade that followed, improvements and changes made to questions on race in the 2020 U.S. Census saw “276% growth” in the multiracial population (Jones, 2022, p.1); or, 9.0-33.8 million (Roy et al., 2022). The rise in multiple race individuals catapulted due to the increased number of interracial marriages and the

ability to accurately self-identify (Roth, 2005), as well as the election of President Obama (Jones & Rogers, 2022). The multiracial demographic has more than doubled in thirty-four states (Henderson, 2022). Prior to 2000, multiracial individuals were not fully accounted for due to constitutional interpretations.

Public segregation practices based on race are documented. The case of *Brown v. Board of Education* (1954) was a culmination of five separate cases brought before the U.S. Supreme Court concerning segregation in public schools. The justices ruled that the separation of Blacks and Whites was unconstitutional and in violation of the Equal Protection and Due Process Clauses of the Fourteenth Amendment of the U.S. Constitution (Root, 1990). It was determined that separate educational institutions were inherently unequal. Additionally, the justices unanimously ruled racial segregation in public schools as unconstitutional. It was hoped that the Supreme Court's ruling in *Brown v. Board of Education* (1954) would integrate all students regardless of color, yet segregation remained in school settings.

Anti-miscegenation laws based on race are also documented. The case of *Loving v. Virginia* (1967) involved an interracial couple that were charged and plead guilty for violating Virginia's ban on interracial marriages. Similar to segregation, justices unanimously ruled that anti-miscegenation laws were unconstitutional and in violation of the same (14th) Amendment clause (Root, 1990). Prior to this ruling, interracial marriage was illegal in many States for over 100 years. In the four decades that followed, the number of interracial marriages skyrocketed from approximately 0.3 million to 2.6 million unions (Rockquemore et al., 2009). Even though the legalization of interracial marriage enabled

their multiracial children to be recognized, they were not counted as multiracial in the United States until the 21st century (Dillard, 2022). The Supreme Court ruling of *Loving v. Virginia* (1967) legalized all unions regardless of race, which was pivotal in recognizing their multiracial children.

A negative connotation was affixed to the classification of multiracial individuals. This multiracial population historically and traditionally was constrained within the “one drop rule,” classification (Davenport, 2016). This rule meant that a single drop of Black heritage classified an individual as Black. It was also known as the “one black ancestor rule,” (Sever, 2014; Davenport, 2016). Multiracial classification was long established in the United States. The United States cultural definition was readily accepted with the belief that multiracial people were genetically inferior to the White majority (Stonequist, 1937). A multiracial individual held a fixed classification over time.

Although legalized, multiracial learners endure exclusion in schools. From the 19<sup>th</sup> century to the mid-21<sup>st</sup> century birthing a multiracial child was a social taboo within the United States (Ginsberg, 2017). Multiracial children entered school with the same nonacceptance. According to Hirsh and Kang’s (2016) literature review on mechanisms of identity conflict, multiracial students are pushed to the periphery, under researched, and processes of identification are less understood. Furthermore, educators continue to classify multiracial students with a monoracial identity and misrepresentation (Dillard, 2022). Multiraciality defies the conventional identity structure that delineates clear lines of race.

In the past, multiracial individuals inclusive of Black ancestry experienced relegation to Black in race only. In a phenomenological paper, Root (1990) reported that

multiracial students had been marginalized not by choice, but by being non-White. Multiracial individuals continued to be an unrecognized population. Thornton (2009) conducted a decade-long examination of how Black-American and White-American newspapers portrayed multiracial individuals and dealt with the “problem of the color line” (p. 106). Thornton (2009) shared that multiracial people were considered evidence from a post racial U.S. society when ethnic newspapers reported a more inclusive perception, White American papers wanted society to believe differently (Thornton, 2009). By contrast, in their qualitative study about navigating racial identity under White Supremacy, Jones and Rogers (2022) found that multiracial individuals were not a sign of a post-racial society; rather, they recognized restrictions and constraints imposed within a racist hierarchical society during identity development. Multiraciality is undeveloped and misunderstood.

### **Developmentally**

There is a systemic issue of oppression experienced by multiracial students in schools. First, in a qualitative study of racial categorization in schools, Chiong (1998) claimed multiracial students were invisible within school systems because of oppressive acts toward their racial identities. Second, through an autoethnography about the silence, schooling, and continuum of biracial identity formation, Mawhinney and Petchauer (2013) affirmed important differences were overlooked in multiracial students’ identity when grouped as one identity. Third, in a phenomenological study, Sever (2014) probed the experiences of seven, biracial female high school students, who articulated how Whiteness served to maintain an oppressive school system. The multiracial identity was complex and unique to every individual. Educators' initial perceptions of a students’ race may not

correspond to the student's own racial identity (Williams, 2013). According to Peng (2022) through a literature review of K-12 practitioners on multiracial identity, one's racial identity is not only a self-identification but one that is identified by others. The ways in which multiracial learners identified and thrived were subject to the perceptions of others. Campbell (2020) stated from a literature review of educational experiences of multiracial students that oppression was a major factor in identity development and schooling success for multiracial students. The positioning of people in relation to dominance and oppression was not considered within multicultural education when reviewed among the literature by Applebaum (2016). The Whites who experience privilege and "deny, dismiss, or ignore racism" not only maintain a system of oppression (Applebaum, 2008, p. 297), they perpetuate systemic racism. There continues to be a silence and invisibility among multiracial learners by way of oppressive educational experiences.

Multiracial identity formation begins with socialization in the home. In a quantitative study on child, parent, and situational correlates of ethnic and race socialization, the way in which a child's identity overlapped with their parents' racial identity contributed to how the child identified and was viewed by society (Brown et al., 2007). Additionally, identity formation was determined by one's ethnic-racial group in relation to other groups (Phinney & Ong, 2007). A child's race is shaped by how parents identify and socialize their multiracial child through the advantages and constraints of racial marginalization (Rollins & Hunter, 2013). In part, multiracial students assumed identities ascribed by their parents. A non-dominant group has to be cognizant of the custom and values within the dominant group of a culture, but the reverse rarely has to be recognized (Campbell, 2020). In short,

Csizmadia and Atkin (2022), concluded from their quantitative study on familial support of multiracial children, that family support around race was critical in their child's social-psychological identity formation. In school, educators continued to influence the formation of a child's multiracial identity. Multiracial identity was evident among early grades in school, a consciousness that needs to be cultivated (Chaudhari, 2022). Interacting with parents at home and professionals in school influences the formation of a child's multiracial identity.

Geographic location has implications for how multiracial children are identified and socialized. Multiracial families reside mostly in the U.S. North, Midwest, and West due to greater tendency to discuss and engage in ethnic-racial socialization, and "experience less overt racial prejudice and greater tolerance for diversity" (Reid & Henry, 2000, p. 6). School location had implications for normalizing and reporting, as well. According to Williams' (2013) qualitative study about the schooling experiences of biracial learners, parents and students felt learners adjusted better to school depending on the region in which the school was located. Reporting of ethnic-racial categories by region has been inconsistent in states and their schools (NCES, 1998). However, since Michigan instituted a self-identification option for multiracial individuals in 2010, the multiracial population has grown by 89% (Henderson, 2022). The location of families and schools matters in the development of the multiracial identity.

### **Organizationally**

Multiracial invalidation occurs in education. In a qualitative study about racial identity invalidation, students reported that racial invalidation occurred near 50% of the time



at school or school related events (Franco et al., 2016). As noted, two years prior, educators rated kindergarten through fifth grade multiracial students' behaviors lower than their monoracial peers in a longitudinal study which further contributed to invalidation (Csizmadia & Ispa, 2014). When multiracial individuals do not fit the status quo found in a qualitative study about responses to racial marginalization among graduate students, categorical invisibility ensues (Bratter et al., 2022). And so, navigating racial acceptance in school was challenging. Upon gathering data from in-depth interviews about biracial Americans negotiating race, multiracial students described adaptations to their social contexts and every interaction via code-switching (Waring & Purkayastha, 2017). A survey designed study defined code-switching behavior as multiracial individuals who alter their identity in response to situational elicitors within the social setting (Sanchez et al., 2009). This type of behavior adjustment was also confirmed in a phenomenological study by Wright, Longerbeam, and Alagaraja (2022), whereby multiracial students avoided their authentic selves in search of acceptance. For multiracial students, managing dual identities in schools is daunting and demoting.

Multiracial aggregation exists in schools. Multiracial students do not fall within the 1997 standards of race and ethnicity identification created by the Office of Management and Budget used in the U.S. Census Bureau (U.S. Census Bureau, 2021). From which, there were only five Census classifications of racial identity to choose from: White, Black or African American, Asian, American Indian and Alaska Native, Native Hawaiian and Other Pacific Islander (U.S. Census Bureau, 2021). At one point, the addition of "Some other Race" (Marks, 2021, p. 1), was an alternate category for multiracial individuals to select and

self-describe if the fixed five classifications did not pertain to them. However, coding for this alternative only captured the first thirty characters of an individual's written response, which denied an accurate response of multiracial identity (Marks, 2021). Multiracial individuals were unaccounted for by the U.S. Census Bureau and antagonized in their schools. As an official entry for enrollment, schools are the first place where parents will select a racial identity for their children (Sever, 2014). Yet, the ability to self-identify as a multiracial student in school has only been available in the last decade (U.S. Census Bureau, 2021). Prior to this, asserting one's identity was difficult. In a mixed methods study on multiracial responses to racial identification inquiries, almost 70% of multiracial college students expressed negative feelings and reactions to questions about identity due to microaggressions (Tran et al., 2016). Given public perception and question, multiracial individuals struggle to fully identify as they would describe themselves.

For multiracial learners, race influences their navigation of school. Qualitatively, prejudice and discrimination were experienced in school due to ascribed racial identities (Museus et al., 2016). Quantitatively, multiracial students self-labeled as non-White when religion or being male were present (Davenport, 2016). In contrast, multiracial students navigated being White when social class was present (Davenport, 2018). In fact, Castillo (2022), reported that gender, social class, and political party affiliation were predictors of race identification. Multiracial students constantly repositioned their identity. In an autoethnography, about being biracial, Williams and Ware (2019) found that the multiracial identity was socially negotiated, shifted, and controlled by social constructs in school rather than self-determined. In addition, an examination by Campbell (2020) illustrated that

multiracial students faced a socially constructed perspective of their race that impacted their mental health and their schooling success. Multiracial students experience identity shifts and negotiation when navigating their learning spaces.

### **Academically**

The success of multiracial students is reflected by way of general acknowledgement. Racial disparities in the nation's schools have plagued the institution of education (Winn-Tutwiler, 2016). Durrant and Gillum (2018) asserted there was an apparent marginality with students who were multiracial, and it tended to negatively impact and influence their likelihood of success in school. As discussed earlier in this heading, there was a lack of authentic identification and accurate documentation of multiracial individuals as a nation. Hence, literature has been limited (Harris et al., 2018) regarding the demonstrated achievement and collective schooling of multiracial learners. Multiracial students are not engaged within the educational contexts because their full identity is not acknowledged and sustained.

The success of multiracial learners is not reported according to educational achievement. In terms of attainment, multiracial students were rendered as an underexplored group and precise data was not readily available. In a chapter on multiracial students and educational policy multiracial students achieve academic achievement less than monoracial students (Williams & Chilungu, 2017). In a report on the status and trends of racial and ethnic groups in education, multiracial students lagged in every achievement key indicator with academic performance (Musu-Gillette et al., 2016). In a similar report on the status and trends in the education of racial and ethnic groups, biracial students were less likely to

graduate from college (de Brey et al., 2019). Achievement data was scarce with limited evidence across educational levels. Teachers had a tendency/were likely to underestimate the educational attainment of students who identify with ethnic minority backgrounds which may factor into the classroom or larger school environment according to Lewis, Nishina, Hall, Cain, Bellmore, and Witkóv (2018), in their study on the implications for academic outcomes among adolescents' peer experiences with ethnic diversity in middle school. Multiracial students are misunderstood in the educational setting and overlooked within the data.

Regarding growth, an understanding of any educational gains is difficult to ascertain due to the complex identities of, and limited research about multiracial learners. Williams (2013) noted few studies have focused on the schooling of multiracial students with multiracial participants as mentioned in a study on the schooling experiences of Black-White biracial students. There are bodies of research that support the relationship between racial identity and academic growth (Boston & Warren, 2017). The fear of being stereotyped or devalued led to a risk of educational failure in a study on the effects of belonging and racial identity on African American high school students' achievement (Boston & Warren, 2017). How a student identified impacted their academic growth and attainment. In a case study about the complexities of bicultural and biracial college experiences, multiracial students experienced distress that influenced their well-being and academic functioning (West & Maffini, 2019). Using descriptive statistics, in a longitudinal study, multiracial students are 28% less likely to enroll in college and had a 10% lower probability of earning a degree as compared to White and other monoracial peers (Mitchell

& Warren, 2022). With minimal attention given, how multiracial students identify and how they are perceived in a school setting factors into their academic growth.

Concerning gaps, scholars could raise questions as to whether current ethnocultural theories are viable for multiracial students. Herman (2009) asserted in her research on the achievement gap and academic performance of multiracial students, that current theories on identity have either focused on monoracial groups or have excluded multiracial individuals. Although varied theories existed, the achievement gap could not be discussed without mention of identity for multiracial students. For example, in a decade-long survey of Minnesota learners, educational disparities existed across all racial and ethnic groups which presented the second widest achievement gap between Whites and students of color nationwide (Nitardy et al., 2015). Racial identity development is critical in the psychosocial development of multiracial students and associated with academic performance in a study by Clayton (2020) on the biracial identity development at historically White and Black colleges. Furthermore, Clayton (2020) found in her longitudinal study conducted in Georgia, that academic spaces of schools influenced and shaped a student's racial identity. She also concluded that understanding the gaps in academic performance included "psychosocial development, adjustment issues, and attrition" within the educational space of the institution (Clayton, 2020, p. 252). Uncovering the complexity of multiraciality within school aids in further understanding of the achievement gaps that exist.

The success of multiracial learners could be reviewed according to subscale alignment. Self-esteem is an attitudinal subscale. It embraced "a confidence and satisfaction in oneself" (Merriam-Webster, n.d.e, p.1). In a quantitative study, co-authored by a

Michigan State University professor, interventions related to identity, and psychological factors around self-esteem were recommended to minimize substance abuse (Fisher et al., 2017). Multiracial learners adjusted psychologically to perceived monoracism across contexts, time, and individual characteristics (Gabriel et al., 2022). A positive self-image was difficult to cultivate and maintain. Multiracial students are under researched among situational and circumstantial experiences (Campbell, 2020). McDonald and Chang (2022) encouraged educators to understand the unique experiences of multiracial learners further given the number of interactions with teachers, counselors, and administrators. A lack of scholarship and research has perpetuated the erasure of the multiracial identity (Miloz & Wright, 2022). When multiracial learners are not fully seen as individuals in schools or as a viable heritage, they are not able to feel positive about themselves.

Multiracial Heritage is an attitudinal subscale. It involved “something possessed as a result of one's natural situation or birth” (Merriam-Webster, n.d.a, p. 1). There has been silence about color and ethnicity within multiracial heritage that perpetuated the dominance of the status quo within the school community and the pedagogy of the classroom (McKie, 2018). The multiracial heritage was not understood among educators. As mentioned by Patterson (2015; 2017) in her studies about biraciality and educational spaces, there was a gap in the academic literature in communicating the degree and quality of meeting the educational needs of multiracial learners. Narratives collected from multiracial students in higher education described how they were subjected to a monoracial society that invalidated their multiple racial heritages (Malaney-Brown, 2022). To declare a multiple heritage identity is challenging in and out of school.

Multiracial Identity is an attitudinal subscale. It encompassed “the relation established by psychological identification; the condition of being the same with something described or asserted” (Merriam-Webster, n.d.b., p. 1). Root (1990) reported that multiracial learners have been marginalized due to their identity and suggested that the interests of multiracial learners be considered within the multicultural education movement. The multicultural education movement was considerate of the multiracial identity. In a longitudinal study about biracial learners’ social development at the elementary level Csizmadia and Atkin (2022) found that forcing multiracial learners to associate with a monoracial construct compromised their social-psychological mental health well-being (Csizmadia & Atkin, 2022). A multiracial identity is vulnerable and diminished within schools.

Psychosocial Adjustment is an attitudinal subscale. It included “both psychological and social aspects; relating social conditions to mental health” (Merriam-Webster, n.d.d., p. 1). Despite the overwhelmingly large multiracial student population being taught in school, there is still little known about the psychosocial attributes of multiracial students (INEE, 2016). Psychosocial attributes are the relationships between psychological aspects of experience of thoughts, emotions and behaviors and the social experience which are attributed to relationships, family and community networks, social values, and cultural practices (INEE, 2016). “Psychosocial well-being,” is terminology schools use similar to the health field that uses the term “Mental health” (INEE, 2016). A growing body of work has suggested an association with multiracial identity, experiences, and poor psychological outcomes yet, how this occurs was still unknown (Hong et al., 2016). The need for

understanding psychosocial development among multiracial learners started to emerge. In a study that examined American or White identity denial reported more depressed psychosocial well-being and stress (Albuja et al., 2019). And so, multiracial students may be at a higher risk for psychological issues that affect their academic performance (Williams & Ware, 2019). Furthermore, Shah, Paulson, and Couch (2020) expressed the limited psychological and cognitive interventions taught in schools to support psychosocial development. Understanding the psychosocial impact on multiracial learners is crucial for the success of this growing population.

The literature related to multiracial learners can be described constructively (Bailey, 2013; Choi et al., 2012; Keeney, 1999; Lichter & Qian, 2018; Martschenko et al., 2022; McIntyre, 2015; Mitchell, 2022; Parker et al., 2015; McDonald, 2021; Song, 2021; Torngren et al., 2021; Wardle, 1992; West & Maffini, 2019), historically (*Brown v. Board of Education*, 1954; Dillard, 2022; Davenport, 2016, 2018; Farley, 2018; Ginsberg, 2017; Henderson, 2022; Hirsh & Kang's, 2016; Jones, 2022; Jones & Rogers, 2022; *Loving v. Virginia*, 1967; Rockquemore et al., 2009; Roy et al., 2022; Roth, 2005; Root, 1990; Sever, 2014; Stonequist, 1937; Thornton, 2009; Winn-Tutwiler, 2016), developmentally (Applebaum, 2008, 2016; Brown et al., 2007; Campbell, 2020; Chaudhari, 2022; Chiong, 1998; Csizmadia & Atkin, 2022; Henderson, 2022; Mawhinney & Petchauer, 2013; NCES, 1998; Peng, 2022; Phinney & Ong, 2007; Reid & Henry, 2000; Rollins & Hunter, 2013; Sever, 2014; Williams, 2013), organizationally (Bratter et al., 2022; Campbell, 2020; Castillo, 2022; Csizmadia & Ispa, 2014; Davenport, 2016, 2018; Franco et al., 2016; Marks, 2021; Museus et al., 2016; Sanchez et al., 2009; Sever, 2014; Tran et al., 2016; U.S. Census



Bureau, 2021; Waring & Purkayastha, 2017; Williams & Ware, 2019; Wright et al., 2022), and academically (Albuja et al., 2019; Boston & Warren, 2017; Campbell, 2020; Clayton, 2020; Csizmadia & Atkin, 2022; Durrant & Gillum, 2018; de Brey et al., 2019; Fisher et al., 2017; Gabriel et al., 2022; Harris et al., 2018; Herman, 2009; Hong et al., 2016; INEE, 2016; Lewis et al., 2018; Malaney-Brown, 2022; McDonald & Chang, 2022; McKie, 2018; Miloz & Wright, 2022; Mitchell & Warren, 2022; Musu-Gillette et al., 2016; Nitardy et al., 2015; Patterson, 2015; 2017; Root, 1990; Shah et al., 2020; Winn-Tutwiler, 2016; West & Maffini, 2019; Williams, 2013; Williams & Ware, 2019; Williams & Chilungu, 2017). The literature reviewed may illuminate educators' attitudes toward multiracial learners.

However, the empirical research has primarily focused on complexity elements and has been conducted using qualitative (Applebaum, 2008; Bratter et al., 2022; Clayton, 2020; Dillard, 2022; Franco et al., 2016; Ginsberg, 2017; Jones & Rogers, 2022; Malaney-Brown, 2022; Mawhinney & Petchauer, 2013; McIntyre, 2015; Mitchell, 2022; Museus et al., 2016; Rockquemore et al., 2009; Rollins & Hunter, 2013; Root, 1990; Sever, 2014; Stonequist, 1937; Waring & Purkayastha, 2017; Williams, 2013; Williams & Ware, 2019; Wright et al., 2022; McKie, 2018; Patterson, 2015; 2017; Root, 1990; Shah et al., 2020), quantitative (Applebaum, 2016; Boston & Warren, 2017; Brown et al., 2007; Castillo, 2022; Choi et al., 2012; Csizmadia & Ispa, 2014; Davenport, 2016; Fisher et al., 2017; Gabriel et al., 2022; Herman, 2009; Lewis et al., 2018; Lichter & Qian, 2018; Mitchell & Warren, 2022; Nitardy et al., 2015; Phinney & Ong, 2007; Roth, 2005; Sanchez et al., 2009; Thornton, 2009), and mixed (Torngren et al., 2021; Tran et al., 2016) methods. However, a gap remains;

multiracial learners are not seen nor heard. This gap is important because little is known about the unique needs of multiracial learners.

There is a notable inquiry related to the concept of *multiracial learners* that contributes to the focus of this proposal. In a quantitative study about the engagement practices of biracial students at the post-secondary level, the authors found multiraciality to be uninformed (Harris et al., 2018). Their study encouraged additional room for multiracial identification. Therefore, this proposed study will expand on current research by examining to what extent educators' attitudes are mindful of multiraciality, albeit at a K-12 level. A quantitative approach for this proposal will add understanding to the gap by assessing the perceptions of educators in a charter school system that serves multiracial learners. This aspect of the proposed study will primarily address the EDL 844 component of the Educational Leadership specialization in the EdD program because it relates to community relations, equity issues, and ethical leadership. A survey design for this proposed study will add understanding to the gap by examining the aggregated attitudinal subscales of educators who work with multiracial learners in K-12 schools.

### **State Expectations**

The concept of state expectations is informed by pathways in academia. Scholars have contributed literature about this concept, albeit under administrations and jurisdictions that may inform an educator's attitude towards multiracial learners. Therefore, the following themes could underwrite, in part, the mindsets of educators who interact with multiracial learners.

Multiraciality is planned for according to republican and democratic administrations. Multiraciality is programmed for ways that are/are not sensitive, passive, neglective, conducive, responsive, and representative across jurisdictions. If educational policy and school reform is to be improved for multiracial learners, then educators need to plan for multiracial learners.

### **Administrations**

Under a Republican administration from 2017 to 2021, the Michigan Department of Education proposed an education plan in response to being in the bottom ten states with essential measures for student learning. It was framed by the 6E progress metrics in an effort to “become a Top 10 state for education within the next 10 years,” (MDE, 2019, p.1). Michigan has one of the highest numbers of students who self-identify as multiracial (Davenport, 2016). In addition, in the policy brief on Michigan’s plan, students of color had been “long poorly served by the state,” (Joy, 2017, p.1). As such, the field of education required that educators' attitudes be challenged and questioned in search of assigning appropriate pedagogy that met the needs of students who identify as multiracial (Waring & Purkayastha, 2017). The following metrics may be indicative of the instructional practices employed by educators.

The first three metrics appear to focus on the expectations of learners. The first measure is early learning. Multiracial students begin to comprehend early the superiority of racial groups that exist through the oppressive assumptions and projections that contribute to marginalization by educators (Root, 1990). The second measure is exit ready. According to Howard’s (2018) literature review on multiracial learners in teacher work, multiracial

students were overrepresented in discipline, absenteeism, and retention. Moreover, the third measure is engagement. The engagement of multiracial learners differed compared to their monoracial peers (feeling alienated, misplaced, misunderstood, and underexplored), and their academic success challenged (Williams, 2013; Harris, 2018). The growth of racial diversity within classrooms warrants further research of instructional practice.

