

**Both/And: The Relatedness of Educators' Diversity Ideologies and Perceptions of Educational Infrastructure on Equity-Focused Practice Implementation**

by

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## Dedications

I must thank and dedicate this dissertation to the following people:

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To my advisors, Steph and Laura, who reminded me that students thrive in supportive environments at a time when I needed it the most.

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## **Abstract**

Why do some educators implement equity-focused practices while others do not? Educators use their experiences and their diversity ideologies (e.g., beliefs about social difference and hierarchy; Plaut, 2002) to make sense of educational infrastructure. Educational infrastructure (i.e., formal and social organizational routines, processes, and roles related to teaching and learning; Peurach et al., 2019) are intended to support educators during teaching and can predict their practice implementation (Leithwood, 2021). Using a multi-phase mixed methods approach, this study tested the relatedness of diversity ideologies to practice implementation, the relatedness of educators' diversity ideologies to their perception of educational infrastructure, and the relatedness of diversity ideologies and educational infrastructure to practice implementation. Results of this study indicate that, in support of prior literature, diversity ideologies predict practice implementation, and educators' perceptions of educational infrastructure. Novelty, results indicate diversity ideologies and educational infrastructure each predict equity-focused practice implementation. These findings suggest that to sustain educators' equity-focused practices, educational infrastructure can strategically plan to meet differences within educators' diversity ideologies.



## Chapter 1 Introduction

Educators' practices significantly contribute to students' experiences and outcomes. In fact, decades of research suggest that when educators utilize practices that are inconsistent with the students' cultural background, they may inadvertently contribute to differences in academic motivation and performance (Covarriabus et al., 2007; Markus et al., 2000; Markus & Taylor, 2015; Steele & Cohn-Vargas, 2013). In mainstream U.S. educational contexts, for example, white and middle-class students consistently receive messages that affirm their belonging and potential for success, while racially minoritized and low-income students consistently receive messages that undermine their belonging and success (Stephens et al., 2012; Stephens et al., 2014). These experiences create cultural mismatch, or experiences of exclusion among underrepresented student groups, (Stephens & Townsend, 2015) that adversely affect these students' engagement and academic performance (Celeste et al., 2019; Steele & Aronson, 1995).

Implementing equity-focused practices is one way that educators can meaningfully improve the educational experiences and academic performance of students who have historically been excluded and continue to experience marginalization within the US education system (Darling-Hammond et al., 2017; Lopez, 2024). Yet, educators vary widely in the adoption of such practices (Romijn et al., 2021; Parkhouse et al., 2020). This variability raises an essential question: why do some educators choose to implement equity-focused practices while others do not?

One reason may be that educators' beliefs about social difference and hierarchy (i.e., their diversity ideologies; Plaut, 2002) may not be well aligned with equity-focused practices. Another

reason may be that current educational infrastructure (i.e., social and formal processes intended to support instruction and learning; Peurach et al., 2019) are not supportive of equity-focused practice implementation. And yet another may be that these two factors—educator ideologies and educational infrastructure—each work to influence equity-focused practice implementation.

Two decades of research have shaped our understanding of how diversity ideologies shape individuals' perceptions of equity, diversity, and inclusion (Markus, Steele & Steele, 2000; Plaut, 2002). Like other beliefs, diversity ideologies are an interpretative framework that educators use as they notice, interpret, and make decisions in their classrooms and complex environments of schools (Knowles et al., 2009; Stephens et al., 2019; Todd & Galinsky, 2012). Helping educators to embrace diversity ideologies that are more supportive and inclusive of student diversity leads them to implement more equity-focused practices (Aragón et al., 2017; De Leersnyder et al., 2022). However, no studies have examined the relatedness of educators' diversity ideologies on their perceptions of educational infrastructure intended to encourage equity-focused practice implementation.