Equally important, the next three metrics appear to focus on the expectations of educators. The fourth measure was effective educators. Educators were inadequately prepared to teach nor respond to the racial needs of multiracial learners as found in an empirical study about elementary teachers' ideologies on the experiences of mixed race students (Campbell & Jeffries, 2017). Above all, the fifth measure was equity. Multiracial learners experienced inequitable education with targeted prejudice in a system that was to provide equal education for all (Castillo, 2022). The sixth measure was efficacy. Almost half of educators reported they were not adequately prepared to enter a culturally and linguistically diverse classroom according to a literature review on the critical reflection and generativity of teacher education and diverse learners (Liu & Ball, 2019). The schooling of multiracial students continues to be misunderstood and mistreated by educators.

Under a Democratic administration from 2021 to present, the Michigan Department of Education revised the education plan in response to the COVID19 pandemic. It was updated with eight outcomes with respect to (1) early childhood learning opportunities, (2) early literacy achievement, (3) health, safety, and wellness, (4) secondary learning opportunities, (5) high school graduation, (6) post-secondary credentials, (7) certified teachers, and (8) adequate and equitable school funding (MDE, 2022). This education plan

also demonstrated an ongoing commitment towards a ‘Top 10’ finish, per se (MDE, 2022). The capacity for multiracial learners to achieve these outcomes called for educators to understand the multiracial learner. With this in mind, Copenhaver-Johnson (2006) stated that educational expectations and life experiences are influenced by race, according to her article on the importance of inviting difficult conversations about race with children. Presently, in a book chapter on the trials and tribulations of multiracial student activism, an institution may know it has multiracial students, but does not know how to adequately serve its multiracial student population (Miloz & Wright, 2022). Ensuring that multiracial students have a fair and equitable chance at success in the classroom is a slow process.

With the political shift in administrations, another outcome is welcomed. The addition of the health, safety, and wellness outcome (MDE, 2022) aligned with a commitment to understand the influences of intersectional identities (race, ethnicity, gender, sexuality, and religion) and address the microaggressions impact on the psychological health of multiracial individuals (Nadal et al., 2015). In addition, Jackson and Mumma (2022) found in their grounded theory study on multiracial identity development that multiracial students’ emotional safety was disrupted when faced with discrimination by prevalent experience in schools. With the expansion of the educational outcomes over the tenure of two administrations, it appeared neither one addressed the disconnect of a predominately White educator workforce and their attitudes towards a diverse population of learners - specifically, multiracial. On the whole, in a chapter outlining culturally responsive practices, McDonald (2021) concluded that a complete interaction of a multiracial identity led to the best outcome on wellness\_for multiracial learners. To sum up, Michigan’s education plan is

not responsive nor reflective of how educators could augment their practices to address this area of need for multiracial learners.

### **Jurisdictions**

The revised educational outcomes are not sensitive to the following considerations. The complexity of a multiracial identity warranted a commitment by educators to dismantle disparities and create visibility in schools (McDonald, 2021). While the state provided a series of webinars on race for educators, it was not inclusive of multiracial learners. An effort such as this could have addressed (a) Ginsberg's (2017) finding that educators were not equipped to teach multiracial students, and (b) Franco and O'Brien's (2018) concern that multiracial voices would go unheard, unsupported, and unnoticed in an unsuccessful educational system. To this end, culturally responsive practices were considered a form of social justice yet, inconsiderate of multiracial students (McDonald, 2021). The school system only sees a monoracial identity which is detrimental to supporting multiracial identity development among students.

To carry out the revised state education plan, the initiatives introduced thus far for all public schools are passive. First, the Michigan Department of Education formed the Office of Diversity, Equity, and Inclusion in August of 2021 to "increase fairness, access, welcoming, and belonging for all Michigan students," (MDE, 2021, p.18). Second, a state level student advisory council was created to develop safe spaces in which to discuss racism and practices within traditional public and charter public academies (MDE, 2021). Third, the state offered a four-part series on diversity within literature and two additional webinars on the Holocaust and Indigenous people (MDE, 2021). However, none of these action steps

provided progress in addressing Michigan's disproportionality of health and wellness among students of color. Michigan remains in the bottom half of all states for child well-being (King, 2022). Furthermore, these action steps have yet to confront the intersectionality of multiple oppressions experienced by multiracial learners that is problematic in educational discourse (Chang, 2016). By the same token, Lynch (2022) reminded that racial identity development was a lifelong process in which educators often avoided tricky and often taboo race related discussions with children. There is little time and attention dedicated to multiracial learners, nor mention of them within the state's proclamation for social justice.

The school setting is neglective of multiracial learners. Campbell and Jefferies (2017) claimed there was a necessity to cultivate the multiracial identity within school settings. Also, Howard (2018) asserted that there was no room for ignorance or avoidance of multiraciality within the curriculum or instruction. Schools struggled to acknowledge the invisibility of the multiracial student in school. It was further suggested by Campbell (2020) that educators reflect on curricula and pedagogical approaches around race and multiraciality as early as primary school settings. There is little research that connects the educator and their responsibility to teach multiracial students.

The initial preparation of pre-service educators is not conducive to multiracial learners. Teacher education programs provided a 'one shot' approach inclusive of one course on diversity which was not effective (Liu, 2017, p. 817). In addition, any multicultural education course was offered for compliance and has been consistently insufficient for needed development of educator competencies (Cherng & Davis, 2019). A multiracial understanding was misrepresented by educators who often prescribed their own

assumptions. There was a lack of preparedness and purposefulness by in-service educators to address the learning needs of multiracial learners (Ndemanu, 2018). As such, educators were to hold all learners to the same expectations but were not prepared to teach this diverse population (Howard, 2018). Multiracial students are a growing population and educators are not prepared.

The continued education of in-service educators is not responsive to multiracial learners. Educators in Michigan receive a five-year licensure that can be renewed with 150 hours of professional development or proof of a higher degree in education (MDE, 2023). However, in-service educators were not required to take any courses on teaching multiracial learners and yet, were expected to teach them. There have been over thirty calls to action teacher education reform, and none have raised to a level of crisis in regard to teaching multiracial students (Liu & Ball, 2019). There were no requirements for in-service educators to update their competencies around diversity expectations. In fact, Tornngren, Irastorza, and Rodriguez-Garcia (2021) raised awareness for the creation of practices and policies that (a) incorporated mixedness in the educational setting, and (b) improved relations to combat racism and discrimination. Once in the education field, educators must serve all learners with minimal knowledge on teaching a diverse population.

The teaching force is not representative of the students they serve. In terms of race, White educators were the most common ethnicity in the United States at 79% (Ndemanu, 2018; NCES, 2020). Likewise, in schools, where the majority of learners were not White, the majority of teachers remained White (NCES, 2020). Michigan was closely aligned with the U.S. in that White educators represented 90.2% of the workforce and the remaining



9.8% of educators recorded as non-White (CEPI, 2021). More specifically, Michigan reported two thousand White educators compared eighty-six educators of other races and ethnicities (MDE, 2022). A “demographic divide” persisted between a predominantly White, middle-class, monolingual teaching force and a diverse student population (Gay & Howard, 2000, p. 3).

With respect to gender, the majority of educators (in what/where) were female (Ndemanu, 2018). There were four times as many females than males who had completed a Michigan teacher preparation program as of 2020 (MDE, 2022). Educators projected their racial and gendered intersectionality which influenced educational equality, as found by Zimmerman and Keynton’s (2021) study on teacher communication. Similarly, in an article on *Karenism* and the problem of White women, there were historical accounts of White women’s racism and dominance that damaged people of color (Grajeda, 2022).

Based on years of service, an imbalance has existed with inequitable distribution of educators where nearly 50% are uncertified and high-minority schools have four times as many non-certified educators than low-minority schools in a study on teacher shortage in the United States (Sutcher et al., 2019). According to the Michigan Department of Education (2022) teacher workforce report, there were 21,569 teachers who had <5 years of service. Of the 146,019 individuals with a valid Michigan teaching certificate, only 84,353 educators were employed in Michigan (MDE, 2022). In-service educators represented the majority of educators: 15,617 with 6 to 10 years, 16,273 with 11 to 15 years, and 32,833 with >16 years of service (MDE, 2022). And so, the shortage of educators exacerbated an inequitable distribution of qualified educators to schools that served students of color

(Sutcher et al., 2019). Educators' race, gender, and years of service create polarizing dispositions that do not reflect the multiracial population.

The literature related to state expectations can be described by administrations (Campbell & Jeffries, 2017; Castillo, 2022; Copenhaver-Johnson, 2006; Davenport, 2016; Harris, 2018; Howard, 2018; Jackson & Mumma, 2022; Joy, 2017; Liu & Ball, 2019; McDonald, 2021; MDE, 2019; MDE, 2022; Miloz & Wright, 2022; Nadal et al., 2015; Root, 1990; Waring & Purkayastha, 2017; Williams, 2013), and jurisdictions (Campbell, 2020; Campbell & Jefferies, 2017; CEPI, 2021; Chang, 2016; Cherng & Davis, 2019; Franco & O'Brien, 2018; Gay & Howard, 2000; Ginsberg, 2017; Grajeda, 2022; Howard, 2018; King, 2022; Liu, 2017; Liu & Ball, 2019; Lynch, 2022; McDonald, 2021; MDE, 2021; MDE, 2022; NCES, 2020; Ndemanu, 2018; MDE, 2023; Sutcher et al., 2019; Torngren et al., 2021; Zimmerman & Keynton, 2021). The literature reviewed may influence educators' attitudes toward multiracial learners.

However, the empirical research has primarily focused on universal planning and has been conducted using qualitative (Campbell & Jeffries, 2017; Chang, 2016; Ginsberg, 2017; Jackson & Mumma, 2022; Liu, 2017; Nadal et al., 2015; Ndemanu, 2018; Root, 1990; Waring & Purkayastha, 2017; Williams, 2013) and quantitative (Castillo, 2022; Cherng & Davis, 2019; Davenport, 2016; Franco & O'Brien, 2018; Harris, 2018; Sutcher et al., 2019; Zimmerman & Keynton, 2021) and mixed (Torngren et al., 2021) methods. However, a gap remains; state expectations are not inclusive nor explicit. This gap is important because little is known about the targeted planning objectives for multiracial learners.

There is a notable inquiry related to the concept of state expectations that contributes to the focus of this proposal. In a qualitative study about the schooling experiences of biracial students at the secondary level, the author found multiraciality to be inexistent (Williams, 2013). Her study distinguished the experiences of biracial students from other associated race/minority groups. Therefore, this proposed study will expand on current research by examining to what extent educators' attitudes are mindful of multiraciality, albeit at a K-12 level. A quantitative approach for this proposal will add understanding to the gap by assessing the perceptions of educators in a charter school system that serves multiracial learners. This aspect of the proposed study will primarily address the EDL 801 component of the Educational Leadership specialization in the EdD program because it relates to educational policy and school reform. A survey design for this proposed study will add understanding to the gap by examining the aggregated attitudinal subscales of educators who work with multiracial learners in K-12 schools.

### **Educators' Attitudes**

The concept of educators' attitudes is informed by paucities in academia. Scholars have contributed literature about this concept, albeit by dispositions and perceptions that may inform an educator's attitude towards multiracial learners. Therefore, the following themes could underwrite in part, the mindsets of educators who interact with multiracial learners. Multiraciality consists of knowledge, skills, and attitudes within dispositions. Multiraciality is reviewed according to subscales of Self-esteem, Multiracial Heritage, Multiracial Identity, and Psychosocial Adjustment among perceptions. If the gap in research

theory, design and method is to be addressed for multiracial learners, then educators need to be introspective of their attitudes.

### **Dispositions**

Scholarly research does not account for educators' reflective attitudes toward multiracial learners. Only one percent of scholarly content has been written about the multiracial student population within the top five educational journals (Museus et al., 2016). The research on educators was limited and nebulous toward multiracial learners. Cherng and Davis (2019) considered knowledge, skills, and attitudinal dispositions necessary for educators to work effectively with diverse populations despite efforts of multiculturalism. Educators are expected to be responsive to the needs of all learners.

It appears that educators lack the knowledge to teach a multiracial population. Educators' understandings of, interactions with, and decision-making about multiracial students were underrepresented in the research (Winn-Tutwiler, 2016). The idea that multiracial students were a monolithic group had to be dismantled to become more inclusive within the school setting (Chang, 2016). Educators were supposed to be reflective of multiraciality. Leon and Osetek (2017) studied experiences of multiracial students and found that practitioners needed to create spaces of awareness and understanding of the multiracial identity. In the same manner, Chaudhari (2022) reiterated the need for educators to unpack their understanding of the multiracial construct and be aware of monoracial forces and White supremacy in schools. Educators' knowledge and comprehension of multiraciality could dispel a monolithic identity for multiracial learners.

It appears that educators lack the skills to teach a multiracial population. In a study to unlearn colorblind ideologies in education, White educators became defensive when matters of race and color were challenged in teaching a diverse classroom (Choi, 2008). Also, educators developed negative perceptions toward multiracial students and found it difficult to accommodate them (Harris et al., 2018). Educators lacked cultural competence and the inability to teach students of different backgrounds which supported an active resistance according to a review of deficit-laden constructs within anti-oppressive curriculum (Agosto et al., 2019). To date, there was a persistent and passive disconnect in educator skills. According to Malaney-Brown (2022), educators needed to be cognizant of how to support the development of the multiracial learner. In addition, McDonald and Chang (2022) recognized that educators can take practical steps toward a more antiracist mentality. To avoid unresponsive educators within an oppressive system, further discussions are warranted.

It appears that educators lack the attitudes to teach a multiracial population. Loo and Rolison (1986) called for national research on the attitudes and perceptions affecting multiracial student's academic success, but there was research conducted on the attitudes of educators toward multiracial students. Schools were recognized as equalizers to close educational gaps, yet they reproduced racial hierarchies that were detrimental to minority learners, as found in a study of teacher perceptions (Irizarry, 2015). Educators' attitudes continued to impose challenges that impacted the multiracial learner. Belisle and Dixon (2020) were concerned with the attitudes practitioners had on marginalized learners and the

implications for practice. Research on educators' attitudes of self-esteem, multiracial heritage, multiracial identity, and psychosocial adjustment are scant.

### **Perceptions**

There is dearth of evidence about educators' attitudes towards multiracial children's self-esteem. Ginsberg (2017) provided documentation of a lived experience as a multiracial learner and educator, and cautioned educators on their assumptions, or unexamined beliefs, toward student's race. Furthermore, when multiracial learners met individuals similar or different from themselves, it challenged their existing notions of identity (West & Maffini, 2019). Perhaps educators could have acknowledged and accepted the multiracial identity to ensure a positive self-image of their learners. There were cultural differences that existed, and issues related to self-esteem and identity formation that created mental health issues for multiracial learners (Puckett, 2020). In addition, multiracial learners were influenced and positioned by societal hierarchies and attitudes (Torngren et al., 2021). Theories on multiracial identity have been difficult to capture the intricate ways in which multiracial identity varied and changed over the life course, and the ecological factors that contributed to identity formation (Jackson & Mumma, 2022). Therefore, educators were encouraged to reflect on ways race was socially constructed and enacted in schools to debunk their known and unknown biases as found in a literature review for K-12 practitioners (Peng, 2022). Educators' attitudes need to be reflective of multiracial learners' identity shifts and self-esteem fluctuations.

There is a dearth of evidence about educators' attitudes towards multiracial children's multiracial heritage. Embracing both heritages was often met with hostility by

society, leaving multiracial learners in a space of heritage denial (Bowles, 1993).

Additionally, Tatum's (1994) research on racism stated that White educators were often unaware of their cultural beliefs and the impact of their perceptions on others. Perhaps educators could have reflected on multiracial heritage to ensure cultural awareness among their learners. Elsheikh, Kuan, and Woods (2020) highlighted in an article on support for the identity development of multiracial graduate students that students who represented the intersection of two demographic groups were not sufficiently studied. Furthermore, future educators were encouraged to develop self-awareness around cultural competence (Puckett, 2020). Educators' attitudes need to be reflective of multiracial learners' dual heritage.

There is a dearth of evidence about educators' attitudes towards multiracial children's multiracial identity. Townsend, Fryberg, Wilkins, and Markus (2012) indicated that many multiracial individuals claimed only one of their parent's racial backgrounds when claiming their identity. Multiracial backgrounds often had an ambiguous racial appearance that was susceptible to prejudice, inequality, and injustice (Davenport, 2016). To illustrate, White educators rated multiracial learners who had White mothers more favorable than multiracial learners with non-White mothers after an evaluation of educators of part-White biracial and monoracial minority students (Davis, 2016). Perhaps educators could have reflected on multiracial identity to ensure acceptance among their learners. In an effort to find belonging, multiracial learners felt they must identify with only one racial heritage in school based on a study of Whiteness as a structuring property (Harris, 2019). Educators' attitudes need to be reflective of multiracial learners' multiracial heritage.

There is a dearth of evidence about educators' attitudes towards multiracial children's psychosocial adjustment. Multiracial students faced common psychosocial struggles related to social, psychological, and cognitive well-being associated with academic success (Conley et al., 2014). Also, multiracial learners had a difficult time finding similar peers to whom they may relate, and often felt categorized and challenged by their multiracial identity (Museus et al., 2016). Perhaps educators could have reflected on psychological adjustment of multiraciality to ensure a multiracial well-being. Puckett (2020) recommended educators nurture a self-care and well-being competency for multiracial learners but acknowledged this could not be accomplished without an examination of institutional attitudes. The attitudes, perceptions and beliefs of educators negatively influenced academic outcomes of multiracial learners and shaped educational inequality according to a review of educators' psychology (Turetsky et al., 2021). Dual psychological barriers were carried through educators' implicit bias and fear of racist appearance which impacted engagement with race-related topics in classrooms (Tropp & Rucinski, 2022). Educators' attitudes need to be reflective of multiracial learners' psychological adjustment.

The literature related to *educators' attitudes* can be described by dispositions (Agosto et al., 2019; Belisle & Dixon, 2020; Chang, 2016; Chaudhari, 2022; Cherng & Davis, 2019; Choi, 2008; Harris et al., 2018; Irizarry, 2015; Leon & Osetek, 2017; Loo & Rolison, 1986; Malaney-Brown, 2022; McDonald & Chang, 2022; Museus et al., 2016; Winn-Tutwiler, 2016;) and perceptions (Bowles, 1993; Conley et al., 2014; Davenport, 2016; Davis, 2016; Elsheikh et al., 2020; Ginsberg, 2017; Harris, 2019; Jackson & Mumma, 2022; Museus et al., 2016; Peng, 2022; Puckett, 2020; West & Maffini, 2019; Tatum, 1994;



Torngren et al., 2021; Townsend et al., 2012; Tropp & Rucinski, 2022; Turetsky et al., 2021). The literature reviewed may infuse educators' attitudes toward multiracial learners.

However, the empirical research has primarily focused on an elusive understanding and has been conducted using qualitative (Chang, 2016; Choi, 2008; Ginsberg, 2017; Harris, 2019; Jackson & Mumma, 2022; Loo & Rolison, 1986; Malaney-Brown, 2022; Museus et al., 2016) and quantitative (Cherng & Davis, 2019; Conley et al., 2014; Davenport, 2016; Davis, 2016; Harris et al., 2018; Irizarry, 2015; Townsend et al., 2012; Tropp & Rucinski, 2022) and mixed (Torngren et al., 2021) methods. However, a gap remains; educators' attitudes are not reflective nor diversified. This gap is important because little is known about the professional attitudes towards multiracial learners.

There is a notable inquiry related to the concept of *educator attitudes* that contributes to the focus of this proposal. In a quantitative study about racial identity, group consciousness, and attitudes, the authors found multiraciality to be tethered (Davenport et al., 2022). Their study draws attention to society's depiction of multiraciality. Therefore, this proposed study will expand on current research by examining to what extent educators' attitudes are mindful of multiraciality, albeit at a K-12 level. A quantitative approach for this proposal will add understanding to the gap by assessing the perceptions of educators in a charter school system that serves multiracial learners. This aspect of the proposed study will primarily address the EDL 870 component of the Educational Leadership specialization in the EdD program because it addresses the research theory, design, and methods. A survey design for this proposed study will add understanding to the gap by examining the

aggregated attitudinal subscales of educators who work with multiracial learners in K-12 schools.

### **Summary and Conclusions**

Chapter 2 is composed of literature review related to educators' attitudes toward multiracial learners. To be mindful of multiracial learners, reflective educators need to examine their attitudes. In terms of multiracial learners, academic paradigms include, constructively, historically, developmentally, organizationally, and academically may inform educators' views of multiracial learners. Across the literature much is known about the identity elements, yet little is known about the unique needs of multiracial learners. In terms of state expectations, academic pathways by way of administrations and jurisdictions may inform educators' views of multiracial learners. Across the literature much is known about universal planning, yet because little is known about the targeted planning objectives for multiracial learners. In terms of educators' attitudes, academic paucities via dispositions and perceptions may inform educators' views of multiracial learners. Across the literature much is known about the elusive understanding, yet little is known about the professional attitudes towards multiracial learners. These gaps combined; the starting point of inquiry is educators' attitudes toward multiracial learners. Thus, the third chapter will outline the proposed research methodology by design.

### **Chapter 3: Research Method**

The purpose of this quantitative study is to examine White and non-White educators' attitudes toward multiracial learners in Michigan's K-12 charter schools. The research method is divided into six distinct sections. The first section describes the setting. The

second section outlines the research design and rationale. The third section confirms methodology. The fourth section considers test assumptions. The fifth section ensures ethical procedures. The final section is a summary of the literature and conclusion for this chapter.

### **Setting**

In Michigan, approximately 67% of the students enrolled in charter schools identify as non-White as compared to the state average of 34% (Mack, 2019). White educators represent 90.2% of the state's education workforce opposed to 9.8% non-White educators (CEPI, 2021). As of 2021-2022, there are 82,688 total educators registered as full-time equivalent (FTE) in Michigan (CEPI, 2021). Of this total, 74,565 are White educators versus 8,123 non-White educators (CEPI, 2021). In addition, the multiracial population grew from 3.4% to 4.9% from 2015-2022 while multiracial teachers remained constant at 0.3% (MDE, 2022). All K-12 Michigan charter schools are of interest for this study given the high concentration of non-White learners among White educators. It may be reasonable to infer that the educator workforce in Michigan charter schools is disproportionately White based on state statistics.

### **Research Design and Rationale**

In this first section, the research questions and related hypotheses posed in Chapter 1 are restated, and condition is confirmed. Additionally, research designs by tradition are noted and provide a rationale for design selection in this study.

## Research Questions and Hypotheses

The research questions for this study are stated in terms of attitudinal breadth and depth. This quantitative inquiry will be guided by two central research questions (CRQ) and their respective hypotheses (H) given the self-identified condition of Whiteness. The following central research questions (CRQ) and related hypotheses (H) are listed below.

CRQ1: When analyzing measurable attitudes toward multiracial students, is there a difference between White and non-White educators on their combined AMCS subscale scores?

$H_0$  There is no difference between attitudes of White and non-White educators on their combined AMCS subscale scores.

$$H_0: \mu_1 = \mu_2$$

$H_1$  There is a difference between attitudes of White and non-White educators on their combined AMCS subscale scores.

$$H_1: \mu_1 \neq \mu_2$$

CRQ2: When analyzing measurable attitudes toward multiracial students, is there a difference between White and non-White educators on their individual AMCS subscale scores?

$H_0$  There is no difference between attitudes of White and non-White educators on their individual *Self-Esteem* subscale scores.

$$H_0: \mu_1 = \mu_2$$

$H_1$  There is a difference between attitudes of White and non-White educators on their individual *Self-Esteem* subscale scores.

$$H_1: \mu_1 \neq \mu_2$$

$H_0$  There is no difference between attitudes of White and non-White educators on their individual *Multiracial Heritage* subscale scores.

$$H_0: \mu_1 = \mu_2$$

$H_1$  There is a difference between attitudes of White and non-White educators on their individual *Multiracial Heritage* subscale scores.

$$H_1: \mu_1 \neq \mu_2$$

$H_0$  There is no difference between attitudes of White and non-White educators on their individual *Multiracial Identity* subscale scores.

$$H_0: \mu_1 = \mu_2$$

$H_1$  There is a difference between attitudes of White and non-White educators on their individual *Multiracial Identity* subscale scores.

$$H_1: \mu_1 \neq \mu_2$$

$H_0$  There is no difference between attitudes of White and non-White educators on their individual *Psychosocial Adjustment* subscale scores.

$$H_0: \mu_1 = \mu_2$$

$H_1$  There is a difference between attitudes of White and non-White educators on their individual *Psychosocial Adjustment* subscale scores.

$$H_1: \mu_1 \neq \mu_2$$

### **Research Design Traditions**

In quantitative research, there are four traditional structures to choose from based on scientific method (Bloomfield & Fisher, 2019; Issac & Michael, 1997). Correlational

research attempts to determine the extent of a relationship between two or more variables using statistical data (Issac & Michael, 1997). The correlational type would not be appropriate for this proposal based on this study that has variables that are not being used to find a point of cause. Causal-comparative, quasi-experimental involves finding cause and effect relationships among variables (Bloomfield & Fisher, 2019). The causal-comparative/quasi-experimental type would not be appropriate for this proposal based on this study not having a control group. Experimental research involves examination of causal relationships and is considered a true experimentation (Issac & Michael, 1997). The experimental type would not be appropriate based on this study being in a natural setting or control group. Descriptive research involves describing a phenomenon in a real-life setting (Bloomfield & Fisher, 2019). The descriptive type is appropriate for this proposal given the psychometric pertaining to multiracial children.

### **Research Design Selection**

This study will utilize a cross-sectional, quantitative survey research design (Frankel et al., 2019). The objective of a survey design is to query the research questions directly with the population and collate the answers which are occurring in real-life contexts that cannot be observed directly (Frankel et al., 2019). Surveys are capable of obtaining information from a large sample of the population and gain demographic data that describe the composition of the sample (McIntyre, 1999, p.74). Survey research is used to provide a numeric description of trends, attitudes, or opinions of a population by studying that population (Babbie, 1990). A survey design is the preferred data collection method for this

study to elicit information about educator's attitudes that are otherwise difficult to measure using observational techniques (McIntyre, 2015).

The survey is cross-sectional as it is most often used in describing the prevailing characteristics of a certain subset of a population at a certain point in time (Fowler, 2013). This study will be cross-sectional intentionally inclusive of educators at the building level that are represented in grades K-12 across 370 Michigan charter schools; across educator positions, grade levels, and geographic location (Fraenkel et al., 2019).

Salant and Dillman (1994) noted that the choice of survey media is determined by the resources available. A written survey is best suited to elicit confidential information with minimum resources of staff, time, and cost (Glasow, 2005). The survey statements (questionnaire) are an efficient way to measure the research questions of K-12 Michigan charter school educators.

### **Methodology**

In this second section, the logic for population selection, intervention/treatment, and instrument selection will be described. The process of recruitment, participation, and data collection is established. In addition to the data analysis plan outlined, assumptions and limitations of the study are considered.

#### **Population Selection**

Defining the population is the first step in selecting a sample (Fraenkel et al., 2019). The sample to be selected is simple random for purposes of probability. The unit of analysis is two independent groups of White and non-White educators within K-12 Michigan charter schools. There are a total of 11,233 in-service K-12 educators across Michigan charter

schools as of January 2023 (CEPI, 2021). Using 95% confidence, 5% margin of error, and 50% population proportion, 189 schools is the sample size calculated. In theory, the educators across these schools shall compose a sample representative of the entire Michigan charter school population (Fowler, 2013).

For the purpose of sample selection, an archived list of charter schools will require administrative access (Creswell & Creswell, 2017). A local statistician from a third party will pull the charter school data from the Educational Entity Master (EEM). This statistician has administrative permissions to download a complete list of Michigan charter schools and administrator contacts as of January 2023. However, no other archival data will be needed for the purpose of data collection.

### **Intervention/Treatment**

In a non-experimental study, the lead investigator studies a single group and studies the phenomenon as it exists naturally (Creswell & Creswell, 2017). The implied intervention or treatment in this study is the condition of Whiteness as self-identified by educators. The lead investigator will be free of written manipulation of the two independent variables, White and non-White. The lead investigator will test, interpret and analyze the condition of being White as the applied treatment. There are no known interventions or treatments that charter schools have engaged with at this time nor pre/post assessment of attitudes.

### **Instrumentation**

The AMCS (Jackman et al., 2001), is selected in alignment of the research questions. The AMCS scale is an anonymous, structured, close-ended questionnaire that will be administered to K-12 Michigan charter school educators. A close-ended questionnaire



enhances consistency of responses, is easier to tabulate, and is most readily used as a survey design instrument (Fraenkel et al., 2019). Without change, the contents of the AMCS questionnaire will be uploaded digitally into SurveyMonkey.

The AMCS scale was researched to confirm that the foils of the question stems were designed with validity and reliability (Jackman et al., 2001). This study will utilize the AMCS questionnaire consisting of a 23-item closed-ended survey, featuring a Likert 5-point scale with indicators of “Strongly Disagree” to “Strongly Agree.” The AMCS instrument is a credible research tool (Jackman et al., 2001), and a hard copy version of the online version is provided (Appendix A). The developer of the AMCS confirmed consent of use (Appendix B). It has also been used in the fields of healthcare professionals including counselors (Braveman et al., 2022; West & Maffini, 2019) and psychologists (Chen & Hamilton, 2012; Jackman et al., 2001).

The authors of the AMCS instrument confirmed validity and reliability after conducting two studies with the same instrument (Jackman et al., 2001). Originally, the authors started with 110-items relating to psychosocial domains and revised the items to ensure the positive and negative statements resulting in 43-items. The first study included 43-items to be analyzed. Internal consistency was determined using Cronbach’s alpha with a coefficient of .92. The construct validity was evaluated twice using principal component factor analysis with Oblimin rotation. The principal component factor analysis yielded eleven factors with eigenvalues greater than 1.0. A second exploratory component analysis was conducted using Oblimin rotation. A scree test revealed that four factors were interpretable. These four factors resulted in the four subscales. Using Pearson’s correlation

coefficients, the AMCS and the Quick Discrimination Inventory (QDI) scores confirmed concurrent validity. In addition, the AMCS combined scores were more highly correlated with results for QDI.

The tool was reduced to 23-items after conducting a second study that explored psychometric properties. The 23-item version of AMCS was found internally consistent and was stable over a three-week period, for reliability. Concurrent validity was found when the second study revealed a significant and moderate correlation between AMCS and QDI total scores. The authors' studies concluded that the AMCS psychometric properties can be used to research adults' attitudes concerning development of multiracial children.

The AMCS is a questionnaire with an ordinal scale of measurement (Jackman et al., 2001). This means possible responses are structured in a specific order and/or from one extreme to another (Trochim, 2020). A Likert scale is a common psychometric response scale that may ascertain an individual's (preferences, or) degree of agreement (Bertram, 2007) for each item statement. In this study, the AMCS is operationalized to measure an independent and dependent variable relationship.

Simply put, the independent variable in this study is the condition of race. A scale will be used to determine how the educator self-identifies, either White or non-White (Black or African American, Asian, American Indian, and Alaska Native, Native Hawaiian and Other Pacific Islander). Consistently measured, the dependent variable is the individual's attitudes. Four subscales will be used to tease out how the educator perceived children who are multiracial. Descriptors will be asked at the beginning of the survey to offer additional insight and inquiry. In addition to race, educators will be asked a series of multiple-choice

questions pertaining to self-identified gender, grade level taught, and years of service composites (APA 7 Manual, 2020).

### **Procedures for Recruitment, Participation, and Data Collection**

All Michigan charter schools will have a fair and equal chance of being selected to participate in this study (Fraenkel et al., 2019; Salant & Dillman, 1994). This type of random sampling across (N=370) Michigan charter schools will help to maximize recruitment potential of educators, minimize subjectivity in measuring variables, and generalize results across the entire population (Creswell & Creswell, 2017). Using the state Educational Entity Master (EEM), the State of Michigan's database of educational entity information, an alphabetical list of all K-12 charter schools will be obtained in Microsoft Excel. Within this spreadsheet, the [=RAND()] function will be used to generate and assign random numbers to all schools. After the intended Michigan charter schools are randomized, the school administrator for each school will be contacted. This study will be made available where any educator within the collective charter school sample can elect to participate (Creswell & Creswell, 2017). The result from the simple random sample ensures the sample will approximate what would be obtained if the entire population was surveyed (Fraenkel et al., 2019).

Recruitment of educators through the Internet is common with technological advances and accessibility (Fraenkel et al., 2019). An email invitation (Appendix C) including a standard description of the study design and purpose, and consent form (Appendix D) will be forwarded to educators by their respective administrator for each K-12 Michigan charter school selected. This email will be the first point of contact to obtain

consent (Fraenkel et al., 2019). Educators will have one week from receipt of the initial invite to reply with their consent, should they choose to participate.

Participation is confirmed by forwarding the invitation back to the lead investigator with a simple reply of, "I CONSENT." Once consent is obtained (Fraenkel et al., 2019), a SurveyMonkey link to the questionnaire will be shared with the participant. For sorting and describing purposes, demographics will be asked of each participant. No personal identifiers subject to public domain will be asked. Therefore, each educator may participate anonymously. Survey participation is a voluntary event; the participant may opt out at any time. The lead investigator is not allowed to pressure or coerce the participation of educators (Salant & Dillman, 1994). Pending IRB approval and receipt of participant consent, surveys should be distributed, completed, and collected in Spring of 2023.

SurveyMonkey will be used to obtain the collected responses (Fraenkel et al., 2019). When a satisfactory response rate has been achieved, and or the time to complete the study has closed, whichever comes first, the lead investigator may download the collective data. As entered by every anonymous participant response in order received, the lead investigator will download data collected via SurveyMonkey into a Microsoft Excel file for further archiving, processing, and analysis.

First, the original copy of the raw data will be saved digitally to a USB drive. Second, a duplicate copy of this same file will be used for upload to SPSS. Third, a final copy of the analyzed data will be saved to the lead investigator's hard drive. Digital storage will be password protected and accessed only by the lead investigator. Files will be stored for 5 years from the date of collection.

### **Test Assumptions**

An independent  $t$ -test is an important test for between group differences (Fowler, 2013). There must be clear reasoning determined that the distribution meets most test assumptions by the data exhibiting these six assumptions (Fraenkel et al., 2019). First, the adequacy of sample size needs to be equal to or be greater than 30 for the Central Limit Theorem to be applied. Second, the homogeneity of variance needs to be tested to see if variances of the two independent groups are similar, equal, or equivalent. Third, the data will be tested for continuous distribution. Fourth, the test for normality asserts that the distribution of the sample means is normal. Fifth, the test of random sampling determines whether random selection has been made in the sample selection of an ordered population. Finally, there should be no significant outliers in the sample data sets (Fraenkel et al., 2019). If three or more of these test assumptions are violated than the independent  $t$ -test, then a non-parametric Mann-Whitney U test is employed.

Processing of the data will take place in eight steps. First, the data will be downloaded from SurveyMonkey to Microsoft Excel. Second, the data will be downloaded from Microsoft Excel to undergo analysis generated from Statistical Package for the Social Sciences (SPSS). Third, the Likert data will be assigned values within SPSS. Fourth, descriptive statistics will be analyzed. Fifth, test assumptions will be conducted. Sixth, inferential statistics utilizing either an independent  $t$ -test or Mann-Whitney U test will be conducted from the data transferred, analyzed, and reported. Seventh, histograms will be generated to represent the two central research questions. Finally, the lead investigator will answer the two central research questions by rejecting or accepting each null hypothesis.

## **Data Analysis Plan**

First, descriptive statistics will be analyzed and reported. As a basic feature of quantitative research, descriptive statistics will be initially used to manage, analyze, and report the data set (Trochim, 2020). Raw data downloaded from SurveyMonkey into Microsoft Excel will be archived, then be uploaded into the Statistical Package for the Social Sciences (SPSS) for further processing and analysis. The two independent groups to be examined are White and non-White. Other participant demographics ranging in gender, grade level taught, and years of service will be sorted for report and discussion.

Second, inferential statistics will be analyzed and reported. Inferential statistics utilizing a parametric or non-parametric test will be conducted from the data uploaded into SPSS (Bertram, 2007). The dataset will be sorted based on how the educators self-identify. Within these independent groups, the data pertaining to all 23-item statements will be aggregated in their respective groups. Then, the independent group aggregates will be disaggregated according to the four AMCS subscales - again, the item statements essentially measured by, and metrically tagged as Self-Esteem (SE), Multiracial Heritage (MH), Multiracial Identity (MI), and Psychosocial Adjustment (PA) (Jackman et al., 2001). Each subscale is represented within the 23-item Likert scale as follows: Self Esteem (6 items), Multicultural Heritage (4 items), Multicultural Identity (3 items), and Psychosocial Adjustment (10 items).

To calculate the central tendency of the AMCS if it is a non-parametric dataset, two measures will be used to report participant responses by the median and mode (Experts Exchange, 2012; Fraenkel et al., 2019). First, the median will be used to identify the middle

rank/value within the ordered data set collected from the participants' responses (Experts Exchange, 2012; Fraenkel et al., 2019). Second, the mode will be used to identify the rank/value that appears most frequently (Experts Exchange, 2012; Fraenkel et al., 2019 ) within the dataset. The mean will not be reported because the population data does not have a normal distribution.

Once the central tendency is identified, steps will be taken to interpret the measures. In terms of mode, the interquartile range, between the 25<sup>th</sup> percentile and the 75<sup>th</sup> percentile, a parameter of dispersion, will be used to interpret the frequency of participant responses for each question. With respect to median, the distribution of the data will be presented as a histogram for the combined AMCS subscales and each subscale by the independent groups.

Further analysis of inferential statistics provides a more defined understanding of the data collected between White and non-White educators (Trochim, 2020). The Likert scale is non-parametric given a ranked order of possible responses, but not a clear numerical interpretation of each possible response (Uebersax, 2006). Therefore, this results in a non-parametric method for ordinal data and does not assume a normal distribution (DeWinter & Dodou, 2010).

The Mann-Whitney U is a rank based, non-parametric test and is the most appropriate for analyzing the mean ranks of the two independent groups (Bertram, 2007; Fowler, 2013). This test is appropriate as it determines if the distribution of the dependent variable is the same for both determined groups (Bertram, 2007; Fowler, 2013). This test will require that both samples be statistically independent. The Mann-Whitney U test will be used to analyze if the null hypothesis can be rejected and if there is a significant difference

between White and non-White educators based on the combined AMCS subscale scores and each subscale (Fowler, 2013). Whiteness Theory will be discussed in relation to the results from the Mann-Whitney U test.

### **Assumptions of the Study**

There are common assumptions with a survey design. Standardization, relating to whether or not the nature of the questions and answers are the same across all participants, is an assumption (Fraenkel et al., 2019). In the same manner, the use of a questionnaire assumes that the respondents have and can retrieve the information (Fraenkel et al., 2019). As a standard practice, the survey will be provided in English. Finally, the necessary information is assumed to be answered in a way required by the lead investigator (Fraenkel et al., 2019).

There are three common assumptions when running a Mann-Whitney U test. First, the variables that are being analyzed are ordinal (Fraenkel et al., 2019). In this study, the ordinal variables include Likert items (Uebersax, 2006). Second, all participants will be independent of each other (Bertram, 2007). Finally, the distributions will be similar but not normally distributed (Fraenkel et al., 2019).

### **Limitations of the Study**

Every research study has limitations. They are characteristics of the study that are out of the lead investigator's control (Fraenkel et al., 2019). There are potential limitations for this study in regard to design, population, intervention, instrument, and procedures. In terms of design, everyone gets the same questionnaire and participants may not provide accurate, honest answers. As the lead investigator, there is assurance that each participant



will receive the same questionnaire. In terms of population, respondents will be limited charter schools in Michigan. As the lead investigator, only educators from K-12 Michigan charter schools will be invited to participate. In addition, personalization is limited given the inability to connect with the population. In this study, personalization is limited as all participants will receive the questionnaire via the Internet.

In terms of intervention, respondents may not feel comfortable providing answers that present themselves in an unfavorable manner. As the lead investigator, this research aims for objectivity, clearly defined within the two central research questions. In addition, respondents may not be fully aware of their reasons for a given answer. As the lead investigator, the sampling provides for a sense of attitudes with concentrated precision in the natural setting.

In terms of instrument, survey question answer options may lead to certain answer options being interpreted differently by respondents and non-responses will provide for data errors (Fraenkel et al., 2019). As the lead investigator, the received data will be in the form of numbers and statistics. In terms of procedures, the inability to reach respondents and provide additional information or depth to the study are limitations. As the lead investigator, the results are based on a sample size that is representative of the population; the sample size is used to gain statistically valid results of participant insight.

The condition of Whiteness may constitute a withholding or withdrawal of accurate self-identification and response. The design of the study is focused in order to test the theory. Procedurally, the lack of accessibility and individuality is a threat. This study has more credibility with employing influential people who are educators. Finally, the lack of

time and funding to carry out the survey is a known limitation (Fowler, 2013). As the lead investigator, data collection and analysis is relatively quick, inexpensive, while being reliable and consistent.

### **Ethical Procedures**

All federal regulations and state regulations and the University of Michigan- Flint IRB will be adhered to for assurance with ethical conduct of human subjects (Appendix E) (Trochim, 2020; APA 7 Manual, 2020). The first regulation is the principle of respect for persons with voluntary participation which will be applied and protected (Trochim & Donnelly, 2001). The second regulation of beneficence of an informed consent will confirm all participants provided procedures and risks involved in the study, should they choose to participate (Trochim & Donnelly, 2001). Finally, fair and equitable procedures and outcomes will provide a just selection of research participants (Trochim, 2020).

The raw data will be saved digitally to a USB drive. The storage of the analyzed data will be saved to the lead investigator's hard drive. The digital storage will be password protected and stored. All participants will reserve the right to withdraw at any point of the study. An anticipated approval from The University of Michigan-Flint's IRB will advance the progress of this study.

### **Summary**

Chapter 3 is composed of a proposed research method related to educators' attitudes toward multiracial learners. To be mindful of multiracial learners, an examination of educators' attitudes is warranted. In terms of research method, the setting is described, as well as research design and rationale, and methodology as an initial point of inquiry regarding educators' views of multiracial learners. In addition, test assumptions are noted, and ethical procedures are outlined. This proposed design will provide results on educators' attitudes. Thus, the fourth chapter will report the results of the data collected.

## **Chapter 4: Research Results**

### **Introduction**

Chapter 4 begins with a restatement of the purpose of the current study, followed by the research questions, important updates from Chapter 3, review of the data collection and analysis, ending in a summary of the results. This chapter will provide the results of the study based on rigorous analysis of quantified data in the survey design tradition. A summary of results, recommendations for action, and implications for social change will encompass the fifth and final chapter of this dissertation.

### **Purpose of the Study**

The purpose of this study examined White and non-White educators' attitudes toward multiracial learners in Michigan's K-12 charter schools. This study included 66 educators who were randomly selected across all Michigan charter schools. The data analysis for this study was generated using Qualtrics software, version XM for strategy and research.

The commitment of the current study remains to the quantitative tradition of gaining evidence of examining the attitudes among Michigan charter school educators (Fraenkel et al., 2019). This approach allowed for data collection to be gathered from the natural setting. To push Hartmann, Gerteis, and Croll (2009) further, the current study attempted to objectively capture responses of how White and non-White educators' rate their attitudes toward multiracial learners. The study analyzed the data in the survey design methodology which revealed the attitudes employed by the educators in situ.

A quantitative survey design methodology was used to frame this study. According to Bloomfield and Fisher (2019), quantitative research is a formal, objective, and systematic approach that determines relationships among variables. Further, quantitative methods are appropriate to collect statistical data from surveys (Mohajan, 2020). The Welch's *t*-test was best suited for the research due to the analysis of mean differences between two independent groups with unequal sample sizes and variances. One valid and reliable instrument, the AMCS, was used to measure the attitudes of educators. This instrument was used to collect data through an online survey and data collection within Qualtrics.

### **Research Questions**

The following questions and corresponding hypotheses guided the study:

CRQ1: When analyzing measurable attitudes toward multiracial students, is there a difference between White and non-White educators on their combined AMCS subscale scores?

$H_0$  There is no difference between attitudes of White and non-White educators on their combined AMCS subscale scores.

$$H_0: \mu_1 = \mu_2$$

$H_1$  There is a difference between attitudes of White and non-White educators on their combined AMCS subscale scores.

$$H_1: \mu_1 \neq \mu_2$$

CRQ2: When analyzing measurable attitudes toward multiracial students, is there a difference between White and non-White educators on their individual AMCS subscale scores?

$H_0$  There is no difference between attitudes of White and non-White educators on their individual *Self-Esteem* subscale scores.

$$H_0: \mu_1 = \mu_2$$

$H_1$  There is a difference between attitudes of White and non-White educators on their individual *Self-Esteem* subscale scores.

$$H_1: \mu_1 \neq \mu_2$$

$H_0$  There is no difference between attitudes of White and non-White educators on their individual *Multiracial Heritage* subscale scores.

$$H_0: \mu_1 = \mu_2$$

$H_1$  There is a difference between attitudes of White and non-White educators on their individual *Multiracial Heritage* subscale scores.

$$H_1: \mu_1 \neq \mu_2$$

$H_0$  There is no difference between attitudes of White and non-White educators on their individual *Multiracial Identity* subscale scores.

$$H_0: \mu_1 = \mu_2$$

$H_1$  There is a difference between attitudes of White and non-White educators on their individual *Multiracial Identity* subscale scores.

$$H_1: \mu_1 \neq \mu_2$$

$H_0$  There is no difference between attitudes of White and non-White educators on their individual *Psychosocial Adjustment* subscale scores.

$$H_0: \mu_1 = \mu_2$$

$H_1$  There is a difference between attitudes of White and non-White educators on their individual *Psychosocial Adjustment* subscale scores.

$$H_1: \mu_1 \neq \mu_2$$

### **Updates to Chapter 3**

There were some changes and updates to the process proposed in Chapter 3.

Following IRB approval, The University of Michigan confirmed the use of Qualtrics as the tool that would be used for the distribution of surveys, not SurveyMonkey. Another change was to expand the reach of Michigan charter school educators through Michigan university authorizers after exhausting all attempts to contact educators through the random selection of charter schools. This did not pose a concern for the survey performance as Qualtrics was able to accommodate this randomized sample. Additionally, Q-Q plots and boxplots were added to the results section due to the statistical tests that were unanticipated initially.

Changes from Chapter 3 did not adversely impact the analysis. The next section described the data collection and analysis.

### **Data Collection**

The data collection period spanned four months, May 2023-September 2023. A current Michigan charter school roster was obtained through the local intermediate school district. Upon receiving the 2023-2024 list of Michigan charter schools a random sample was generated by using the =RAND() function within Microsoft Excel. On May 9, 2023, 189 out of 370 charter schools were selected at random with 168 unique administrative email addresses.

Data collection began after invitations to join and consent was distributed to administrative emails. The survey was distributed by a survey link provided through Qualtrics, a market research platform, from the University of Michigan Information and Technology services. After a month of reminder emails, another round of schools were sampled at random from the original list of 370 charter schools.

In June 2023, to further the attempt to reach educators, all Michigan charter school authorizers were contacted. Out of the eight Michigan universities that authorize charter schools, Grand Valley State University and Saginaw Valley State University charter school offices provided consent for participation. Each authorizer supported the distribution process by promoting the study. The survey was shared at all summer professional development sessions provided online by Grand Valley State University from June-August 2023. All authorizers were given a final reminder and attempt to reach educators by the end of August 2023. All survey data was collected by September 5, 2023 through the University of Michigan Qualtrics and stored.



The process of data analysis began the second week of September 2023. The primary data collected in Qualtrics was stored on a password-protected USB flash drive accessible only to the researcher. The data was downloaded from Qualtrics on September 10, 2023, in an Excel format, with no identifiers of the participants and loaded into SPSS for quantitative analysis by a statistician. The data underwent analysis from the Statistical Package for the Social Sciences (SPSS). The data spreadsheet was analyzed by the lead investigator and the approved statistician. The collected data was analyzed with descriptive statistics and inferential statistics.