Generally speaking, educational infrastructure assists schools in their enactment of instructional goals (i.e., organizational goals focused on teaching and learning; Nadler & Tushman, 1997; Feldman, 2003) through *formal* aspects, such as professional learning, curricula aligned with practice implementation, as well as *social* aspects in the form of everyday processes, like administrator and colleague support (Peurach, et al., 2019). Social and formal aspects of educational infrastructure interact to enact instructional goals. The presence of educational infrastructure is positively related to educators' implementation of practices introduced during professional learning opportunities (Bellibas et al., 2022) and evidence suggests this process is also consistent with respect to equity-focused initiatives (Leithwood et

al., 2021). The positive impact of educational infrastructure on educators' practices and students' outcomes highlights the importance of these systems.

The effectiveness of educational infrastructure is contextually dependent on how educators perceive and interact with them. As educators' make sense of their environments, including infrastructure, they engage in a series of actions of noticing, interpreting, and decision-making (Vaughan, 1996). This sensemaking in turn affects how they respond to and utilize the educational infrastructure available to them (Corbin, 2005; Everitt, 2012). For example, educators' beliefs about the purpose of education have been shown to shape their perceptions regarding the effectiveness of educational infrastructure intended to support new initiatives (Corbin, 2005). This sensemaking process, where educators integrate new information with their beliefs, influences educators' decisions to combine, implement, and even resist educational infrastructure meant to encourage their equity-focused practice implementation (Peurach et al., 2019).

I contend that educators' diversity ideologies are among those beliefs that inform the way educators perceive educational infrastructure intended to support equity-focused initiatives within their schools. By examining how educators' diversity ideologies inform their perceptions about available educational infrastructure, we can better design educational infrastructure that support a broader spectrum of educators in implementing equity-focused practices.

## **1.1 Research Questions**

The overall question that this study seeks to answer is: *How do educators' diversity ideologies associated with their perceptions of educational infrastructure and equity-focused practice implementation?* Educators' diversity ideologies have a well-established direct association on their practice implementation (and therefore not the main focus of this study), but

no study has examined the relatedness of educators' diversity ideologies on their perceptions of educational infrastructure, nor how each of these factors matter for practice implementation. The study uses a multi-phase approach in order to explore the relatedness of diversity ideologies on perceptions of educational infrastructure, and test the additive effect of diversity ideologies and educational infrastructure on practice implementation. The overarching question is addressed via four research questions:

### **Phase One: Diversity Ideologies to Educational Infrastructure**

- How are educators' diversity ideologies associated with their rankings of educational infrastructure?
- How are educators' diversity ideologies associated with their characterization of educational infrastructure?

### **Phase Two: Diversity Ideologies to Practices Through Educational Infrastructure**

- What is the association of educator diversity ideologies with their perceptions of current educational infrastructure and educator equity practices?
- How are educator diversity ideologies and available educational infrastructure associated with their practice implementation?

## **1.2 Definition of Key Terms**

This section clarifies the meaning of key terms as used within this study that will be expanded upon in the literature review.

***Diversity Ideologies.*** Implicit and explicit patterns regarding acknowledging and engaging differences in culture, race, ethnicity, and language visible within patterns of behavior and organizational structures (Plaut, 2002). Two terms that encompass different strategies for

incorporating and advocating for diversity within society include multiculturalism and colorblindness, which will be more explicitly discussed during Chapter Two.

***Equity.*** This study's understanding of equity in education draws upon Poekert and colleagues' (2020) conceptualization, which contends that equity should account for the impact of social hierarchy within students' experiences and academic outcomes. Within this conceptualization, the extent to which social boundaries and social hierarchy are acknowledged is variable. An explicit operationalization will be described in more detail during Chapter Two.

***Educational Infrastructure.*** Within this study, I draw upon Peruch and colleagues' (2019) conceptualization of educational infrastructure as those everyday routines, processes and resources focused on instruction and learning within school systems that take on formal (i.e., curricula, assessments) and social (i.e., relationships, norms) structures. This conceptualization is in line with Nadler and Tushman's often cited model of organizational change, where formal and social processes within an organization interact with one another, people, and work to produce outcomes (1997). A more explicit operationalization will be described in more detail during Chapter Two.

***Equity-Focused Practices.*** Equity-focused practices can include (but are not limited to) strategies for teaching social emotional learning, practices that account for differences within language, culture, religion, class, and gender (Tualaulelei & Halse, 2021; Romijn et al., 2021). What binds equity-focused practices together is a common goal to improve the educational experiences and academic performance of students who have historically been excluded and continue to experience marginalization within the US education system (Darling-Hammond et al., 2017; Lopez, 2024). Within this study, equity-focused practices are defined in terms of practices that incorporate and validate student's cultural backgrounds in the learning context.

## **Summary of Chapter One**

Chapter One introduced equity-focused practice implementation and established the need to examine the influence of structural (i.e., educational infrastructure) and psychological (i.e., diversity ideologies) factors on educators' equity-focused practice implementation. This chapter introduced research questions and key terms to set the groundwork for the study investigation.

## **Chapter 2 Literature Review**

Educators' diversity ideologies and perceptions of educational infrastructure shape their equity-focused practice implementation. I begin by explicating educators' diversity ideologies as malleable frames that are employed during sensemaking. Put simply, educators' diversity ideologies and lived experiences shape their sensemaking about equity. Within their work, educators use their diversity ideologies to make sense of educational infrastructure intended to support their work within classrooms. I theorize that these two factors--educators' diversity ideologies and their perceptions of educational infrastructure--influence educator equity-focused practice implementation. Specifically, I anticipate that educators' perceptions of educational infrastructure will be associated with their diversity ideologies and that these ideologies shape what educators find beneficial regarding social and formal aspects of educational infrastructure. Thus, educators who receive social and formal aspects of equity-focused infrastructure in their work contexts will, in turn, report more equity-focused practice implementation. In the following sections, I will delve into two main areas 1) the nature of diversity ideologies as malleable frames and 2) educational infrastructure, examining both general understandings and, more specifically, social and formal aspects, in order to build on the rationale provided here.

### **2.1 Diversity Ideologies as Malleable Frames**

While the use of the term "ideology" may suggest a strict adherence to a bounded conceptualization of diversity, evidence suggests that diversity ideologies are more akin to malleable frames (Knowles et al., 2009; Stephens et al., 2019; Todd & Galinsky, 2012).

Malleable frames are employed during sensemaking processes, a cyclical series of actions that occurs as individuals notice, interpret, and make decisions in response to their environment and experiences (Vaughan, 1996).

Diversity ideologies have experience-based and domain-based aspects that permit fluidity regarding where and how these ideologies inform sensemaking. The experience-based aspects of diversity ideologies are acquired through social interactions (Markus & Hamedani, 2007) In other words, diversity ideologies are a product of our understanding of how to be and interact with others in the world, including how individuals contend with social differences between individuals and across groups. These experiences are employed during further sensemaking allowing sensemaking to shift “even as its core meaning remains the same” (Knowles et al., 2009, p. 858).

The domain-based aspect of diversity ideologies emerges when traced over multiple generations and across individuals. When the concept of diversity became popular in the US through legal proceedings, it was originally particularized to race (Edelman, 2001) and prior research suggests that the diversity ideologies an individual endorses are related to how broadly or narrowly they conceptualize the domains of diversity (Bell & Hartmann, 2007, Unzueta et al., 2012). For example, differences in how people conceptualize diversity and related experiences or identities can be more narrowly ascribed to race, gender, and social class, or be more broadly ascribed to include domains like occupational status, age, and parenting style, depending on an individuals’ beliefs about whether diversity should focally work to attenuate or maintain social hierarchies (Unzueta et al., 2012). The experience-based aspects of diversity ideologies share theoretical kinship with elements of contact theory, meaning that as individuals’ experiences with social marginalization and contact with individuals who experience social marginalization



increase, they incorporate these experiences into their understandings of social difference and social hierarchy (Wright et al., 2017). Collectively, the domain- and experience-based aspects flexibly influence how diversity ideologies influence sensemaking.