### **Test Assumptions**

This first and most important step in an independent  $t$ -test analysis is to meet the six assumptions that underpin this statistical test to determine if it is appropriate. This section outlined the six assumptions for the statistical test used in this study. The first three assumptions related to the study design and how the variables were used as measurements. The last three assumptions related to the characteristics of the data.

**Assumption 1** The first assumption stated that the dependent variable should be continuous in nature (Laerd, 2018). The data was treated as continuous because it had at least five categories within the Likert scale, which does not pose a harm to the analysis.

Therefore, the assumption was met.

**Assumption 2** The second assumption stated that the independent variable should consist of two, categorical, independent groups (White and non-White). This assumption is met because race was the categorical variable.

**Assumption 3** The assumption of the independence of observations means there is no relationship between groups or participants, and that no participant is in more than one group. This study was designed to include two groups of participants independent of each other based on race. Race was a dichotomous variable, mutually exclusive of each other, and assumption 3 was met.

**Assumption 4** The fourth assumption is to determine if there were significant outliers in the dependent variables. Outliers are extreme scores that have an impact on statistical analysis. Based on the analysis there were no significant outliers. Assumption 4 was met.

**Assumption 5** The fifth assumption stated that the distribution for each of the dependent variables met the normality distribution assumption of the two independent groups. Normality of the dependent variables at the level of each independent variable were tested with the Shapiro Wilk test of normality. The AMCS scores were approximate to a normal distribution for each group. Assumption 5 was met.

**Assumption 6** The sixth and final assumption stated the variance of the dependent variable is equal for each group of the independent variable. Due to a small dataset and two unequal independent groups assumption 6 was not met.

It was determined to use the Welch's *t*-test or Satterthwaite method and directly check if the two data sets have equal means without conducting a two step process of first running a Levene's test of variance. In addition, it is an appropriate test for equality of variances among two independent samples without assuming equal population variances. The Welch's *t*-test or Satterthwaite method was robust enough for testing mean equality when the homogeneity assumption as it made adjustment for unequal variances. Due to this finding, the Welch's *t*-test or Satterthwaite Method was used as the alternative to running the independent *t*-test.

### **Descriptive Findings**

This section presents a narrative explanation of the descriptive findings. A summary of the sample profile and descriptive statistics for the independent variable are explained. The study collected demographic data on personal descriptive information on race, gender, grade level taught, and years of service. The descriptive findings section leads with information on the research design and sample profile of participants.

A survey design was chosen for this study. It is the most common research design in educational research (Muijs, 2011). Survey design is the most appropriate method as it is a way to describe the characteristics of a population or a sample population (Salkind & Frey, 2020). The objective of a survey design is to query the research questions directly and collate the answers which are occurring in real-life contexts. This study formulated hypotheses and utilized the Attitudes Toward Multiracial Children's Scale (AMCS), a pre-published scale, to answer the research questions. It was a cross-sectional study where any educator could elect to participate within the K-8 Michigan charter schools (Muijs, 2011). This study collected information at one point in time from a predetermined population (Salkind & Frey, 2020).

The population on a whole is rarely studied: Therefore, this study included a sample or subset of educators within K-8 Michigan charter schools (Salkind & Frey, 2020). The sample population was gained by simple random sampling within Michigan charter schools. A consent form was provided to all educators to provide for a fair and equitable chance to participate in the study. Gaining an unbiased sample of the population was important to ensure the data collected could be generalized (Muijs, 2011). The AMCS questionnaire was selected to be in alignment with the research questions. This questionnaire with the question stem foils was researched and confirmed to be valid and reliable (Jackman et al., 2001).

**Table 1***Total Participants by Ethnicity*

Ethnicity_Group	Frequency	Percent	Cumulative Frequency	Cumulative Percent
	4	3.57	4	3.57
Non-White	24	21.43	28	25.00
White	84	75.00	112	100.00

Upon initial review of the raw data in Table 1, there were a total of 112 surveys by race collected. Qualtrics quality control was performed by removing incomplete data sets. Forty-one surveys were left unanswered. Furthermore, additional surveys were found to have missing items and were not completed surveys. One survey had four unanswered questions, one survey had thirteen unanswered questions, and one survey had twenty-one unanswered questions. Ultimately, a total of 66 respondents completed the survey in full.

**Table 2***Sample Size Frequency based on Number of Missing Items*

n_missing_items	Frequency
0	66
4	1
13	1
21	1
23	41

The next step was to prepare the raw data for analysis that was set up in SPSS. Demographic data was analyzed. In regard to demographic characteristics, the two independent groups, White and non-White educators were analyzed. In addition, the respondents were asked to self-identify with the additional demographic variables of gender, grade level taught, and years of service which were sorted and examined. Collected data and analysis provided for an overall review of all respondents, and an additional review of respondents without any missing items in Table 2.

**Table 3**

*Demographics of All Respondents*

**DEMO - All Respondents**

**The FREQ Procedure**

Ethnicity	HISP	Frequency	Percent	Cumulative Frequency	Cumulative Percent
		1	0.89	1	0.89
	No	1	0.89	2	1.79
American Indian or Alaska Native	No	1	0.89	3	2.68
Black or African American	No	18	16.07	21	18.75
Black or African American	Prefer not to answer	1	0.89	22	19.64
Prefer not to answer	Prefer not to answer	2	1.79	24	21.43
Some other race	No	3	2.68	27	24.11
White	No	84	75.00	111	99.11
White	Yes	1	0.89	112	100.00

**Table 4***Gender of All Respondents*

GENDER				
GENDER	Frequency	Percent	Cumulative Frequency	Cumulative Percent
	1	0.89	1	0.89
Female	92	82.14	93	83.04
Male	15	13.39	108	96.43
Prefer not to answer	4	3.57	112	100.00

**Table 5***Grade Level Band of All Respondents***DEMO - All Respondents****The FREQ Procedure**

GRADE_LEVEL				
GRADE_LEVEL	Frequency	Percent	Cumulative Frequency	Cumulative Percent
	1	0.89	1	0.89
9-12	17	15.18	18	16.07
K-12	17	15.18	35	31.25
K-5	20	17.86	55	49.11
K-8	39	34.82	94	83.93
Other	16	14.29	110	98.21
Prefer not to answer	2	1.79	112	100.00

The overall data results had eighty-five (75.89%) White respondents, twenty-three (20.53%) non-White respondents, and four (3.58%) respondents who did not indicate race. A total of two respondents identified as Hispanic: One (.89%) White participant and one (.89%) Black or African-American respondent. Two (1.79%) respondents indicated, “Prefer not to Answer,” in Table 3. Gender was revealed among all respondents. Overall, ninety-two (82.14%) respondents indicated female, fifteen (13.39%) were male, four (3.57%) preferred not to answer, and one (.89%) did not state gender in Table 4. The grade level taught among the 112 respondents was represented by thirty-nine (34.82%) respondents at K-8, twenty (17.86 %) respondents at K-5, seventeen respectively at 9-12 or (15.18%) and K-12 or (15.18%), sixteen (14.29%) respondents indicated “Other,” two (1.79%) respondents chose “Prefer not to Answer” and one (.89%) respondent did not indicate a grade level band in Table 5. Finally, based on all respondents, forty-six (41.82%) respondents had greater than sixteen years of service. Additionally, twenty-four (21.82%) respondents had 6-10 years of service, nineteen (17.27%) respondents had less than five years service, eighteen (16.36%) respondents had 11-15 years of service, three (2.73%) respondents preferred not to answer, and two respondents did not indicate years of service.



**Table 6***Respondents with NO Missing Items*

**DEMO - Respondents with NO Missing Items**  
The FREQ Procedure

Ethnicity	HISP	Frequency	Percent	Cumulative Frequency	Cumulative Percent
American Indian or Alaska Native	No	1	1.47	1	1.47
Black or African American	No	12	17.65	13	19.12
Prefer not to answer	Prefer not to answer	2	2.94	15	22.06
Some other race	No	2	2.94	17	25.00
White	No	50	73.53	67	98.53
White	Yes	1	1.47	68	100.00

**Table 7***Gender of Respondents with NO Missing Items*

GENDER				
GENDER	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Female	56	82.35	56	82.35
Male	9	13.24	65	95.59
Prefer not to answer	3	4.41	68	100.00

**Table 8***Grade Level Band of Respondents with NO Missing Items***DEMO - Respondents with NO Missing Items****The FREQ Procedure**

GRADE_LEVEL				
GRADE_LEVEL	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Other	12	17.65	67	98.53
Prefer not to answer	1	1.47	68	100.00

GRADE_LEVEL				
GRADE_LEVEL	Frequency	Percent	Cumulative Frequency	Cumulative Percent
9-12	9	13.24	9	13.24
K-12	10	14.71	19	27.94
K-5	11	16.18	30	44.12
K-8	25	36.76	55	80.88

In the same manner, data analysis was conducted after extracting the respondents with no missing items. Out of 68 total respondents with no missing items, fifty (73.53%) respondents identified as White, sixteen (23.53%) respondents identified as non-White, and two (2.94%) respondents did not indicate their race. Moreover, out of the 68 respondents these two respondents responded to all 23 AMCS items, but selected “Prefer not to Answer” for race. Therefore, these two respondents were excluded from analyses, which resulted in 66 respondents in Table 6. In addition, only one (1.47%) respondent self-identified as Hispanic. Gender was revealed among all respondents. Overall, fifty-six (82.35%) respondents indicated female, nine (13.24%) respondents were male, three (4.41%)

respondents preferred not to answer in Table 7. The grade level taught among the 68 respondents were represented by twenty-five (36.76%) respondents at K-8, twelve (17.65%) respondents indicated “Other,” eleven (16.18%) respondents at K-5, ten (14.71%) respondents at K-12, nine (13.24%) respondents at 9-12, and one (1.27%) respondent preferred not to answer. Finally, based on all respondents, more than half or thirty-four (52.31%) respondents had greater than sixteen years of service. Additionally, thirteen (20%) respondents have 11-15 years of service, ten (15.38%) respondents had 6-10 years, seven (10.77%) respondents have less than five years, one (1.54%) respondent preferred not to answer, and one respondent did not indicate years of service.

**Table 9**

*Univariate Procedures of White Educators on the combined AMCS*

**The UNIVARIATE Procedure  
Variable: TOT**

**Ethnicity\_Group=White**

Moments			
<b>N</b>	50	<b>Sum Weights</b>	50
<b>Mean</b>	3.67826087	<b>Sum Observations</b>	183.913043
<b>Std Deviation</b>	0.41822971	<b>Variance</b>	0.17491609
<b>Skewness</b>	-0.4260403	<b>Kurtosis</b>	0.46916105
<b>Uncorrected SS</b>	685.05104	<b>Corrected SS</b>	8.57088847
<b>Coeff Variation</b>	11.3703113	<b>Std Error Mean</b>	0.05914661

**Table 10**

*Univariate Procedures of non-White Educators on the combined AMCS*

**The UNIVARIATE Procedure**  
**Variable: TOT**

Ethnicity\_Group=Non-White

Moments			
<b>N</b>	16	<b>Sum Weights</b>	16
<b>Mean</b>	3.48369565	<b>Sum Observations</b>	55.7391304
<b>Std Deviation</b>	0.75036223	<b>Variance</b>	0.56304348
<b>Skewness</b>	-0.5476317	<b>Kurtosis</b>	0.44308493
<b>Uncorrected SS</b>	202.623819	<b>Corrected SS</b>	8.44565217
<b>Coeff Variation</b>	21.5392591	<b>Std Error Mean</b>	0.18759056

In regard to descriptive statistics, the measures of central tendency and measures of dispersion were analyzed. The central tendency was reviewed from the combined AMCS scores of White and non-White educators' responses as shown in Table 9 and Table 10. The mean, 3.678261, was calculated from the combined AMCS White educators' responses. The mean is considered the best measure due to the data set being treated as a continuous ordinal variable. Furthermore, the median 3.652174, and the mode, 3.434783, were produced to show the middle and most frequent value. The mean, 3.483696, was calculated from the combined AMCS non-White educators' responses. The median, 3.5, and the mode, 2.869565, were produced from the non-White data set. In summary, White responses trended higher than non-White responses in all measures of central tendency for the combined AMCS scores.

**Table 11***Univariate Procedures of White Educators for Self Esteem subscale*

**The UNIVARIATE Procedure**  
**Variable: SE**

Ethnicity\_Group=White

Moments			
N	50	Sum Weights	50
Mean	3.5	Sum Observations	175
Std Deviation	0.64417854	Variance	0.41496599
Skewness	-0.2960167	Kurtosis	-0.2493873
Uncorrected SS	632.833333	Corrected SS	20.3333333
Coeff Variation	18.405101	Std Error Mean	0.0911006

**Table 12***Univariate Procedures of non-White Educators for Self Esteem subscale*

**The UNIVARIATE Procedure**  
**Variable: SE**

Ethnicity\_Group=Non-White

Moments			
N	16	Sum Weights	16
Mean	3.19791667	Sum Observations	51.1666667
Std Deviation	1.03497853	Variance	1.07118056
Skewness	-0.072057	Kurtosis	-0.8833389
Uncorrected SS	179.694444	Corrected SS	16.0677083
Coeff Variation	32.3641494	Std Error Mean	0.25874463

**Table 13**

*Univariate Procedures of White Educators for Multiracial Heritage subscale*

**The UNIVARIATE Procedure**  
**Variable: MH**

Ethnicity\_Group=White

Moments			
N	50	Sum Weights	50
Mean	3.545	Sum Observations	177.25
Std Deviation	0.46754352	Variance	0.21859694
Skewness	0.09803113	Kurtosis	-0.6849761
Uncorrected SS	639.0625	Corrected SS	10.71125
Coeff Variation	13.1888157	Std Error Mean	0.06612064

**Table 14**

*Univariate Procedures of non-White Educators for Multiracial Heritage subscale*

**The UNIVARIATE Procedure**  
**Variable: MH**

Ethnicity\_Group=Non-White

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.934	Pr < W	0.2819
Kolmogorov-Smirnov	D	0.167759	Pr > D	>0.1500
Cramer-von Mises	W-Sq	0.083249	Pr > W-Sq	0.1803
Anderson-Darling	A-Sq	0.489829	Pr > A-Sq	0.1982

**Table 15**

*Univariate Procedures of White Educators for Multiracial Identity subscale*

**The UNIVARIATE Procedure**  
**Variable: MI**

Ethnicity\_Group=White

Moments			
<b>N</b>	50	<b>Sum Weights</b>	50
<b>Mean</b>	3.80666667	<b>Sum Observations</b>	190.333333
<b>Std Deviation</b>	0.530648	<b>Variance</b>	0.2815873
<b>Skewness</b>	-0.164249	<b>Kurtosis</b>	0.27089381
<b>Uncorrected SS</b>	738.333333	<b>Corrected SS</b>	13.7977778
<b>Coeff Variation</b>	13.939965	<b>Std Error Mean</b>	0.07504496

**Table 16**

*Univariate Procedures of non-White Educators for Multiracial Identity subscale*

**The UNIVARIATE Procedure**  
**Variable: MI**

Ethnicity\_Group=Non-White

Moments			
<b>N</b>	16	<b>Sum Weights</b>	16
<b>Mean</b>	3.60416667	<b>Sum Observations</b>	57.6666667
<b>Std Deviation</b>	1.07647401	<b>Variance</b>	1.1587963
<b>Skewness</b>	-0.4454188	<b>Kurtosis</b>	-0.3338753
<b>Uncorrected SS</b>	225.222222	<b>Corrected SS</b>	17.3819444
<b>Coeff Variation</b>	29.867487	<b>Std Error Mean</b>	0.2691185

**Table 17**

*Univariate Procedures of White Educators for Psychosocial Adjustment subscale*

**The UNIVARIATE Procedure**  
**Variable: PA**

Ethnicity\_Group=White

Moments			
<b>N</b>	50	<b>Sum Weights</b>	50
<b>Mean</b>	3.8	<b>Sum Observations</b>	190
<b>Std Deviation</b>	0.49239108	<b>Variance</b>	0.24244898
<b>Skewness</b>	-0.2179634	<b>Kurtosis</b>	0.44690808
<b>Uncorrected SS</b>	733.88	<b>Corrected SS</b>	11.88
<b>Coeff Variation</b>	12.9576601	<b>Std Error Mean</b>	0.06963461

**Table 18**

*Univariate Procedures of non-White Educators for Psychosocial Adjustment subscale*

**The UNIVARIATE Procedure**  
**Variable: PA**

Ethnicity\_Group=Non-White

Moments			
<b>N</b>	16	<b>Sum Weights</b>	16
<b>Mean</b>	3.73125	<b>Sum Observations</b>	59.7
<b>Std Deviation</b>	0.8814524	<b>Variance</b>	0.77695833
<b>Skewness</b>	-0.7718693	<b>Kurtosis</b>	0.66275109
<b>Uncorrected SS</b>	234.41	<b>Corrected SS</b>	11.654375
<b>Coeff Variation</b>	23.6235149	<b>Std Error Mean</b>	0.2203631



All four subscales underwent the measures of central tendency based on White and non-White educators' attitudes in Tables 11-18. White educators' responses to the Self Esteem subscale presented a mean, 3.5, median, 3.5, and mode, 3.333333, which was higher than non-White Self Esteem subscale data mean, 3.197917, median, 3.0, and mode, 2.666667. In addition, White educators' responses to the Multiracial Heritage subscale mean, 3.545000, median, 3.5, and mode, 3.5, was higher than non-White educators. In the Multiracial Heritage subscale results except for the mode showed the most responses rated at 3.75, with the mean at 3.203125 and median at 3.375000. White educators' responses to Multiracial Identity subscale resulted in a mean of 3.806667, and the median and mode at 3.666667 respectively. Non-White educators' responses to Multiracial Identity subscale resulted in a mean of 3.604167, with the median of 3.833333, and the most chosen rating or mode, 4.0. Furthermore, White educators' responses to the Psychosocial Adjustment subscale presented a mean, 3.8, median, 3.75, and mode, 3.7, which was higher to the mean of non-Whites, 3.731250, yet, non-White responses to the Psychosocial Adjustment subscale provided for a median, 3.8, and mode of 4.6. In summary, the mean score or central value of White educators' responses were higher in the combined AMCS and all AMCS subscale measures than non-White educators. This higher mean score shows that White educators responded more positively on the subscales than non-White educators.

The measure of dispersion used for this study was standard deviation. Standard deviation was examined and it was found that White educators' standard deviation varied from 0.41823 to 0.64418 on the combined AMCS scale and among all four subscales as opposed to non-White educators' responses of 0.68446 to 1.07647. The standard deviation

among non-White educators’ attitude responses were more dispersed than White educators’ attitude responses.

**Table 19**

*Tests for Normality of White Educators for combined AMCS*

**The UNIVARIATE Procedure**  
**Variable: TOT**

Ethnicity\_Group=White

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.97634	Pr < W	0.4099
Kolmogorov-Smirnov	D	0.085651	Pr > D	>0.1500
Cramer-von Mises	W-Sq	0.049698	Pr > W-Sq	>0.2500
Anderson-Darling	A-Sq	0.369872	Pr > A-Sq	>0.2500

**Table 20**

*Tests for Normality of non-White Educators for combined AMCS*

**The UNIVARIATE Procedure**  
**Variable: TOT**

Ethnicity\_Group=Non-White

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.96232	Pr < W	0.7040
Kolmogorov-Smirnov	D	0.084309	Pr > D	>0.1500
Cramer-von Mises	W-Sq	0.018509	Pr > W-Sq	>0.2500
Anderson-Darling	A-Sq	0.191392	Pr > A-Sq	>0.2500

Based on a smaller sample size than initially anticipated, determining the distribution of the independent variables was important for choosing an appropriate statistical method. The Shapiro-Wilk test was conducted due to the small sample size and its power in having the ability to test for non-normality (Salkind & Frey, 2020). The Shapiro-Wilk test was performed on the combined AMCS scale for White ( $W=0.97634$ ,  $p\text{-value}=0.4099$ ), and non-White ( $W=0.96232$ ,  $p\text{-value}=0.7040$ ) educators in Table 19 and Table 20.

**Table 21**

*Tests for Normality of White Educators for Self Esteem subscale*

**The UNIVARIATE Procedure**  
**Variable: SE**

Ethnicity\_Group=White

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.965189	Pr < W	0.1466
Kolmogorov-Smirnov	D	0.109644	Pr > D	0.1359
Cramer-von Mises	W-Sq	0.09446	Pr > W-Sq	0.1331
Anderson-Darling	A-Sq	0.619866	Pr > A-Sq	0.1009

**Table 22**

*Tests for Normality of non-White Educators for Self Esteem subscale*

**The UNIVARIATE Procedure**  
**Variable: SE**

Ethnicity\_Group=Non-White

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.966442	Pr < W	0.7782
Kolmogorov-Smirnov	D	0.138326	Pr > D	>0.1500
Cramer-von Mises	W-Sq	0.041974	Pr > W-Sq	>0.2500
Anderson-Darling	A-Sq	0.238047	Pr > A-Sq	>0.2500

**Table 23**

*Tests for Normality of White Educators for Multiracial Heritage subscale*

**The UNIVARIATE Procedure**  
**Variable: MH**

Ethnicity\_Group=White

Moments			
<b>N</b>	50	<b>Sum Weights</b>	50
<b>Mean</b>	3.545	<b>Sum Observations</b>	177.25
<b>Std Deviation</b>	0.46754352	<b>Variance</b>	0.21859694
<b>Skewness</b>	0.09803113	<b>Kurtosis</b>	-0.6849761
<b>Uncorrected SS</b>	639.0625	<b>Corrected SS</b>	10.71125
<b>Coeff Variation</b>	13.1888157	<b>Std Error Mean</b>	0.06612064

**Table 24**

*Tests for Normality of non-White Educators for Multiracial Heritage subscale*

**The UNIVARIATE Procedure**  
**Variable: MH**

Ethnicity\_Group=Non-White

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.934	Pr < W	0.2819
Kolmogorov-Smirnov	D	0.167759	Pr > D	>0.1500
Cramer-von Mises	W-Sq	0.083249	Pr > W-Sq	0.1803
Anderson-Darling	A-Sq	0.489829	Pr > A-Sq	0.1982

**Table 25**

*Tests for Normality of White Educators for Multiracial Identity subscale*

**The UNIVARIATE Procedure**  
**Variable: MI**

Ethnicity\_Group=White

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.959855	Pr < W	0.0877
Kolmogorov-Smirnov	D	0.155956	Pr > D	<0.0100
Cramer-von Mises	W-Sq	0.18438	Pr > W-Sq	0.0082
Anderson-Darling	A-Sq	0.951665	Pr > A-Sq	0.0163

**Table 26**

*Tests for Normality of non-White Educators for Multiracial Identity subscale*

**The UNIVARIATE Procedure  
Variable: MI**

Ethnicity\_Group=Non-White

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.943065	Pr < W	0.3883
Kolmogorov-Smirnov	D	0.143456	Pr > D	>0.1500
Cramer-von Mises	W-Sq	0.046402	Pr > W-Sq	>0.2500
Anderson-Darling	A-Sq	0.322765	Pr > A-Sq	>0.2500

**Table 27**

*Tests for Normality of White Educators for Psychosocial Adjustment subscale*

**The UNIVARIATE Procedure  
Variable: PA**

Ethnicity\_Group=White

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.985053	Pr < W	0.7739
Kolmogorov-Smirnov	D	0.082305	Pr > D	>0.1500
Cramer-von Mises	W-Sq	0.054359	Pr > W-Sq	>0.2500
Anderson-Darling	A-Sq	0.313785	Pr > A-Sq	>0.2500

**Table 28**

*Tests for Normality of non-White Educators for Psychosocial Adjustment subscale*

**The UNIVARIATE Procedure**  
**Variable: PA**

Ethnicity\_Group=Non-White

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.923108	Pr < W	0.1892
Kolmogorov-Smirnov	D	0.150333	Pr > D	>0.1500
Cramer-von Mises	W-Sq	0.050918	Pr > W-Sq	>0.2500
Anderson-Darling	A-Sq	0.402563	Pr > A-Sq	>0.2500

Furthermore, due to a small sample size, determining the distribution of the educators' attitudes was important for choosing an appropriate statistical method. It was determined that the Shapiro-Wilk test be performed and it did not show evidence of non-normality on any of the AMCS tests. For each subscale, the Shapiro-Wilk test produced results on the AMCS subscales of Self Esteem for White educators ( $W=0.965189$ ,  $p\text{-value}=0.1466$ ) and non-White educators ( $W=0.966442$ ,  $p\text{-value}=0.7782$ ), Multiracial Heritage for White educators ( $W=0.954626$ ,  $p\text{-value}=0.0530$ ) and non-White educators ( $W=0.934$ ,  $p\text{-value}=0.2819$ ), Multiracial Identity for White educators ( $W=0.959855$ ,  $p\text{-value}=0.0877$ ) and non-White educators ( $W=0.943065$ ,  $p\text{-value}=0.3883$ ), and Psychosocial Adjustment for White educators ( $W=0.98505$ ,  $p\text{-value}=0.7739$ ) and non-White educators ( $W=0.923108$ ,  $p\text{-value}=0.1892$ ) in Tables 21-28. Based on these

outcomes, and after visual examination of the histograms and Q-Q plots a parametric test was conducted.

### **Data Analysis Procedures**

This section defines the procedures for analyzing the collected data to answer the two central research questions for this study. The multiple sets of hypotheses for this study were run in SPSS using Welch's *t*-test, which is an appropriate test for determining if there is a statistically significant difference between the means of two independent groups (Fraenkel et al., 2019) as an alternative to running an independent *t*-test. The Welch's *t*-test was used to determine if there was a difference between White and non-White educators on the combined AMCS subscale scores and on the individual AMCS subscale scores concluding that the sample sizes and variances were unequal. This was confirmed after running the inferential statistics on the six assumptions for the independent *t*-tests.

All assumptions were met except for the sixth assumption. As a default the Welch's *t*-test or Satterthwaite method was conducted to confirm the variance through the means of the independent variables. Next, descriptive statistics were calculated for the dependent variables using mean, median, mode, and standard deviation. Finally, the inferential statistics were computed using the equality of variances output. Inferential statistical results were reported in the results section. Since the results were not significant, the observed effect size and the observed power was calculated and reported with the Welch's *t*-test results.



Basic univariate analyses were conducted on the combined scores of White and non-White responses and among all four subscales of Self Esteem (SE), Multiracial Heritage (MH), Multiracial Identity (MI), and Psychosocial Adjustment (PA). To start with, all collected data responses were assigned to values within SPSS. The Likert 5-point scale featured indicators ranging from “Strongly Disagree”(1) to “Strongly Agree,” (5). Each indicator was assigned a value. The AMCS scoring procedure was followed by having question stems 1, 3, 5, 8, 9, 10, 14, 16, 18, 19, 20, 21, 22, and 23 assigned the scale of “Strongly Disagree” (1), “Disagree” (2), “Neither Disagree Nor Agree” (3), “Agree” (4), and “Strongly Agree” (5). There were nine reverse-scored question stems for 2, 4, 6, 7, 11, 12, 13, 15, and 17. These question stems were assigned the scale of “Strongly Disagree” (5), “Disagree” (4), “Neither Disagree Nor Agree” (3), “Agree” (2), and “Strongly Agree” (1). The higher scores were reflective of more positive attitudes toward multiracial children (Jackman et al., 2001).

Afterward, univariate analyses were conducted of each subscale that had predetermined question stems that aligned to the subscales. In regard to Self Esteem (SE), the mean of question stems 1, 2, 3, 4, 6, and 7 was calculated. In regard to Multiracial Heritage (MH), the mean of questions stems 5, 9, 12, and 16 was calculated. In regard to Multiracial Identity (MI) the mean of question stems 10, 21, and 22 was calculated. In regard to Psychosocial Adjustment (PA), the mean of question stems 8, 11, 13, 14, 15, 17, 18, 19, 20, and 23 was calculated as shown in Appendix A. Univariate procedure was run on the combined scores of White and non-Whites educators’ attitudes responses. In the same way, the univariate procedure was run on all four AMCS subscales of SE, MH, MI, and PA.

### **Results Related to Central Research Question 1**

This section provides the detailed results for the Welch's  $t$ -test statistical analyses for the study's two research questions. The research questions and hypotheses tested with the Welch's  $t$ -tests are presented below with corresponding findings:

CRQ1: When analyzing measurable attitudes toward multiracial students, is there a difference between White and non-White educators on their combined AMCS subscale scores?

$H_0$  There is no difference between attitudes of White and non-White educators on their combined AMCS subscale scores.

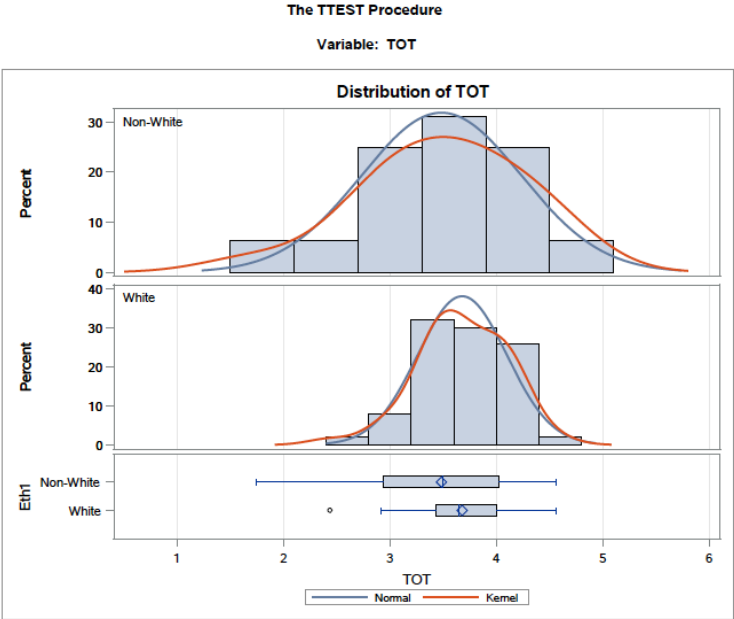
$$H_0: \mu_1 = \mu_2$$

$H_1$  There is a difference between attitudes of White and non-White educators on their combined AMCS subscale scores.

$$H_1: \mu_1 \neq \mu_2$$

**Table 29**

*Histogram of the Distribution of White and non-White Educators on the combined AMCS*

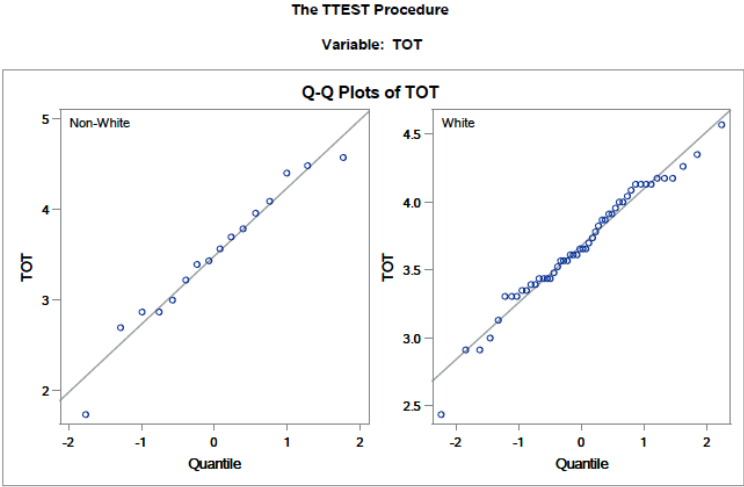


The histograms compared the distributions of White and non-White educator’s combined AMCS scores in Table 29. From the histograms, the distribution of the combined AMCS scores were roughly symmetrical, but the distribution of the White educators’ scores were shifted slightly to the right of the non-White educators’ scores. From the box plots, the total length of the box plots and the interquartile range were more dispersed beyond the “2” or “Somewhat Disagree” response for non-White educators than Whites. The wider spread of scores by non-White educators provided evidence that non-White educators have more variance in attitudes toward multiracial learners. Similarly, the center lines in the box plot showed misalignment between the White and non-White educators, with the White educators’ box plot center to the right of the centerline of the non-White educators.

Additionally, the diamond shape in the box plot represented the mean score; the mean score for the White educators was to the right of the mean score of the non-White educators.

**Table 30**

*Q-Q Plots of White and non-White Educators on the combined AMCS*



The Q-Q plots of the combined AMCS scores for White and non-White educators were checked to see if the observed values were consistent with the expected values for the normal distribution in Table 30. The values in the middle of the range were consistent with a normal distribution for both White and non-White educators. Both groups have slight deviations in the tails. Therefore, the normality assumption required for the independent samples *t*-test was satisfied. The *t*-statistic was used to measure how far the observed means were from the expected means under the null hypothesis.

A Welch’s *t*-test or Satterthwaite method was run to determine if there were differences in White and non-White attitudes due to the sixth assumption not being met for the homogeneity of variances. The educators’ attitudes on the combined AMCS were

determined to be normally distributed, as assessed by Shapiro-Wilk's test ( $p > 0.05$ ). The mean difference is the difference between the mean of the two groups using an alpha of 0.05. There were 18.076 degrees of freedom with a  $t$  critical of 2.101. The White educators' attitudes ( $M = 3.6783$ ,  $SD = 0.4182$ ) had a higher mean than non-White educators' attitudes ( $M = 3.4837$ ,  $SD = 0.7504$ ) yet, were not statistically significantly different,  $M = -0.1946$ , 95% CL  $[-0.6077, 0.2185]$ ,  $t(18.076) = -0.99$ ,  $p = 0.3356$ . Further, Hedges'  $g$  effect size value ( $g = 0.3774$ ) suggested small practical significance. This result failed to reject the null hypothesis and rejected the alternative hypothesis. There was not sufficient evidence that the means of the two populations were significantly different.

### **Results Related to Central Research Question 2**

CRQ2: When analyzing measurable attitudes toward multiracial students, is there a difference between White and non-White educators on their individual AMCS subscale scores?

$H_0$  There is no difference between attitudes of White and non-White educators on their individual *Self-Esteem* subscale scores.

$$H_0: \mu_1 = \mu_2$$

$H_1$  There is a difference between attitudes of White and non-White educators on their individual *Self-Esteem* subscale scores.

$$H_1: \mu_1 \neq \mu_2$$

$H_0$  There is no difference between attitudes of White and non-White educators on their individual *Multiracial Heritage* subscale scores.

$$H_0: \mu_1 = \mu_2$$

$H_1$  There is a difference between attitudes of White and non-White educators on their individual *Multiracial Heritage* subscale scores.

$$H_1: \mu_1 \neq \mu_2$$

$H_0$  There is no difference between attitudes of White and non-White educators on their individual *Multiracial Identity* subscale scores.

$$H_0: \mu_1 = \mu_2$$

$H_1$  There is a difference between attitudes of White and non-White educators on their individual *Multiracial Identity* subscale scores.

$$H_1: \mu_1 \neq \mu_2$$

$H_0$  There is no difference between attitudes of White and non-White educators on their individual *Psychosocial Adjustment* subscale scores.

$$H_0: \mu_1 = \mu_2$$

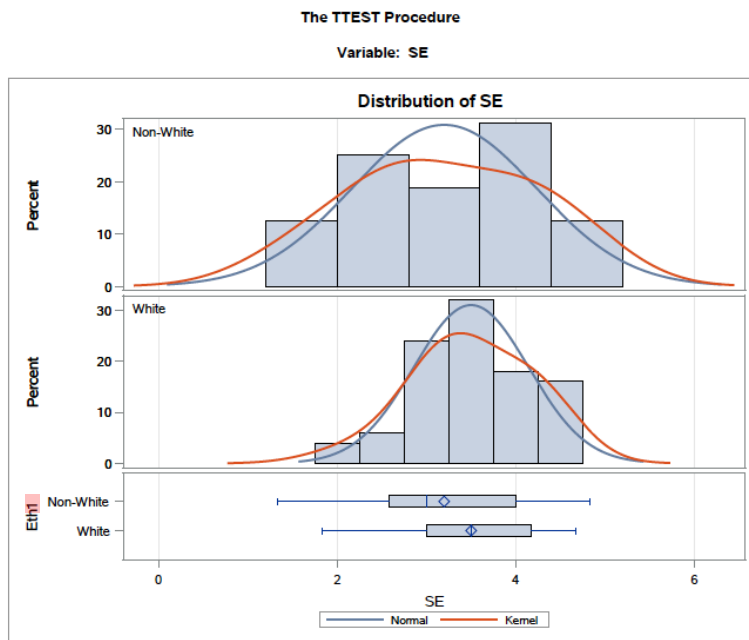
$H_1$  There is a difference between attitudes of White and non-White educators on their individual *Psychosocial Adjustment* subscale scores.

$$H_1: \mu_1 \neq \mu_2$$

The following graphs for all four AMCS subscales contain histograms, box plots, and Q-Q plots which were similar in the distribution of White and non-White educators combined AMCS scores and were further reported.

**Table 31**

*Histogram of the Distribution of White and non-White Educators on the Self Esteem subscale*

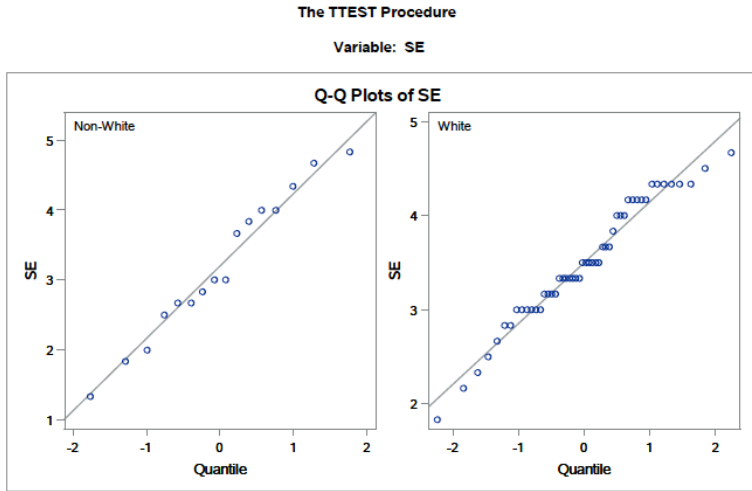


The histograms on the AMCS subscale of Self Esteem in the distribution of the Self Esteem scores were roughly symmetrical, but the distribution of the White educators' scores were shifted slightly to the right of the non-White educators' scores. From the box plots, the total length of the box plots for non-White educators stretched further beyond the "2" or "Somewhat Disagree" and beyond the "4" or "Somewhat Agree" than the White educators' responses. Similarly, the center lines in the box plot showed misalignment between White and non-White educators, with the White educators' box plot center to the right of the centerline of the non-White educators. Additionally, the diamond shape for the non-Whites

was to the right of the centerline, indicating the mean was to the right of the median and not aligned in Table 31.

**Table 32**

*Q-Q Plots of White and non-White Educators on Self Esteem subscale*



The Q-Q plots of the AMCS subscale of Self Esteem scores for White and non-White educators were checked to see if the observed values were consistent with the expected values for the normal distribution. The values in the middle of the range were consistent with a normal distribution for both White and non-White educators. There were slight deviations but it did not reflect a deviation from a normal distribution in Table 32.

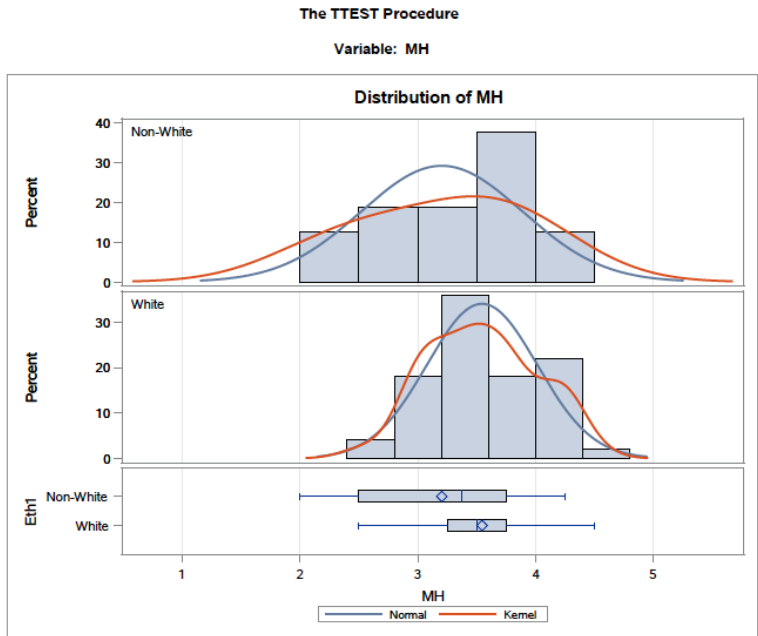
A Welch *t*-test or Satterthwaite method was run to determine if there were differences in White and non-White attitudes due to the sixth assumption not being met for the homogeneity of variances. The educators' attitudes on the Self Esteem AMCS subscale scores were determined normally distributed, as assessed by Shapiro-Wilk's test ( $p > 0.05$ ). The mean difference is the difference between the mean of the two groups using an alpha of



0.05. There were 18.861 degrees of freedom with a *t* critical of 2.101. The White educators' attitudes (M=3.5, SD=0.6442) had a higher mean than non-White educators' attitudes (M=3.1979, SD=1.0350) yet, were not statistically significantly different, M= -0.3021, 95% CL [-0.8765, 0.2723],  $t(18.861)=-1.10$ ,  $p=0.2847$ . Further, Hedges' *g* effect size value ( $g=0.000054$ ) suggested small practical significance. This result failed to reject the null hypothesis and rejected the alternative hypothesis. There was not sufficient evidence that the means of the two populations were significantly different.

**Table 33**

*Histogram of the Distribution of White and non-White Educators on the Multiracial Heritage subscale*

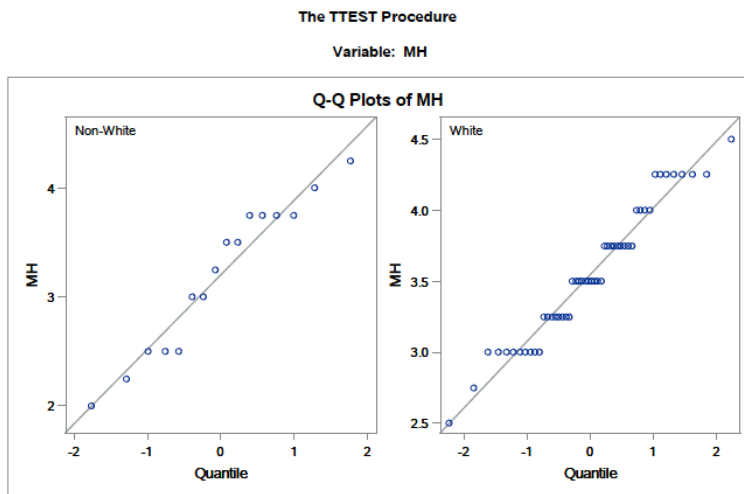


The histograms on the AMCS subscale of Multiracial Heritage in the distribution of the Multiracial Heritage scores were roughly symmetrical, but the distribution of the White

educators' scores were shifted slightly to the right of the non-White educators' scores in Table 33. From the box plots, the total length of the box plots for non-White educators stretched to the "2" or "Somewhat Disagree" and beyond the "4" or "Somewhat Agree" as opposed to the White educators' responses which spanned beyond the "2" or "Somewhat Disagree" beyond the "4" or "Somewhat Agree." The distribution of non-White responses represented more dispersed responses than White educators. Similarly, the center lines in the box plot showed misalignment between White and non-White educators, with the White educators' box plot center to the right of the centerline of the non-White educators. Additionally, the median of non-White educator responses was higher than the median but both measures were slightly lower than that of White educators.

**Table 34**

*Q-Q Plots of White and non-White Educators on Multiracial Heritage subscale*



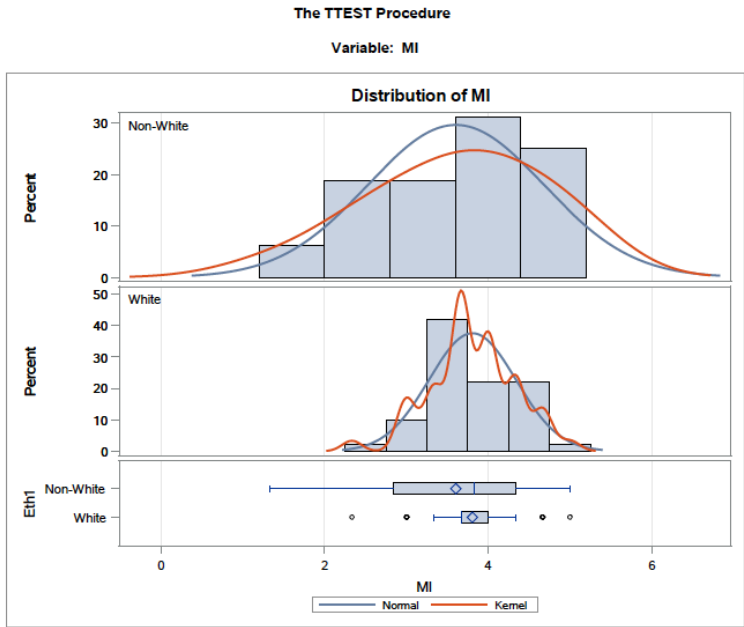
The Q-Q plots of the AMCS subscale of the Multiracial Heritage scores for White and non-White educators were checked to see if the observed values were consistent with

the expected values for the normal distribution. The values in the middle of the range were consistent with a normal distribution for both White and non-White educators. There were slight deviations but it did not reflect a deviation from a normal distribution in Table 34.

A Welch's *t*-test or Satterthwaite method was run to determine if there were differences in White and non-White attitudes due to the sixth assumption not being met for the homogeneity of variances. The educators' attitudes on the Multiracial Heritage AMCS subscale scores were determined normally distributed, as assessed by Shapiro-Wilk's test ( $p > 0.05$ ). The mean difference is the difference between the mean of the two groups using an alpha of 0.05. There were 19.679 degrees of freedom with a *t* critical of 2.093. The White educators' attitudes ( $M = 3.5450$ ,  $SD = 0.4675$ ) had a higher mean than non-White educators' attitudes ( $M = 3.2031$ ,  $SD = 0.6845$ ) yet, were not statistically significantly different,  $M = -0.3419$ , 95% CL  $[-0.7249, 0.0412]$ ,  $t(19.679) = -1.86$ ,  $p = 0.0774$ . Further, Hedges' *g* effect size value ( $g = 0.649532$ ) suggested medium practical significance. This result failed to reject the null hypothesis and rejected the alternative hypothesis. There was not sufficient evidence that the means of the two populations were significantly different.

**Table 35**

*Histogram of the Distribution of White and non-White Educators on the Multiracial Identity subscale*

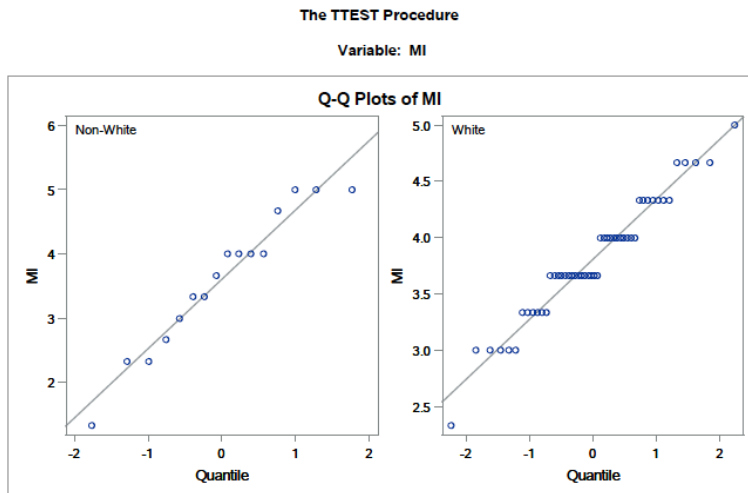


The histograms on the AMCS subscale of Multiracial Identity in the distribution of non-White educators responses appeared to be consistent with all other AMCS subscale scores and combined AMCS scores. In contrast, the Multiracial Identity scores showed a condensed response from the distribution among White educators’ that hovered around “4” or “Somewhat Agree.” It was also evident, by the kernel density estimation, that there was a smaller bandwidth or undersmoothed line represented based on the data set results in Table 35. From the box plots, the total length of the box plots for non-White educators stretched to the “2” or “Somewhat Disagree” and beyond the “4” or “Somewhat Agree” as opposed to the White educators' responses that lied in close proximity to “4” or “Somewhat Agree.” The distribution of non-White responses represented a wider spread of responses than White

educators. Similarly, the center lines in the box plot showed misalignment between White and non-White educators. The White educators' responses had the smallest span of responses among any scale represented. Yet, the non-White educators' responses proved consistent among all other non-White educators' responses on the combined AMCS scores and all other AMCS subscale scores.