Though flexible, the experience- and domain-based aspects of diversity ideologies organized into patterned and reliable responses, particularly as understandings of social differences intertwine with social hierarchy (Chaney, 2022; Pauker et al., 2015). Two commonly examined diversity ideologies—colorblindness and multiculturalism—reliably predict educators’ normative practices regarding differences of race, class, gender, ability, and language (Goren & Plaut, 2012; Rattan & Ambady, 2013).

To embrace colorblindness within a classroom often means to have a sense that drawing attention to students’ differences in social identities should be avoided. Rationales associated with colorblind ideologies can vary: some hold interpretations that ignoring differences in students’ social identities can prevent them from perpetuating social inequalities within their classroom; some are drawing upon beliefs that social differences are irrelevant to social hierarchy and that a students’ learning is solely the product of their effort and ability (Levin et al., 2012). For the former, treating all students “as humans” is often an attempt to attenuate social hierarchy (Apfelbaum et al., 2012). For the latter, sameness in treatment is often an effort to maintain social hierarchies, which they believe to be the result of merit (Knowles et al., 2009). Correspondingly, when employing colorblindness beliefs during sensemaking, educators avoid acknowledgement of social differences, implementing practices that emphasize the sameness within their classroom (Aragón et al., 2016; Celeste et al., 2019, De Leersynder et al., 2022).

On the other hand, to employ multiculturalism beliefs within a classroom means to have a sense that social differences are an inescapable part of what makes students who they are

(Birnbaum, et al., 2022). For these educators, students' social differences are a source of collective and individual strength, like a quilt with fabric of different shapes and sizes, and acknowledging differences facilitates the recognition of instances where social hierarchies are being perpetuated (Stephens et al., 2008). Beneath this ideology is a sense that individuals from different social groups and positionality have different experiences and perspectives (Rattan & Ambady, 2013). Correspondingly, these educators tend to embrace practices that explicitly acknowledge diversity in social boundaries as a strength in their classrooms (Aragón et al., 2016; Purdie-Vaughns et al., 2008; Wang et al., 2023). Educators high in multiculturalism are more likely to have experiences with social marginalization, particularly in relation to their race, class, and gender (Gündemir et al., 2019; Ryan et al., 2007, Wolsko et al., 2000). These experiences, which may have overlapping dimensions but should never be mistaken as interchangeable, influence how educators notice and interpret which social interactions and what aspects of their environments are connected to differences in social boundaries and social hierarchy.

Given these distinctive beliefs regarding social differences and hierarchy, educators employing diversity ideologies during sensemaking predict more and less aligned support for equity-focused initiatives. Equity-focused initiatives account for the impact of differences in social hierarchy on students' experiences and outcome, though there is variation in how explicitly focused on social difference these initiatives are (Hagenaars et al., 2023). For educators higher in multiculturalism, embracing these initiatives and practices are these are thought to be easier as the promoted understandings are more closely aligned with their diversity ideologies than those higher in colorblindness (Aragón et al., 2016; De Leersynder et al., 2022).

Thus, educators' diversity beliefs, particularly their multiculturalism beliefs, tend to correspond with their implementation of equity-focused practices. While equity-focused

practices are more likely to be implemented by educators strongly endorse multiculturalism beliefs (Aragón et al., 2016; Celeste et al., 2019, De Leersynder et al., 2022; Hagenaars et al., 2023), there is also evidence to suggest that educators who are normative in their multiculturalism beliefs can change their beliefs and practices as a result of professional learning opportunities (Gündemir & Agirdag, 2022; Morman et al., 2023; Purdie-Vaughns et al, 2010; Wang et al., 2023). Educators who implement equity-focused practices are frequently able to pinpoint the horizons of their experiences, meaning they understand how their experiences and sensemaking have shaped their perspectives and they actively seek out and continually engage the horizons of students' lived experiences during learning (Aronson & Laughter, 2016; López, 2024). Understandably, some professional learning efforts have focused on scaffolding educators' perspective-taking and knowledge of cultural differences alongside their development of equity-focused practices.