**Table 36**

*Q-Q Plots of White and non-White Educators on Multiracial Identity subscale*



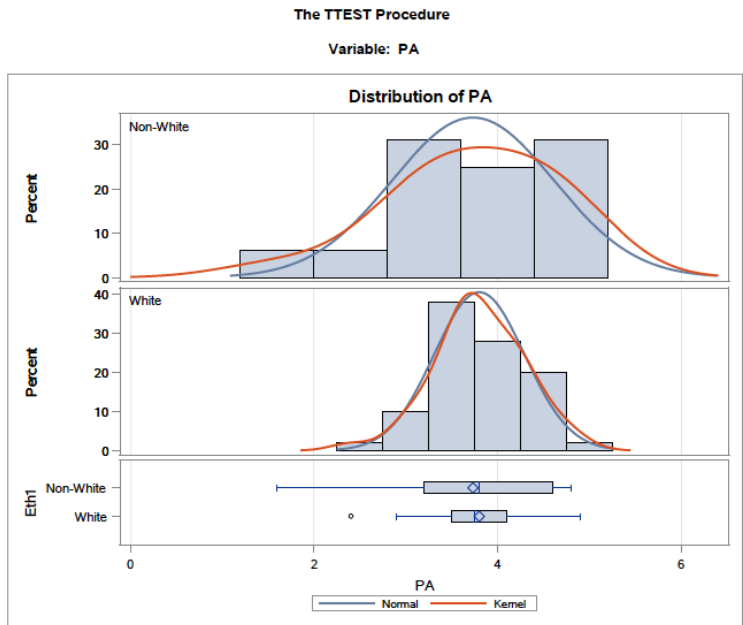
The Q-Q plots of the AMCS subscale of the Multiracial Identity scores for White and non-White educators were checked to see if the observed values were consistent with the expected values for the normal distribution. The values in the middle of the range were consistent with a normal distribution for both White and non-White educators. There were slight deviations but it did not reflect a deviation from a normal distribution in Table 36.

A Welch's *t*-test or Satterthwaite method was run to determine if there were differences in White and non-White attitudes due to the sixth assumption not being met for

the homogeneity of variances. The educators' attitudes on the Multiracial Identity AMCS subscale scores were determined normally distributed, as assessed by Shapiro-Wilk's test ( $p > 0.05$ ). The mean difference is the difference between the mean of the two groups using an alpha of 0.05. There were 17.391 degrees of freedom with a  $t$  critical of 2.110. The White educators' attitudes ( $M=3.8067$ ,  $SD=0.5306$ ) had a higher mean than non-White educators' attitudes ( $M=3.6042$ ,  $SD=1.0765$ ) yet, were not statistically significantly different,  $M=-0.2025$ , 95% CL  $[-0.7909, 0.3859]$ ,  $t(17.391)=-0.72$ ,  $p=0.4782$ . Further, Hedges'  $g$  effect size value ( $g=0.290129$ ) suggested small practical significance. This result failed to reject the null hypothesis and rejected the alternative hypothesis. There was not sufficient evidence to say that the means of the two populations were significantly different.

**Table 37**

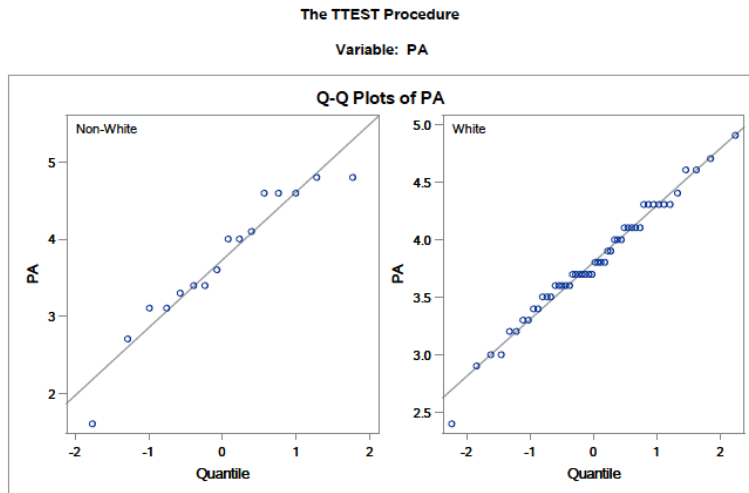
*Histogram of the Distribution of White and non-White Educators on the Psychosocial Adjustment subscale*



The histograms on the AMCS subscale of Psychosocial Adjustment in the distribution of the Psychosocial Adjustment scores were roughly symmetrical, but the distribution of the White educators’ scores were shifted slightly to the right of the non-White educators’ scores in Table 37. From the box plots, the total length of the box plots for non-White educators stretched further beyond the “2” or “Somewhat Disagree” than the White educators' responses. Although the center lines in the box plot were close to an alignment between White and non-White educators, the White educators’ box plot center was slightly right of the centerline of the non-White educators.

**Table 38**

*Q-Q plots of White and non-White educators on the Psychosocial Adjustment subscale*



The Q-Q plots of the AMCS subscale of the Psychosocial Adjustment scores for White and non-White educators were checked to see if the observed values were consistent with the expected values for the normal distribution. The values in the middle of the range were consistent with a normal distribution for both White and non-White educators. There were slight deviations but it did not reflect a deviation from a normal distribution in Table 38.

A Welch's *t*-test or Satterthwaite method was run to determine if there were differences in White and non-White attitudes due to the sixth assumption not being met for the homogeneity of variances. The educators' attitudes on the Psychosocial Adjustment AMCS subscale scores were determined normally distributed, as assessed by Shapiro-Wilk's test ( $p > 0.05$ ). The mean difference is the difference between the mean of the two groups using an alpha of 0.05. There were 18.09 degrees of freedom with a *t* critical of 2.101. The



White educators' attitudes ( $M=3.8$ ,  $SD=0.4924$ ) had a higher mean than non-White educators' attitudes ( $M=3.7313$ ,  $SD=0.8815$ ) yet, were not statistically significantly different,  $M=-0.0688$ , 95% CL  $[-0.5541, 0.4166]$ ,  $t(18.09)=-0.30$ ,  $p=0.7695$ . Further, Hedges'  $g$  effect size value ( $g=0.113287$ ) suggested small practical significance. This result failed to reject the null hypothesis and rejected the alternative hypothesis. There was not sufficient evidence that the means of the two populations were significantly different.

### **Whiteness Theory Treatment**

The implied intervention or treatment in this study was the condition of Whiteness as self-identified by educators. Race was used as one of the self-identification questions in the survey for educators to select along with gender, grade level taught, and years of service. The condition of being White was gathered by having participants self-identify at the beginning of the survey. The two independent variables of White and non-White were free of any manipulation by the lead investigator. Each participant was given the opportunity to self identify according to the five Census classifications of racial identity (U.S. Census, 2021). Although participants were also given an opportunity to select "Prefer Not to Answer," this option gave individuals the right to not answer. It also posed a challenge in gaining this critical piece of data on race. The results did not show either by significance or by a meaningful way that the condition of being White (Frankenberg, 1997, p.1) had any bearing on attitudes toward multiracial learners. This result was in direct contrast to the literature.

### **Summary**

Two research questions created the analytical lens through which educator attitudes could be studied. Through analysis of the data and through analysis of the collected responses it was evident that there was no difference in White and non-White educators' attitudes toward multiracial learners. The responses collected on the combined AMCS and all four AMCS subscales failed to reject the null hypothesis and rejected the alternative hypothesis. In regard to Whiteness theory, the results indicated that the condition of being White did not impact educators' attitudes. White educators' attitudes are relatively the same as non-White attitudes toward multiracial learners with no statistical or meaningful difference. These findings are further discussed in Chapter 5. Implications for further research were explored, limitations to the current research examined, and a plan for positive social change regarding educators' attitudes were recommended.

## **Chapter 5: Summary, Conclusion, and Recommendations**

The current study had as its central aim, to examine White and non-White educators' attitudes toward multiracial learners. To date, limited studies have been conducted which relate to the attitudes of educators and multiracial learners, the largest population of learners entering classrooms. The current study attempted further work initiated by Jackman, Wagman, and Johnson (2001), which utilized the AMCS scale to measure the professional attitudes toward multiracial learners. The current study followed the survey closely and utilized analysis methodology as the foundation for research questions, analysis, and as a context to frame the findings.

### **Summary of Results**

Two central research questions created the analytic lens through which educators' attitudes could be studied. Data were approached through distribution of an online survey. Thorough analysis of the data revealed that both research questions were not found to be statistically significant or meaningful. Deeper analysis revealed that each of the hypotheses failed to reject the null hypothesis and rejected the alternative hypothesis.

### **Interpretation of Results for Central Research Question 1**

The Central Research Question 1 asked: CRQ1: When analyzing measurable attitudes toward multiracial students, is there a difference between White and non-White educators on their combined AMCS subscale scores? Results related to the central research question one were set against the AMCS that was developed to measure adult attitudes particularly for teachers (Jackman et al., 2001). Through the survey design approach it was important to provide the AMCS survey to educators in Michigan charter schools.

The data revealed that White educators' attitudes ( $M=3.6783$ ,  $SD=0.4182$ ) had a higher mean than non-White educators' attitudes ( $M=3.4837$ ,  $SD=0.7504$ ) yet, were not statistically significantly different,  $M=-0.1946$ , 95% CL  $[-0.6077, 0.2185]$ ,  $t(18.076)=-0.99$ ,  $p=0.3356$ . Further, Hedges'  $g$  effect size value ( $g=0.3774$ ) suggested small practical significance. This result failed to reject the null hypothesis and rejected the alternative hypothesis. There was not sufficient evidence that the means of the two populations were significantly different. The data did reveal however, that the non-White educators' attitude responses were more dispersed than White educators' attitude responses.

## **Interpretation of Results for Central Research Question 2**

The Central Research Question 2 asked: CRQ2: When analyzing measurable attitudes toward multiracial students, is there a difference between White and non-White educators on their individual AMCS subscale scores? Results related to central research question two were set against the four AMCS subscales of Self Esteem, Psychosocial Adjustment, Multiracial Heritage, and Multiracial Identity that were subsets of the AMCS. The AMCS was developed to measure adult attitudes particularly for teachers (Jackman et al., 2001). Through the survey design approach it was important to provide the AMCS survey to educators in Michigan charter schools.

The data revealed that for the Self Esteem AMCS subscale White educators' attitudes ( $M=3.5$ ,  $SD=0.6442$ ) had a higher mean than non-White educators' attitudes ( $M=3.1979$ ,  $SD=1.0350$ ) yet, were not statistically significantly different,  $M=-0.3021$ , 95% CL  $[-0.8765, 0.2723]$ ,  $t(18.861)=-1.10$ ,  $p=0.2847$ . Further, Hedges'  $g$  effect size value ( $g=0.000054$ ) suggested small practical significance.

The data revealed for the Psychosocial Adjustment AMCS subscale White educators' attitudes ( $M=3.8$ ,  $SD=0.4924$ ) had a higher mean than non-White educators' attitudes ( $M=3.7313$ ,  $SD=0.8815$ ) yet, were not statistically significantly different,  $M=-0.0688$ , 95% CL  $[-0.5541, 0.4166]$ ,  $t(18.09)=-0.30$ ,  $p=0.7695$ . Further, Hedges'  $g$  effect size value ( $g=0.113287$ ) suggested small practical significance.

The data revealed for the Multiracial Heritage AMCS subscale White educators' attitudes ( $M=3.5450$ ,  $SD=0.4675$ ) had a higher mean than non-White educators' attitudes ( $M=3.2031$ ,  $SD=0.6845$ ) yet, were not statistically significantly different,  $M=-0.3419$ , 95% CL  $[-0.7249, 0.0412]$ ,  $t(19.679)=-1.86$ ,  $p=0.0774$ . Further, Hedges'  $g$  effect size value ( $g=0.649532$ ) suggested medium practical significance. To gain medium practical significance suggested there was a greater relationship between White and non-White educators' attitudes within the Multiracial Heritage AMCS scale result which suggested that it was meaningful but not statistically significant.

The data revealed for the Multiracial Identity AMCS subscale White educators' attitudes ( $M=3.8067$ ,  $SD=0.5306$ ) had a higher mean than non-White educators' attitudes ( $M=3.6042$ ,  $SD=1.0765$ ) yet, were not statistically significantly different,  $M=-0.2025$ , 95% CL  $[-0.7909, 0.3859]$ ,  $t(17.391)=-0.72$ ,  $p=0.4782$ . Further, Hedges'  $g$  effect size value ( $g=0.290129$ ) suggested small practical significance. This result failed to reject the null hypothesis and rejected the alternative hypothesis. There was not sufficient evidence that the means of the two populations were significantly different. The data did reveal however, that the non-White educators' attitude responses were more dispersed than White educators' attitude responses.

In summary, the results suggested that there was not a difference in White and non-White educators' attitudes toward multiracial learners. However, there was dispersion found among all AMCS tests between White and non-White educator attitudes. Further evidence of a medium practical effect found in the Multiracial Heritage AMCS subscale was exposed through analysis relating to Research Question 2 in this study.

### **Recommendations for Action**

Across the literature much is known about identity elements, yet little is known about the unique needs of multiracial learners. A gap remains; multiracial learners are not seen or heard. A central finding in the current study of 66 Michigan charter school educators was that this gap was not confirmed. Due to the fact that the concern of the study was based on multiracial learners constructively, historically, developmentally, organizationally, and academically the aggregated AMCS attitudinal subscales of educators who work with multiracial learners in K-12 Michigan charter schools did not reveal this finding.

However, the current study showed a medium meaningful effect size difference between White and non-White educators' attitudes from the Multiracial Heritage AMCS subscale. This finding may draw attention to a gap that may exist if given a larger sample size. In this study over 80% of the respondents were White and Female (92%) which aligned with the current representative imbalance of educators among multiracial learners (de Brey et al., 2019). It is evident that the White educators' attitudes reflected a more positive attitude toward multiracial learners based on the AMCS scoring guide (Jackman et al., 2001). Yet, this is in contrast to the literature and the Whiteness theory.

Across the literature much is known about universal planning, yet little is known about targeted planning objectives for multiracial learners. A gap remains; state expectations are not inclusive nor explicit. Due to the fact that the concern of this study was based on the administrations and jurisdictions the aggregated AMCS attitudinal subscales of educators who work with multiracial learners in K-12 Michigan charter schools did not reveal this finding. It is evident that the White educators' attitudes reflected a more positive attitude toward multiracial learners based on the AMCS scoring guide (Jackman et al., 2001).

However, the current study revealed evidence of dispersion of responses among the White and non-White educators' attitudes on the combined AMCS responses and all four AMCS subscale responses. Although not found statistically significant, it is evident that White educators respond more positively and consistently whereas, non-White educators do not. This was in contrast to the literature and the Whiteness Theory. Therefore, it is recommended to examine not only charter school educators but also traditional public school educators. It may be advantageous to study in other predominant geographic areas with multiracial learners.



Across the literature much is known about the elusive understanding, yet little is known about the professional attitudes towards multiracial learners. A gap remains; educators' attitudes are not reflective nor diversified. Due to the fact that the concern of this study was based on the educators' disposition and perceptions the aggregated AMCS attitudinal subscales of educators who work with multiracial learners in K-12 Michigan charter schools did not reveal this finding. It is evident that the White educators' attitudes reflected a more positive attitude toward multiracial learners based on the AMCS scoring guide (Jackman et al., 2001).

However, the current study revealed evidence of dispersion of responses among the White and non-White educators' attitudes on the combined AMCS responses and all four AMCS subscale responses. Although not found statistically significant, it is evident that White educators respond more positively and consistently whereas, non-White educators do not. This was in contrast to the literature and the Whiteness Theory.

In summary, due to the variance in how White and non-White educators responded to this study laid another inquiry of research for a recommendation of action. First, an increase in sample size may provide more of a distinction between the independent groups that would align with the research. Second, the unit of study could expand or consider traditional public schools to gain more educators across Michigan. Third, the survey could be coupled with interviews to see if the educators' attitudes align in person with the results of the survey data. The results of this study have merit to continue with a call of action for additional research.

### **Limitations of the Study**

One central limitation of the current study was the number of participants that actually completed the entire survey. The proposed study had 112 participants in its initial target. However, when analyzing the data forty-six participants did not complete the survey. Further, among the educators that completed the survey there was a vast difference in the number of White and non-White educators, leaving the researcher with a few options to run the data analysis. Another limiting factor was that the respondents were able to select “Prefer Not to Answer.” The ability to opt out eliminated responses that would have had to be considered. The study was randomly distributed and anonymous and did not allow for the researcher to remind participants to finish the survey and this limitation allowed for a large number of surveys to be not completed. In this study, saturation occurred not only because of the initial number of participants reached but also because of the lack of availability for participants for further data collection had been exhausted. In hindsight, although there were follow ups to incomplete surveys, having additional strategies for follow ups is another consideration that needs to be considered. Charter schools in Michigan have a high percentage of non-White learners and may have educators who have more positive attitudes to multiracial learners, whether White or non-White. Finally, the timing of the study was not ideal due to being distributed over the summer months when educators have their summer break. In spite of these limitations, it is argued that saturation with the participant responses of collected data was reached. Namely, the data proved adequate to reach conclusions of the study and provided ample illustrations and evidence of the educator attitudes that were present in the educators under study.

### **Implications for Social Change**

As the rate of multiracial learners continues to grow in schools and the workforce of educators remains predominantly White and female, schools must begin to look critically at the unique needs of multiracial learners, universal planning, and professional attitudes of their educators. To its credit, the Supreme Court ruling of *Brown v. Board of Education of Topeka* (1954) prohibited states from segregating schools based on race. The current literature presented a disconnect between educators' attitudes and multiracial learners, a new type of segregation in schools. Therefore, the findings showed a more positive attitude among White educators but the dispersion of scores offered a new inquiry that White and non-White educators do not have the same responses that equate or support multiracial learners, the universal planning needed, or the professional attitudes as presented in the study. The results indicated a need to further investigate and must serve as a point of departure for a deeper conversation regarding the educators' attitudes toward multiracial learners. This is critical knowing that one in five individuals will identify with more than one racial heritage by 2050 (Waring & Purkayastha, 2017).

### **Conclusion**

The current study had an intended aim on the examination of educators' attitudes toward multiracial learners based on the current research. Multiracial learners continue to live in the periphery of schools with their identity, universal planning, and among the attitudes of educators according to the current literature. As the rate of learners identifying as multiracial enter school continues to climb each year, the gap will continue to illuminate as the classrooms continue to have an overwhelming representation of White females educators.

## References

- Agosto, V., White, A., & Valcarlos, M. M. (2019). Deficit-laden use of constructs in anti-oppressive curriculum. *Journal of Curriculum Theorizing*, 34(1), 35-49.
- Albuja, A. F., Sanchez, D. T., & Gaither, S. E. (2019). Identity denied: Comparing American or White identity denial and psychological health outcomes among bicultural and biracial people. *Personality and Social Psychology Bulletin*, 45(3), 416-430.  
<https://doi.org/10.1177/014616721878855>
- American Psychological Association. (2020). *Publication manual of the American Psychological Association 2020: the official guide to APA style* (7th ed.). American Psychological Association.
- Apple, M. (2004). *Ideology and curriculum*. (3rd ed.). Routledge.  
<https://doi.org/10.4324/9780203487563>
- Applebaum, B. (2008). White privilege/White complicity: Connecting "benefiting from" to "contributing to". *Philosophy of Education Archive*, 292-300.  
<https://doi.org/10.47925/2008.292>
- Applebaum, B. (2016). *Critical whiteness studies*. In G. Nobilt (Ed.), *Oxford Research Encyclopedia of Education*, Oxford University Press, 40, 429-441.  
<https://doi.org/10.1093/acrefore/9780190264093.013.5>
- Babbie, E. R. (2020). *The practice of social research* (15th ed.). Cengage Learning.
- Bailey, E. J. (2013). The new face of America: How the emerging multiracial, multiethnic majority is changing the United States. *ABC-CLIO*.  
<https://doi.org/10.5860/choice.51-0567>

- Belisle, N., & Dixon, M. (2020). I am Black but... complexities of being a marginalized multiracial and implications for practice. *NASPA Multiracial Knowledge Community E-Book: Navigating Borderland Communities in a Monolithic Paradigm*, 16-21.  
[https://doi.org/10.1007/978-3-030-88821-3\\_4](https://doi.org/10.1007/978-3-030-88821-3_4)
- Bertram, D. (2007). Likert scales. *Poincare*, 1-11.  
<http://poincare.matf.bg.ac.rs/~kristina/topic-dane-likert.pdf>
- Bloomfield, J., & Fisher, M. J. (2019). Quantitative research design. *Journal of the Australasian Rehabilitation Nurses Association*, 22(2), 27-30.  
<https://doi.org/10.33235/jarna.22.2.27-30>
- Boston, C., & Warren, S. R. (2017). The effects of belonging and racial identity on urban African American high school students' achievement. *Journal of Urban Learning, Teaching, and Research*, 13, 26-33.
- Bowles, D. D. (1993). Bi-racial identity: children born to African-American and White couples. *Clinical Social Work Journal*, 21(4), 417-428.  
<https://doi.org/10.1007/BF00755575>
- Bratter, J., Farrell, A., Mehta, S. K., Casarez, R. S., Zhang, X., & Carroll, M. (2022). “There’s something very wrong with the system in this country”: Multiracial organizations and their responses to racial marginalization. *Social Sciences*, 11(5), 226. <https://doi.org/10.3390/socsci11050226>
- Braveman, P. A., Arkin, E., Proctor, D., Kauh, T., & Holm, N. (2022). Systemic and structural racism: definitions, examples, health damages, and approaches to dismantling: Study examines definitions, examples, health damages, and dismantling

systemic and structural racism. *Health Affairs*, 41(2), 171-178.

<https://doi.org/10.1377/hlthaff.2021.01394>

Brown v. Board of Education of Topeka, 139 F. Supp. 468 (D. Kan. 1955).

[https://doi.org/10.1007/springerreference\\_69801](https://doi.org/10.1007/springerreference_69801)

Brown, T. N., Tanner-Smith, E. E., Lesane-Brown, C. L., & Ezell, M. E. (2007). Child, parent, and situational correlates of familial ethnic/race socialization. *Journal of Marriage and Family*, 69, 14-25.

<https://doi.org/10.1111/j.1741-3737.2006.00339.x-i1>

Campbell, A. (2020). Educational experiences of multiracial students: A literature review.

*Journal of Educational Research and Innovation*, 8(1), 1-10.

<https://digscholarship.unco.edu/jeri/vol8/iss1/1>

Campbell, D. M., & Jeffries, R. B. (2017). Elementary teachers' ideologies on the

experience of a mixed-race student. *Journal of Multicultural Affairs*, 2(2), 1-14.

<https://scholarworks.sfasu.edu/jma/vol2/iss2/3>

Castillo, S. E. (2022). Multiracial race self-labeling decisions: The influence of gender,

social class, and political party affiliation. *Social Sciences*, 11(2), 87, 1-22.

<https://doi.org/10.3390/socsci11020087>

Chang, A. (2016). Multiracial matters - Disrupting and reinforcing the racial rubric in

educational discourse. *Race Ethnicity and Education*, 19(4), 706–730.

<https://doi.org/10.1080/13613324.2014.885427>

Chaudhari, P. (2022). A mixed sense of belonging: Fluid experiences for multiracial and

multiethnic college students. In *Preparing for Higher Education's Mixed Race*

- Future: Why Multiraciality Matters*, 105-124. Cham: Springer International Publishing. [https://doi.org/10.1007/978-3-030-88821-3\\_6](https://doi.org/10.1007/978-3-030-88821-3_6)
- Chen, J. & Hamilton, D. (2012). Natural ambiguities: Racial categorization of multiracial individuals. *Journal of Experimental Social Psychology*, 48(1), 152-164. <https://doi.org/10.1016/j.jesp.2011.10.005>
- Cherng, H. Y. S., & Davis, L. A. (2019). Multicultural matters: An investigation of key assumptions of multicultural education reform in teacher education. *Journal of Teacher Education*, 70(3), 219-236. <https://doi.org/10.1177/0022487117742884>
- Chiong, J. A. (1998). *Racial categorization of multiracial children in schools*. (1st ed.). Bergin and Garvey.
- Choi, J. (2008). Unlearning colorblind ideologies in education class. *Educational Foundations*, 22(3), 53-71.
- Choi, Y., He, M., Herrenkohl, T. I., Catalano, R. F., Toumbourou, J. W. (2012). Multiple identification and risks: Examination of peer factors across multiracial and single-race youth. *J Youth Adolescence*, 41(7), 847-862. <https://doi.org/10.1007/s10964-012-9750-2>.
- Clayton, K. A. (2020). Biracial identity development at historically White and historically Black colleges and universities. *Sociology of Education*, 93(3), 238–255. <https://doi-org.libproxy.umflint.edu/10.1177/0038040720926163>
- Conley, C. S., Kirsch, A. C., Dickson, D. A., & Bryant, F. B. (2014). Negotiating the transition to college: Developmental trajectories and gender differences in



psychological functioning, cognitive-affective strategies, and social well-being.

*Emerging Adulthood*, 2(3), 195-210. <https://doi.org/10.1177/2167696814521808>

Copenhaver-Johnson, J. (2006). Talking to children about race: The importance of inviting difficult conversations. *Childhood Education*, 83(1), 12-22.

<https://doi.org/10.1080/00094056.2006.10522869>

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. (5th ed.). Sage Publications.

Csizmadia, A., & Atkin, A. L. (2022). Supporting children and youth in multiracial families in the United States: Racial-ethnic socialization and familial support of multiracial experiences. *Journal of Child and Family Studies*, 31(4), 1-11.

<https://doi.org/10.1007/s10826-022-02265-6>

Csizmadia, A., & Ispa, J. M. (2014). Black-white biracial children's social development from kindergarten to fifth grade. *Social Development*, 23(1), 157-177.

<https://doi.org/10.1111/sode.12037>

Davenport, L. D. (2016). The role of gender, class, and religion in biracial Americans' racial labeling decisions. *American Sociological Review*, 81(1), 57-84.

<https://doi.org/10.1177/0003122415623286>

Davenport, L. D. (2018). *Politics beyond Black and White: Biracial identity and attitudes in America* (1st ed.). Cambridge University Press.

<https://doi.org/10.1017/9781108694605>

Davenport, L. D., Iyengar, S., & Westwood, S. J. (2022). Racial identity, group consciousness, and attitudes: A framework for assessing multiracial

self-classification. *American Journal of Political Science*, 66(3), 570-586.

<https://doi.org/10.1111/ajps.12674>

Davis, T. (2016). Parental race as symbolic and social capital: Teacher evaluations of part-White biracial and monoracial minority students. *Race, Ethnicity, and Education*, 19(2), 339-367. <https://doi.org/10.1080/13613324.2015.1046827>

de Brey, C., Musu, L., McFarland, J., Wilkinson-Flicker, S., Diliberti, M., Zhang, A., Branstetter, C., and Wang, X. (2019). *Status and trends in the education of racial and ethnic groups, 2018* (NCES 2019-038). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

<https://nces.ed.gov/pubs2019/2019038.pdf>

DeWinter, J. F. C., & Dodou, D. (2010). Five-point Likert items: t test versus Mann-Whitney-Wilcoxon, *Practical Assessment, Research and Evaluation*, 15(1), 11.

<https://doi.org/10.7275/bj1p-ts64>

DiAngelo, R. (2018). *White fragility: Why it's so hard for White people to talk about racism* (1st ed.). Beacon Press.

Dillard, E. A. (2022). Supporting Black-White biracial students: Leadership practices and recognition in the K-12 school environment (Doctoral dissertation, The George Washington University). ProQuest Dissertations & Theses Global.

Durrant, L., & Gillum, N. L. (2018). White fathers and their Black-White biracial sons. *Marriage & Family Review*, 54(4), 374-392.

<https://doi.org/10.1080/01494929.2017.1403994>

- E BRIEF U.S. Department of Education Office of Educational Research. (1998). *Racial and ethnic Classifications used in U.S. public schools*.  
<https://nces.ed.gov/pubs98/98035.pdf>
- Elsheikh, W., Kuan, J., & Woods, J. (2020). Supporting the identity development of multiracial graduate students. *Journal of College and Character*, 21(4), 323-328.  
<https://doi.org/10.1080/2194587X.2020.1822881>
- Experts Exchange (2012).  
<https://www.experts-exchange.com/articles/2529/Median-Mode-Skewness-and-Kurtosis-in-MS-Access.html>
- Farley, R. (2018). Racial identities in 2000: The response to the multiple-race response option. *The Inequality Reader*, 228-236. <https://doi.org/10.4324/9780429494468>
- Fisher, S., Zapolski, T. C. B., Sheehan, C., Barnes-Najor, J., (2017). Pathway of protection: Ethnic identity, self-esteem, and substance use among multiracial youth. *Addictive Behaviors*, 72, 27-32. <https://doi.org/10.1016/j.addbeh.2017.03.003>.
- Fowler, Jr., F. J. (2013). *Survey research methods* (5th ed.). Sage Publications.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2019). *How to design and evaluate research in education* (10th ed.). McGraw-Hill Education.
- Franco, M. G., & O'Brien, K. M. (2018). Racial identity invalidation with multiracial individuals: An instrument development study. *Cultural Diversity and Ethnic Minority Psychology*, 24(1), 112. <https://dx.doi.org/10.1037/cdp0000170>

- Franco, M. G., Katz, R., & O'Brien, K. M. (2016). Forbidden identities: A qualitative examination of racial identity invalidation for Black/White biracial individuals. *International Journal of Intercultural Relations, 50*, 96-109.  
<https://doi.org/10.1016/j.ijintrel.2015.12.004>
- Frankenburg, R. (1993). *White women, race matters: The social construction of whiteness* (1st ed.). Routledge. <https://doi.org/10.4324/9780203973431>
- Frankenberg, R. (1997). *Displacing whiteness: Essays in social and cultural criticism*. Duke University Press. <https://doi.org/10.1215/9780822382270>
- Gabriel, A. K., Yoo, H .C., Jackson, K. F., & Guevarra, Jr., R. P. (2022). Perceived mono racism and psychological adjustment of multiracial adults: The roles of racially diverse contexts and creating a third space. *American Journal of Community Psychology, 69*(3-4), 484-502. <https://doi.org/10.1002/ajcp.12564>
- Gay, G., & Howard, T. C. (2000). Multicultural teacher education for the 21st century. *The Teacher Educator, 36*(1), 1–16. <https://doi.org/10.1080/08878730009555246>
- Ginsberg, R. (2017). Finding comfort in the discomfort of being multiracial: Lessons from my schooling. *Multicultural Perspectives, 19*(2), 103-108.  
<https://doi.org/10.1080/15210960.2017.1301097>
- Glasow, P. A. (2005). *Fundamentals of survey research methodology*. MITRE.  
[https://www.mitre.org/sites/default/files/pdf/05\\_0638.pdf](https://www.mitre.org/sites/default/files/pdf/05_0638.pdf)
- Grajeda, E. (2022). “Karenism” and the problem of White women: Reflections on quotidian Forms of White vigilantism in the classroom. *The Journal of Men’s Studies, 30*(3), 363–382. <https://doi.org/10.1177/10608265221108207>

- Harris, J. C. (2019). Whiteness as structuring property: Multiracial women students' social interactions at a historically White institution. *The Review of Higher Education*, 42(3), 1023-1050. <https://doi.org/10.1353/RHE.2019.0028>
- Harris, J. C., BrckaLorenz, A., & Laird, T. F. N. (2018). Engaging in the margins: Exploring differences in biracial students' engagement by racial heritage. *Journal of Student Affairs Research & Practice*, 55(2), 137. <https://doi.org/10.1080/19496591.2018.1406364>
- Harris, K. L. (2018). Biracial American colorism: Passing for White. *American Behavioral Scientist*, 62(14), 2072–2086. <https://doi.org/10.1177/0002764218810747>
- Hartmann, D., Gerteis, J., & Croll, P. R. (2009). “An empirical assessment of whiteness theory: Hidden from how many?” *Social Problems*, 56(3), 403-424. <https://doi.org/10.1525/sp.2009.56.3.403>
- Hattie, J. (2008). *The argument: Visible teaching and visible learning* (1st ed.). Routledge. <https://doi.org/10.4324/9780203887332-9>
- Henderson, T. (2022). *Multiracial residents are changing the face of the US*. <https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2022/05/13/multiracial-residents-are-changing-the-face-of-the-us>
- Herman, M. R. (2009). The Black-White-other achievement gap: Testing theories of academic performance among multiracial and monoracial adolescents. *Sociology of Education*, 82(1), 20–46. <https://doi.org/10.1177/003804070908200102>
- Hirsh, J. B., & Kang, S. K. (2016). Mechanisms of identity conflict: Uncertainty, anxiety,

and the behavioral inhibition system. *Personality and Social Psychology Review*, 20(3), 223-244. <https://doi.org/10.1177/1088868315589475>

Hong Y. Y., Zhan S., Morris M. W., Benet-Martínez, V. (2016). Multicultural identity processes. *Current Opinion in Psychology*, 8, 49-53.  
<https://doi.org/10.1016/j.copsyc.2015.09.020>

Hope, E. C., Skoog, A. B., & Jagers, R. J. (2015). “It’ll never be the White kids; it’ll always be us” Black high school students’ evolving critical analysis of racial discrimination and inequity in schools. *Journal of Adolescent Research*, 30(1), 83-112.  
<https://doi.org/10.1177/0743558414550688>

Howard, J. (2018). That’s not something we have to discuss: Interrupting silences about multiracial students in teacher work. *The Urban Review*, 50(4), 693-712.  
<https://doi.org/10.1007/s11256-018-0462-0>

Inter-Agency Network for Education in Emergencies (INEE). (2016). *Psychosocial support and social and emotional learning for children and youth in emergency settings*. <https://inee.org/collections/psychosocial-support-and-social-and-emotional-learning>

Irizarry, Y. (2015). Utilizing multidimensional measures of race in education research: The case of teacher perceptions. *Sociology of Race and Ethnicity*, 1(4), 564–583.  
<https://doi-org.libproxy.umflint.edu/10.1177/2332649215580350>

Isaac, S., & Michael, W. B. (1997). *Handbook in research and evaluation: A collection of principles, methods, and strategies useful in the planning, design, and evaluation of studies in education and the behavioral sciences* (3rd ed.). Edits Publishing.

- Jackman, C. F., Wagner, W. G., & Johnson, J. T. (2001). The attitudes toward multiracial children scale. *Journal of Black Psychology, 27*(1), 86-99.  
<https://doi.org/10.1177/0095798401027001005>
- Jackson, K. F., & Mumma, S. Y. (2022). Visualizing multiracial identity development. *Qualitative Social Work, 0*(0), 1-20. <https://doi.org/10.1177/14733250221087877>
- Jones, C. M., & Rogers, L. O. (2022). “There are stereotypes for everything”: Multiracial adolescents navigating racial identity under White supremacy. *Social Sciences, 11*(1), 19. <https://doi.org/10.3390/socsci11010019>
- Jones, N. (2022). 2020 Census illuminates racial and ethnic composition of the country. <https://www.census.gov/library/stories/2021/08/improved-race-ethnicity-measures-reveal-united-states-population-much-more-multiracial.html><https://www.census.gov/library/stories/2021/08/improved-race-ethnicity-measures-reveal-united-states-population-much-more-multiracial.html>
- Joy, S. (2017). *Becoming top ten: An analysis of Michigan's ESSA plan. A policy brief from the education trust-midwest*. Education Trust-Midwest.  
<https://files.eric.ed.gov/fulltext/ED587231.pdf>
- Kenney, K. (1999). Multiracial Families In Lewis, & Bradley, L. (1999). *Advocacy in Counseling Counselors, Clients, & Community (Lewis & L. Bradley, Eds.)*. ERIC Clearinghouse on Counseling and Student Services.
- King, J. (2022). *Michigan remains in bottom half of states for child well-being* Michigan Advance.<https://michiganadvance.com/2022/08/09/michigan-remains-in-bottom-half-of-states-for-child-well-being/>

- Leary, M. R. (2004). *Introduction to behavioral research methods* (4th ed.). Pearson Education New Zealand.
- Leon, R., & Osetek, J. (2017). Multiracial student identities in American higher education. *Journal of Student Affairs, 26*(33).
- Lewis, J. A., Nishina, A., Hall, A., Cain, S., Bellmore, A., Witkóv, M. (2018). Early adolescents' peer experiences with ethnic diversity in middle school: Implications for academic outcomes. *J Youth Adolescence 47*(1), 194–206.  
<https://doi.org/10.1007/s10964-017-0697-1>
- Lichter, D. T., & Qian, Z. (2018). Boundary blurring? Racial identification among the children of interracial couples. *The American academy of political and social science, 677*(1), 81-94. <https://doi.org/10.1177/0002716218760507>
- Liu, K. (2017). Creating a dialogic space for prospective teacher critical reflection and transformative learning. *Reflective Practice, 18*(6), 805–820.  
<https://doi.org/10.1080/14623943.2017.1361919>
- Liu, K., Ball, A. F. (2019). Critical reflection and generativity: Toward a framework of transformative teacher education for diverse learners. *Review of Research in Education, 43*(1), 68–105. <https://doi.org/10.3102/0091732X18822806>
- Loo, C. M., & Rolison, G. (1986). Alienation of ethnic minority students at a predominantly White university. *The Journal of Higher Education, 57*(1), 58-77.  
<https://doi.org/10.1080/00221546.1986.11778749>
- Loving v. Virginia, 388 U.S. 1, 87 S. Ct. 1817, 18 L. Ed. 2d 1010 (1967).  
<https://doi.org/10.1093/acref/9780195301731.013.33753>



- Lynch, R. (2022). *Coming of Age: Why multiracial adolescence matters for higher education*. Preparing for higher education's mixed race future (1st ed.). 3-21. Palgrave Macmillan. [https://doi.org/10.1007/978-3-030-88821-3\\_1](https://doi.org/10.1007/978-3-030-88821-3_1)
- Mack, J. (2019). *Everything you need to know about Michigan's charter schools*. MLive News. <https://www.mlive.com/news/2019/11/everything-you-need-to-know-about-michigans-charter-schools.html>
- Malaney-Brown, V. K. (2022). The influence of familial relationships: Multiracial students' experiences with racism at a historically White institution. *Genealogy* 6(3) 64. <https://doi.org/10.3390/genealogy6030064>
- Malaney-Brown, V. K. (2022). *What is multiracial consciousness? Developing critically conscious multiracial students in higher education*. Preparing for Higher Education's Mixed Race Future (1st ed.). 125-144. Palgrave Macmillan. [https://doi.org/10.1007/978-3-030-88821-3\\_7](https://doi.org/10.1007/978-3-030-88821-3_7)
- Manns, M. R. (2021). An introduction to the culturally responsive education model (CREM): A personal and professional journey to reflective and transformative pedagogy. *Virginia English Journal*, 71(1), 2. <https://digitalcommons.bridgewater.edu/vej>
- Marks, R. (2021). *Improvements to the 2020 census race and Hispanic origin question designs, data processing, and coding procedures*. The United States census bureau. <https://www.census.gov/newsroom/blogs/random-samplings/2021/08/improvements-to-2020-census-race-hispanic-origin-question-designs.html>

- Martin, J., & Nakayama, T., (2021). *Whiteness theory in intercultural communication*.  
<https://doi.org/10.1093/OBO/9780199756841-0270>
- Martschenko, D. O., Wand, H., Young, J. L., & Wojcik, G. L. (2022). *Mind the gap: How multiracial individuals get left behind when we talk about race, ethnicity, and ancestry in genomic research*. <https://doi.org/10.48550/arXiv.2205.00027>
- Matias, C. E. (2016). “Why do you make me hate myself?” Re-teaching Whiteness, abuse, and love in urban teacher education. *Teaching Education*, 27(2), 194–211.  
<https://doi.org/10.1080/10476210.2015.1068749>
- Matias, C. E., & Zembylas, M. (2014). ‘When saying you care is not really caring’: Emotions of disgust, whiteness ideology, and teacher education.” *Critical Studies in Education*, 55(3), 319–337. <https://doi.org/10.1080/17508487.2014.922489>
- Matias, C. E., Henry, A., & Darland, C. (2017). The twin tales of whiteness: Exploring the emotional roller coaster of teaching and learning about whiteness. *The Journal of Culture & Education*, 16(1), 7–29. <https://doi.org/10.31390/taboo.16.1.04>
- Mawhinney, L., & Petchauer, E. M. (2013). Coping with the crickets: A fusion autoethnography of silence, schooling, and the continuum of biracial identity formation. *International Journal of Qualitative Studies in Education*, 26(10), 1309-1329. <https://doi.org/10.1080/09518398.2012.731537>
- Mayor, C. (2018). Whitewashing trauma: applying neoliberalism, governmentality, and Whiteness theory to trauma training for teachers. *Whiteness and Education*, 3(2), 198-216. <https://doi.org/10.1080/23793406.2019.1573643>

- McDonald, C. P. (2021). When worlds collide: Culturally responsive practices for multiracial students and families. *Research Anthology on Culturally Responsive Teaching and Learning*, 16-34. IGI Global.  
<https://doi.org/10.4018/978-1-7998-9026-3.ch002>
- McDonald, C. P., Chang, C.Y. (2022). Working with multiracial individuals: Antiracist pedagogy, practices, and considerations. In: Johnson, K. F., Sparkman-Key, N. M., Meca, A., Tarver, S.Z. (eds) *Developing anti-racist practices in the helping professions: Inclusive theory, pedagogy, and application*. Palgrave Macmillan, Cham. [https://doi.org/10.1007/978-3-030-95451-2\\_21](https://doi.org/10.1007/978-3-030-95451-2_21)
- McIntyre, A. (2015). Exploring whiteness and multicultural education with prospective teachers. *Curriculum Inquiry*, 32(1), 31-49.  
<https://doi.org/10.1111/1467-873X.00214>
- McKie, I., (2018). Navigating mixedness: The information behaviours and experiences of biracial youth in Australia. *Cosmopolitan Civil Societies*, 10(2), 67-85.  
<https://doi.org/10.5130/ccs.v10i2.5941>
- Merriam-Webster. (n.d.a) *Heritage*. In *Merriam-Webster.com dictionary*.  
<https://www.merriam-webster.com/dictionary/heritage>
- Merriam-Webster. (n.d.b) *Identity*. In *Merriam-Webster.com dictionary*.  
<https://www.merriam-webster.com/dictionary/identity>
- Merriam-Webster. (n.d.c) *Multiracial*. In *Merriam-Webster.com dictionary*.  
<https://www.merriam-webster.com/dictionary/multiracial>
- Merriam-Webster. (n.d.d). *Psychosocial*. In *Merriam-Webster.com dictionary*.

<https://www.merriam-webster.com/dictionary/psychosocial>

Merriam-Webster. (n.d.e) *Self-esteem*. In *Merriam-Webster.com dictionary*.

<https://www.merriam-webster.com/dictionary/self-esteem>

Merriam-Webster. (n.d.f) *Whiteness*. In *Merriam-Webster.com dictionary*.

<https://www.merriam-webster.com/dictionary/whiteness>

Michigan Department of Education (MDE). (2019). *The 6Es: Measuring Michigan's progress 2016-2017 selected metrics*.

[https://www.michigan.gov/mde/-/media/Project/Websites/mde/top10/top\\_10\\_mist\\_rategic\\_ed\\_plan\\_promising\\_practices\\_1\\_pager.pdf?rev=8a9af7389097471a971dc5e97d48a6a8&hash=E1CDB70B6C52F11C51E4F2D4AD040333](https://www.michigan.gov/mde/-/media/Project/Websites/mde/top10/top_10_mist_rategic_ed_plan_promising_practices_1_pager.pdf?rev=8a9af7389097471a971dc5e97d48a6a8&hash=E1CDB70B6C52F11C51E4F2D4AD040333)

Michigan Department of Education (MDE). (2022). *The Michigan Department of Education Annual Report 2021-2022*.

<https://www.michigan.gov/mde/-/media/Project/Websites/mde/top10/2022-MDE-Annual-Report.pdf?rev=5d3fa902094244a3ad2dc00f504225fb&hash=47A225E78C9DC16DCD69270AFD0E9F07>

Michigan Department of Education (MDE). (2023). *State of Michigan Department of Education*. <https://www.michigan.gov/mde>

Michigan's Center for Educational Performance and Information (CEPI). [*Trend graph showing the percentage of student count by all grades, race/ethnicity/all students*] *Student Enrollment Counts Report 2021-2022*. <https://bit.ly/3IuFOQe>

Miloz, B., Wright, K. (2022). *Damned if you do, damned if you don't: The trials and tribulations of multiracial student activism*. Preparing for Higher Education's Mixed

Race Future. (1st ed.). 205-220. Palgrave Macmillan.

[https://doi.org/10.1007/978-3-030-88821-3\\_7](https://doi.org/10.1007/978-3-030-88821-3_7)

Mitchell, S., & Warren, E. (2022). Educational trajectories and outcomes of multiracial college students. *Social Sciences, 11*(3), 101. <https://doi.org/10.3390/socsci11030101>

Mitchell, Y. T. (2022). She's biracial, but she's still Black: Reflections from monoracial African American parents raising biracial children. *Journal of Child and Family Studies, 31*(3), 675-684. <https://doi.org/10.1007/s10826-022-02263-8>

Mohajan, H. K. (2020). Quantitative research: A successful investigation in natural and social sciences. *Journal of Economic Development, Environment and People, 9*(4), 50-79.

Muijs, Daniel. (2011). Doing quantitative research in education with SPSS (2n ed.). SAGE.