## **2.2 Educators' Sensemaking Regarding Educational Infrastructure**

Educators' diversity ideologies can extend into their perception of educational infrastructure and their decisions to implement equity-focused practices. While a comprehensive review of schools as organizations is beyond the scope of this literature review (for examples see Peurach et al., 2019), understanding how schools enact policies like equity-focused initiatives requires examining educational infrastructure within school organizations. Research suggests that educational infrastructure focused on equity may be a pathway to increase equity-focused practice implementation (Blauchild, 2023). As educators' perceive the social and formal aspects of educational infrastructure, these perceptions influence their decisions to engage with practices advocated by educational infrastructure (Civilito et al., 2017; Meetoo, 2018; Rissanen, 2021).

The specifics of how formal and social aspects of educational infrastructure influence educators' practice implementation are often referred to as being loosely coupled and struggling for coherence (Peurach & Glazer, 2015; Spillane et al., 2022). In a long-view-of-education way, the loose coupling between educational infrastructure and what educators do in their classrooms often succumb to the christmas tree effect, meaning that the shiny baubles of new initiatives change the decoration, while the educational infrastructure remains the same (Bryk et al., 1993). For example, many elements of educational infrastructure currently within public schools were intended for rote memorization learning desired within mass schooling initiatives in the early nineteenth century, rather than the knowledge depth and malleability desired within the instructionally focused initiatives that shaped much of the late twentieth century (Cohen et al., 2017). Thus, even as efforts to reform educational systems are introduced, these efforts are forced to contend with the long-armed legacies of prior instructional goals.

When examining educational infrastructure, there are two understandings that helpfully guide the way researchers examine educational infrastructure for change within formal and social structures: 1) no formal or social structure can be considered universally beneficial (Byrk et al., 2010) 2) formal and social support structures frequently operate in tandem to successfully support educator practice implementation (Shirrel et al., 2019). For the purposes of this study, these understandings elucidate that within educators' experiences, the supportive aspects of educational infrastructure will be beneficial in context, and that there can be both formal and social aspects of educational infrastructure described within a supportive experience. For example, an educator might discuss how their school administrator created a professional learning on distinguishing between cultural appropriation and appreciation, and also how they encouraged educators' discussion and collaboration during the professional learning. Within this

experience, formal structures take shape in the process of calling the meeting and the organization of the contents, and social aspects take shape in the administrators' handling of the content and work to build discussion between educators.

*Educational Infrastructure Influences by Administrators.* District and school administrators shape formal aspects of educational infrastructure as they interpret and enact policy. Formal aspects that district administrators shape can include the available professional development, curricular materials, curriculum guides, and other forms of practice implementation guidance (Little, 1993; Spillane, 2000). Resource availability shapes expectations for teaching and learning, influencing educators' practices. In a recent systematic review by collaborators Aldrige and McLure, lack of aligned resources and unrealistic pacing guides were listed as reasons for instructional failures in 46 out of 62 studies (Aldridge & McLure, 2023; McLure & Aldridge, 2022; 2023). Formally, school administrators provide instructional supervision and assistance, often ensuring that professional development organized by district administrators occurs, monitoring and evaluating educators' practice implementation (Datnow & Castellano, 2000; March & Kennedy, 2020; Yurkofsky, 2022). Thus, the formal aspects of educational infrastructure largely influence educators through the presence of standardly available resources.

The social aspects of educational infrastructure that administrators shape are based in norms and relationships. Socially, district administrators who spend time on educator buy-in during curriculum policy adoption have greater success with practice implementation (Hernandez & Kose, 2012). School administrators agentively ensure colleague collaboration and bound permissible conversations within professional learning activities within which educator sensemaking unfolds (Coburn, 2005). Social aspects bear the markers of administrators' policy

interpretations, influencing policy enactment (Spillane 2000). In this way, school administrators shape the social aspects of educational infrastructure that educators' encounter and respond to.