Museus, S. D., Sariñana, S. A. L., & Ryan, T. K. (2016). A qualitative examination of multiracial students' coping responses to experiences with prejudice and discrimination in college. *Journal of College Student Development, 56*(4), 331-348. <https://doi.org/10.1353/csd.2016.0068>

Nadal, K. L., Davidoff, K. C., Davis, L. S., Wong, Y., Marshall, D., & McKenzie, V. (2015). A qualitative approach to intersectional microaggressions: Understanding influences of race, ethnicity, gender, sexuality, and religion. *Qualitative Psychology, 2*(2), 147. <https://psycnet.apa.org/doi/10.1037/qup0000026>

National Center For Education Statistics (NCES). (2020). *Race and ethnicity of public school teachers and their students*. <https://nces.ed.gov/pubs2020/2020103/index.asp>

- Ndemanu, M. (2018). Pre-service teachers' resistance to multicultural education courses: The binary fear of the familiar and the unfamiliar communities. *Multicultural Learning and Teaching, 13*(2), 1-14. <https://doi.org/10.1515/mlt-2017-0020>
- Nitardy, C. M., Duke, N. N., Pettingell, S. L., & Borowsky, I. W. (2015). Racial and ethnic disparities in educational achievement and aspirations: Findings from a statewide survey from 1998 to 2010. *Maternal and Child Health Journal, 19*(1), 58–66. <https://psycnet.apa.org/doi/10.1007/s10995-014-1495-y>
- Parker, K., Horowitz, J. M., Morin, R., & Lopez, M. H. (2015). *Multiracial in America; Proud, diverse and growing in numbers*. <https://www.pewresearch.org/social-trends/2015/06/11/multiracial-in-america/>
- Patterson, A. (2017). "I need somebody to hear me." YouTube and identity expression of biracial individuals. *Multicultural Education Review, 9*(2), 105-116. <https://doi.org/10.1080/2005615X.2017.1313020>
- Patterson, A. N. (2015). Exploring experience, influence and personal truths: Biraciality and educational spaces. The Ohio State University. [http://rave.ohiolink.edu/etdc/view?acc\\_num=osu1429716229](http://rave.ohiolink.edu/etdc/view?acc_num=osu1429716229)
- Peng, J. M. (2022). Multiracial identity from theory to praxis: A literature review for K12 practitioners. *Journal of Educational Research and Innovation, 10*(1), 1. <https://digscholarship.unco.edu/jeri/vol10/iss1/1>
- Phinney, J. S., & Ong, A. D. (2007). Conceptualization and measurement of ethnic identity: Current status and future directions. *Journal of Counseling Psychology, 54*(3), 271. <https://doi.org/10.1037/0022-0167.54.3.271>

- Puckett, T. (2020). The importance of developing cultural competence. *Cultural competence in higher education*, 28, 7-22. Emerald Publishing Limited.  
<https://doi.org/10.1108/S2055-364120200000028004>
- Reid E, Henry GB. Waiting to excel: Biraciality in the classroom. *National Association of African American Studies & National Association of Hispanic and Latino Studies 2000 Literature Monograph Series*, 555-586.  
<https://files.eric.ed.gov/fulltext/ED454007.pdf>
- Rockquemore, K. A., Brunsma, D. L., & Delgado, D. J. (2009). Racing to theory or retheorizing race? Understanding the struggle to build a multiracial identity theory. *Journal of Social Issues*, 65(1), 13-34.  
<https://doi.org/10.1111/j.1540-4560.2008.01585.x>
- Rollins, A., & Hunter, A. G. (2013). Racial socialization of biracial youth: Maternal messages and approaches to address discrimination. *Family Relations*, 62(1), 140-153. <https://doi.org/10.1111/j.1741-3729.2012.00748.x>
- Root, M. P. (1990). Resolving “other” status: Identity development of biracial individuals. *Women & Therapy*, 9, 185–205. <https://doi.org/10.1111/j.1741-3729.2012.00748.x>
- Roth, W. D. (2005). The end of the one-drop rule? Labeling of multiracial children in black intermarriages. *Sociological Forum*, 20(1), 35-67.  
<https://doi.org/10.1007/s11206-005-1897-0>
- Roy, R. N., Rollins, A., James, A. G., & Perry-Jenkins, M. (2022). An Introduction to the special section on multiracial families: The challenges, strengths, and work that

remains. *Journal of Child and Family Studies*, 31(3), 599-608.

<https://doi.org/0.1007/s10826-022-02260-x>

Salant, P., Dillman, I., & Don, A. (1994). *How to conduct your own survey*.

<https://www.semanticscholar.org/paper/How-to-conduct-your-own-survey-Salant-Dillman/53156eb63a95f120e66b179b86df2afeda9f081d>

Salkind, N.J., & Frey, B.B. (2020). *Statistics for people who (think they) hate statistics* (7th ed.). Sage Publications.

Sanchez, D. T., Shih, M., & Garcia, J. A. (2009). Juggling multiple racial identities:

Malleable racial identification and psychological well-being. *Cultural Diversity And Ethnic Minority Psychology*, 15(3), 243-254. <https://doi.org/10.1037/a0014373>

Sever, M. (2014). Experiences of biracial female high school students in the United States.

*Journal of Education and Future*, (5), 73-86.

<https://dergipark.org.tr/en/download/article-file/174190>

Shah, R., Paulson, J., & Couch, D. (2020). The rise of resilience in education in emergencies. *Journal of Intervention and Statebuilding*, 14(3), 303-326.

<https://doi.org/10.1080/17502977.2019.1694390>

Song, M. (2021). Who counts as multiracial? *Ethnic and Racial Studies*, 44(8), 1296-1323.

<https://doi.org/10.1080/01419870.2020.1856905>

Stonequist, E. V. (1937). *The marginal man: A study in personality and culture conflict*.

Scribner, Simon & Schuster. <https://doi.org/10.2307/2262260>



- Sutcher, L., Darling-Hammond, L., & Carver-Thomas, D. (2019). Understanding teacher shortages: An analysis of teacher supply and demand in the United States. *Education Policy Analysis Archives*, 27(35). <http://dx.doi.org/10.14507/epaa.27.3696>
- Tatum, B. D. (1994). Teaching white students about racism. The search for white allies and the restoration of hope. *Teachers College Record*, 95(4), 463-474.  
<https://doi.org/10.1177/016146819409500412>
- Thornton, M. C. (2009). Policing the borderlands: White and Black American newspaper perceptions of multiracial heritage and the idea of race, 1996–2006. *Journal of Social Issues*, 65(1), 105-127. <https://doi.org/10.1111/j.1540-4560.2008.01590.x>
- Törngren, S.O., Irastorza, N., & Rodríguez-García, D. (2021). Understanding multiethnic and multiracial experiences globally: Towards a conceptual framework of mixedness. *Journal of Ethnic and Migration Studies*, 47(4), 763–781.  
<https://doi.org/10.1080/1369183X.2019.1654150>
- Townsend, S. S. M., Fryberg, S. A., Wilkins, C. L., & Markus, H. R. (2012). Being mixed: Who claims a biracial identity? *Cultural Diversity and Ethnic Minority Psychology*, 18(1), 91-96. <https://doi.org/10.1037/a0026845>
- Tran, A. G., Miyake, E.R., Martinez-Morales, V., & Csizmadia, A. (2016). “What are you?” Multiracial individuals’ responses to racial identification inquiries. *Cultural Diversity and Ethnic Minority Psychology*, 22(1), 26.  
<https://doi.org/10.1037/cdp0000031>
- Trochim, W. (2020). *The Research Methods Knowledge Base*. <https://conjointly.com/kb/>

- Trochim, W. M. K., & Donnelly, J. P. (2001). *Research methods knowledge base*.  
[https://www.researchgate.net/profile/William-Trochim/publication/243783609\\_The\\_Research\\_Methods\\_Knowledge\\_Base/links/55db837008aed6a199ac6246/The-Research-Methods-Knowledge-Base.pdf](https://www.researchgate.net/profile/William-Trochim/publication/243783609_The_Research_Methods_Knowledge_Base/links/55db837008aed6a199ac6246/The-Research-Methods-Knowledge-Base.pdf)
- Tropp, L. R., & Rucinski, C. L. (2022). How implicit racial bias and concern about appearing racist shape K-12 teachers' race talk with students. *Social Psychology of Education, 25*(4), 697-717. <https://doi.org/10.1007/s11218-022-09715-5>
- Turetsky, K. M., Sinclair, S., Starck, J. G., & Shelton, J. N. (2021). Beyond students: How teacher psychology shapes educational inequality. *Trends in Cognitive Sciences, 25*(8), 697-709. <https://doi.org/10.1016/j.tics.2021.04.006>
- U.S. Census Bureau (2021). *Michigan's population topped 10 million in 2020*.  
<https://www.census.gov/library/stories/state-by-state/michigan-population-change-between-census-decade.html>
- Uebersax, J. S. (2006). *Likert scales: dispelling the confusion. Statistical methods for rater agreement*. <https://www.john-uebersax.com/stat/likert.htm>
- Wardle, F. (1992). Supporting biracial children in the school setting. *Education and Treatment of Children, 15*(2), 163-172.
- Waring, C. & Purkayastha, B. (2017). "I'm a different kind of biracial:" How black/white biracial Americans with immigrant parents negotiate race, *Social Identities, 23*(5), 614-630. <https://doi.org/10.1080/13504630.2016.1271739>

- West, M. T., & Maffini, C. S. (2019). "What Are You?" Conceptualizing the complexities of bicultural and biracial college student experiences. *Journal of College Counseling*, 22(2), 164-178. <https://doi.org/10.1002/jocc.12128>
- Williams, N. A., & Ware, C. (2019). A tale of two "halfs:" Being Black, while being biracial. *International Journal of Qualitative Studies in Education*, 32(1), 85–106. <https://doi.org/10.1080/09518398.2018.1548036>
- Williams, R. F. (2013). When gray matters more than black or white: The schooling experiences of Black- White biracial students. *Education and Urban Society*, 45(2), 175-207. <https://doi.org/10.1177/0013124511406917>
- Williams, R. F., & Chilungu, E. N. (2017). *Multiracial students and educational policy*. Race Policy and Multiracial Americans. <https://doi.org/10.1332/policypress/9781447316459.003.0008>
- Winn-Tutwiler, S. W. (2016). *Mixed-race youth and schooling: The fifth minority*. (1st ed.). Routledge.
- Wright, N. L., Longerbeam, S. D., & Alagaraja, M. (2022). Chronic codeswitching: Shaping Black/White multiracial student sense of belonging. *Genealogy*, 6(3), 75. <https://doi.org/10.3390/genealogy6030075>

## Appendix A: Attitudes Toward Multiracial Children Scale (AMCS)

### *Attitudes Toward Multiracial Children Scale (AMCS)*

#### Attitudes Toward Multiracial Children Scale

**PsycTESTS Citation:**

Jackman, C. F., Wagner, W. G., & Johnson, J. T. (2001). Attitudes Toward Multiracial Children Scale [Database record]. Retrieved from PsycTESTS. doi: <https://dx.doi.org/10.1037/t16756-000>

**Instrument Type:**

Rating Scale

**Test Format:**

The inventory uses a 5-point response format (e.g., strongly disagree to strongly agree), and higher scores are thought to indicate more positive attitudes toward multiracial children.

**Source:**

Jackman, Charmain F., Wagner, William G., & Johnson, J. T. (2001). The Attitudes Toward Multiracial Children Scale. *Journal of Black Psychology*, Vol 27(1), 86-99. doi: <https://dx.doi.org/10.1177/0095798401027001005>, © 2001 by Association of Black Psychologists. Reproduced by Permission of Association of Black Psychologists.

**Permissions:**

Test content may be reproduced and used for non-commercial research and educational purposes without seeking written permission. Distribution must be controlled, meaning only to the participants engaged in the research or enrolled in the educational activity. Any other type of reproduction or distribution of test content is not authorized without written permission from the author and publisher. Always include a credit line that contains the source citation and copyright owner when writing about or using any test.

### The Attitudes Toward Multiracial Children Scale (AMCS)

The purpose of this survey is to determine educators' attitudes toward multiracial students. This 23-item scale will take approximately 5-10 minutes to complete. Please answer all questions by checking one box per item. By completing this survey, consent to participate in this study is confirmed. Strict adherence to anonymity and confidentiality is assured. A completed research summary will be available upon completion of this research. A copy may be requested when the study has been completed.

#### Attitudes Toward Multiracial Children Scale AMCS

##### Items

---

1. Have a positive image of self (SE)
2. Have difficulty discussing their racial background with others (SE)
3. Are leaders in school (SE)
4. Will have difficulty adjusting to adulthood (SE)
5. Identify with the racial heritage of each parent (MH)
6. Are confused concerning their racial identity (SE)
7. Feel awkward in social situations (SE)
8. Are popular with children of the opposite sex (PA)
9. Enjoy participating in the cultural celebrations of both parents' racial heritages (MH)
10. Benefit from having parents of different racial backgrounds (MI)
11. Think that other children are better than they are (PA)
12. Prefer to follow the cultural practices of only one parent (MH)
13. Are confused by the differing cultural traditions of their parents (PA)
14. Are respected by their classmates (PA)
15. Resent being the offspring of parents from different racial backgrounds (PA)
16. Have a good relationship with both parents (MH)
17. Feel ashamed of their mixed racial heritage (PA)
18. Will graduate from high school and attend college (PA)
19. Are proud of their multiracial identity (PA)
20. Are satisfied with their physical appearance (PA)
21. Possess a multiracial identity that is based on each parent's race (MI)
22. Benefit from learning the customs of both parents' racial backgrounds (MI)
23. Will grow up to be successful adults (PA)

---

*Note:* SE = self-esteem, F = unnamed factors, MH = multiracial heritage, PA = psychosocial adjustment, MI = multiracial identity, and NL = no loading.

**Attitudes toward Multiracial Children Scale (AMCS)  
Scoring Procedures  
Charmain F. Jackman, Ph.D.**

The scale consists of 23 items.

Respondents are asked to endorse each of the items on the AMCS using a 5-point Likert-type scale that ranges from Strongly Disagree (1) to Strongly Agree (5).

When calculating the total score for the following items:  
1, 3, 5, 8, 9, 10, 14, 16, 18, 19, 20, 21, 22, and 23

Use the following scale:

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

There are nine (9) reverse-scored items: 2, 4, 6, 7, 11, 12, 13, 15, and 17

When calculating the total score use the reverse-scored items, use the following scale.

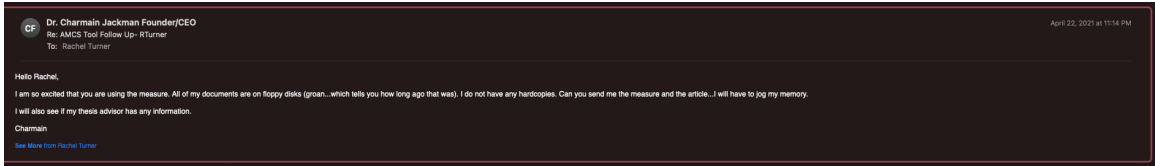
Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
5	4	3	2	1

The total score is calculated by summing the respondents' score on each of the Likert-type scale items, taking into account the nine reverse-scored items (see above).

Higher scores are reflective of more positive attitudes toward multiracial children.

## Appendix B: AMCS Developer Confirmation Email

### *AMCS Developer Confirmation Email*



## **Appendix C: Invitation to Participate**

### *Invitation to Participate*

University of Michigan - Flint Institutional Review Board

Letter of Invitation to Participate in Research

Title of study: Examination Of Educators' Attitudes Toward Multiracial Students  
in Michigan Charter Schools: A Quantitative Survey Design

March 2023

Dear Prospective Participant,

You are invited to participate in a research study conducted by Rachel L. Turner, EdS. The purpose of this study is to examine Educators' Attitudes Toward Multiracial Students. You are eligible to participate in this study if you are an in-service educator in a Michigan charter school. We will ask you to complete the survey, which should take approximately 5-10 minutes. This survey contains questions about educator attitudes. Your responses will be anonymous and confidential.

Your participation in this study is completely voluntary. If you choose to participate you may choose to discontinue participation at any time and you may choose any of the survey questions that you do not wish to answer. Your completion of the survey and returning it to the investigators indicates your consent to participate in this study. Feel free to contact me at 810-513-7500 if you have questions.

Sincerely,

Rachel L. Turner, EdS

EdD Student, Education Leadership

University of Michigan – Flint



**Appendix D: Consent to Participate**

*Consent to Participate*



**UNIVERSITY OF MICHIGAN  
CONSENT TO BE PART OF A RESEARCH STUDY**

**1. KEY INFORMATION ABOUT THE RESEARCHERS AND THIS STUDY**

**Study Title:**

Examination Of Educators’ Attitudes Toward Multiracial Students in Michigan Charter Schools:  
A Quantitative Survey Design

**Lead Investigator:**

Rachel L. Turner, EdS, University of Michigan-Flint

You are invited to take part in a research study. This form contains information that will help you decide whether to join the study.

**1.1 Key Information**

Things you should know:

The purpose of the study is to examine White and non-White educators’ attitudes towards multiracial students.

- If you choose to participate, you will be asked to participate in a survey sent via SurveyMonkey This will take approximately 5-10 minutes to complete.
- Risks or discomforts from this research include being a participant of this study involves some risk of the minor discomforts that can be encountered in life when exposing your perceptions when asked questions about attitudes. Being a participant in this study does not pose risk to either safety or well-being.
- The direct benefits of your participation are the opportunity to provide insight to the known attitudes towards multiracial students. Participation in the study will add to the body of knowledge being gained from this study.

Taking part in this research project is voluntary. You do not have to participate, and you can stop at any time. Please take time to read this entire form and ask questions before deciding whether to take part in this research project.

**2. PURPOSE OF THIS STUDY**

This quantitative study will examine White and non-White educators' attitudes towards multiracial students. The Attitudes Toward Multiracial Children Scale (AMCS) will be utilized to measure the educator's attitudes. This 23-item Likert scale survey includes a representation of four subscales on Self-Esteem, Multicultural Heritage, Multiracial Identity and Psychosocial Adjustment. This study will include in-service educators representing grades K-12 in Michigan charter schools.

### 3. WHO CAN PARTICIPATE IN THE STUDY

#### 3.1 Who can take part in this study?

An educator that teaches within the randomized sample of K-12 Michigan charter schools.

#### 3.2 How many people are expected to take part in this study?

All educators within the randomized Michigan charter schools will have the opportunity and an equal chance for participation in the study. The expected number of educators is unknown at this time as it will be based on the total number of educators per building.

### 4. INFORMATION ABOUT STUDY PARTICIPATION

#### 4.1 What will happen to me in this study?

- The research will take place online through a SurveyMonkey.
- The AMCS survey, a 23-item Likert scale, will be sent via email to the participant.
- A questionnaire will be the tool used to survey the educators' attitudes.
- The survey will take 5-10 minutes to complete.
- The study will comply with all survey design processes to answer the research questions.
- The sample to be selected is simple random for purposes of probability.
- The data will be collected via SurveyMonkey and gathered within a Microsoft Excel spreadsheet. Descriptive statistics will be conducted initially. The data will be transferred into SPSS to undergo inferential statistics and reported out based on the research questions.

#### 4.2 How much of my time will be needed to take part in this study?

The survey is expected to take 5-10 minutes.

##### 4.2.1 When will my participation in the study be over?

Participation will end when the survey is submitted online via SurveyMonkey.

#### 4.3 If I decide not to take part in this study, what other options do I have?

This study is voluntary. This invitation can be stopped at any time during the process of the study. No one at the University of Michigan-Flint will treat you differently if you decide not to be in the study. If consent is provided now, at any point in the process this consent can be changed at any time.

## 5. INFORMATION ABOUT STUDY RISKS AND BENEFITS

### **5.1 What risks will I face by taking part in the study? What will the researchers do to protect me against these risks?**

Being a participant of this study involves some risk of the minor discomforts that can be encountered in life when exposing your perceptions when asked questions about attitudes. Being a participant in this study does not pose risk to either safety or well-being. All questions are encouraged to be answered. This study collects demographic information, and the primary risk of this research is a loss of confidentiality and privacy. See Section 8 of this document for more information on how the study team will protect your confidentiality and privacy.

#### **5.1.1 What happens if I get hurt, become sick, or have other problems because of this research?**

The lead investigator has taken steps to minimize the risks of this study. Please tell the lead investigator if there are injuries or problems related to participation in the study. The University of Michigan-Flint may be able to assist with obtaining emergency treatment, if appropriate, but any costs incurred will be the responsibility of the participant and the participant's insurance company. By signing this form, you do not give up your right to seek payment if you are harmed because of being in this study.

#### **5.2 How could I benefit if I take part in this study? How could others benefit?**

There are no personal benefits from being a participant in this study. However, others may benefit from the knowledge gained from this study.

## 6. ENDING THE STUDY

### **6.1 If I want to stop participating in the study, what should I do?**

You are free to leave the study at any time. If you leave the study before it is finished, there will be no penalty to you. If you decide to leave the study before it is finished, please tell one of the persons listed in Section 9. "Contact Information." If you choose to tell the lead investigator why you are leaving the study, your reasons may be kept as part of the study record. The lead investigator will keep the information collected about you for the research unless you ask us to delete it from our records. If the lead investigator has already used your information in a research analysis it will not be possible to remove your information.

## 7. FINANCIAL INFORMATION

### **7.1 Will I be paid or given anything for taking part in this study?**

There will not be any compensation for your participation in the study.

## 8. PROTECTING AND SHARING RESEARCH INFORMATION

### 8.1 How will the researchers protect my information?

The findings and results coming out of this study will not share the identities of individual participants. The lead investigator will not share personal information for any purpose outside of conducting this research study. Data will be kept secure by the lead investigator storing all data on a secured server. All files kept on the computer will be protected by password and data encryption. The use of codes will be used in place of names and these pseudo names will be kept separately from the data. Data will be kept for a specified period of time outlined by The University of Michigan-Flint.

This research holds a Certificate of Confidentiality (CoC) from the National Institutes of Health. This means that we cannot be forced to disclose any research information that may identify you, even by a court subpoena, in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings. In general, we will use the Certificate to resist any demands for information that would identify you.

Please note that a CoC does not prevent you or a member of your family from voluntarily releasing information about yourself or your involvement in this research. If an insurer, employer, or other person obtains your written consent to receive research information, then we will not use the Certificate to withhold that information. More detailed information about Certificates can be found at the NIH CoC webpage: <https://humansubjects.nih.gov/coc/index>

### 8.2 Who will have access to my research records?

There are reasons why information about you may be used or seen by the lead investigator or others during or after this study. Examples include:

- University, government officials, study sponsors or funders, auditors, and/or the Institutional Review Board (IRB) may need the information to make sure that the study is done in a safe and proper manner.
- Federal or State law may require the study team to give information to government agencies.

### 8.3 What will happen to the information collected in this study?

We will keep the information we collect about you during the research study. Your name and other information that can directly identify you will be stored securely and separately from the research information we collected from you. All research data that will be linked to individual identifiers to ensure anonymity and confidentiality. Linking of data to individual identifiers will be held during the course of the study and will be destroyed with a cross-cut shredder at such time the destruction of identifiers is needed in accordance with The University of Michigan-Flint's guidelines. We will not keep your name or other information that can identify you directly. The results of this study could be published in an article or presentation but will not include any information that would let others know who you are. The results of this study could be published in an article

or presentation but would not include any information that would let others know who you are without your permission.

#### **8.4 Will my information be used for future research or shared with others?**

We may use or share your research information for future research studies. If we share your information with other researchers, it will be de-identified, which means that it will not contain your name or other information that can directly identify you. This research may be similar to this study or completely different. We will not ask for your additional informed consent for these studies.

### **9. CONTACT INFORMATION**

#### **Who can I contact about this study?**

- Please contact the lead investigator listed below to:
- Obtain more information about the study.
- Ask a question about the study procedures.
- Report an illness, injury, or other problem (you may also need to tell your regular doctors)
- Leave the study before it is finished.
- Express a concern about the study.

**Lead Investigator: Rachel L. Turner, EdS**

**Email: [rachel.t@umich.edu](mailto:rachel.t@umich.edu)**

**Phone: 810-513-7500**

If you have questions about your rights as a research participant, or wish to obtain information, ask questions or discuss any concerns about this study with someone other than the lead investigator, please contact the following:

University of Michigan

Health Sciences and Behavioral Sciences Institutional Review Board (IRB-HSBS)

2800 Plymouth Road

Building 520, Room 1169 Ann Arbor, MI 48109-2800

Telephone: 734-936-0933 or toll free (866) 936-0933

Fax: 734-936-1852

E-mail: [irbhsbs@umich.edu](mailto:irbhsbs@umich.edu)

You can also contact the University of Michigan Compliance Hotline at 1-866-990-0111.

**10. YOUR CONSENT**

**Consent/Assent to Participate in the Research Study**

By signing this document, you are agreeing to be in this study. Make sure you understand what the study is about before you sign. I/We will give you a copy of this document for your records and I/we will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information in Section 9 provided above.

*I understand what the study is about, and my questions so far have been answered. I agree to take part in this study.*

Print Legal Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date of Signature (mm/dd/yy): \_\_\_\_\_

**Consent to be Contacted for Participation in Future Research**

Lead investigators may wish to keep your contact information to invite you to be in future research projects that may be similar to or completely different from this research project.

\_\_\_\_\_ Yes, I agree for the lead investigator to contact me for future research projects.

\_\_\_\_\_ No, I do not agree for the lead investigator to contact me for future research projects.

**Appendix E: Responsible Conduct of Research and Scholarship (RCRS) Training**

*Responsible Conduct of Research and Scholarship (RCRS) Training*