Collectively, the formal and social aspects of educational infrastructure within educators' experiences with colleagues and administrators shape the environment educators encounter. As educators make sense of their environments, they "find ways to make decisions that fit their beliefs" (Blaushild, 2023, p. 237). These worldviews have the ability to influence their decision-making about promoted and permissible practices (Hagenaars, 2023). Thus, educators' beliefs should influence their perceptions of educational infrastructure and these perceptions should influence their practices implementation.

### **2.3 Theoretical Proposition**

- Educators' diversity ideologies are interpretative frames that malleably influence their interpretations of equity-focused educational infrastructures and practices.
- Educational infrastructures support equity-focused practice implementation through intersecting formal and social manifestations.
- Educators' diversity ideologies orient them differently to the benefits of educational infrastructure. For educators with strong multiculturalism beliefs, which tend to be supportive of equity-focused practice implementation, their commitment to equity-focused initiatives is likely to be higher than for educators with weaker multiculturalism beliefs. Receiving formal support would facilitate practice implementation beyond their individual efforts, while not receiving formal support would force them to rely on their individual commitments

These four tenets within the theoretical proposition guided the study design and analysis, detailed within chapters three, four, and seven.

## **Summary of Chapter Two**

Chapter two details the interpretative frame of diversity ideologies, which shape how educators understand equity, particularly their views on social hierarchy and boundaries. These Diversity ideologies, in turn, inform how educators interpret educational infrastructure intended to carry out equity initiatives, orienting them differently to social and formal aspects of educational infrastructures. While we have evidence that diversity ideologies and educational infrastructure each influence equity-focused practice implementation, there is less clarity on how these two concepts interact to additively influence equity practice implementation. To address this gap, a theoretical proposition linking diversity ideologies, educational infrastructure, and equity-focused practice implementation was detailed. This framework guides the design of the study described in Chapter Three.

## **Chapter 3 Mixed Methods Research Design**

This chapter explains the research design to support this multiphase mixed method investigation. First, I provide an overview of the research context, followed by the research design and a rationale for the employment of mixed methods. Second, I detail the data sources employed within the methods.

### **3.1 Study Context**

This study takes place within a K-12 public school district within the Pacific Northwest region of the United States. The overall student population is majority Latino/Hispanic with a substantial population of white students. This district has been part of a research-practitioner partnership focused on increasing equity-focused practices among educators for the last seven years, which have included train-the-trainer style professional learning opportunities focused on practices that validate students' cultural background. Prior research within the district has indicated significant changes in educators' diversity ideologies, increases in educators' equity-focused practice implementation, and positive increases with students' school experiences and academic outcomes (Wang et al., 2023; Brady, Wang, et al., 2024). However, informal partnership meetings also indicated that there were considerable differences among educators' beliefs and between school-wide enactment of educational infrastructure. Thus, the findings of this study may be limited to contexts that share one or more of these common elements.



### 3.2 Research Design

There are two phases within this multiphase mixed method design, each with a qualitative and quantitative data analysis. The integration of the analyses within each phase sequentially builds upon one another to answer the overarching research question: *How do educators' diversity ideologies associated with their perceptions of educational infrastructure and equity-focused practice implementation?* (Creswell & Plano-Clark, 2018). Mixed-methods study designs are particularly useful for “developing in-depth, practical understandings and conclusions that are particularized and transferable” (Creswell & Plano-Clark, 2018, p. 118). A benefit of mixing methods is the ability to sequentially build interpretations from multiple data sources focused on isolated aspects of a complex phenomenon (Mosehelm & Fetters, 2017).

Using a two-phase sequential approach enables two distinct but linked research investigations to inform a final interpretation on educators' equity-focused practice implementation. The initial phase aimed to characterize how educators value educational infrastructure through an analysis of focus groups and rank-order data in a confirmatory manner. The results of the integration informed the second phase of the analysis, which aimed to investigate the influence of educator diversity ideologies and educational infrastructure on equity-focused practice implementation. The integrative analysis brought together these findings into one set of results focused on notable aspects of educators' desired supports, whether they received these desired supports, and how (if at all) these changed educators' equity-focused practice implementation.

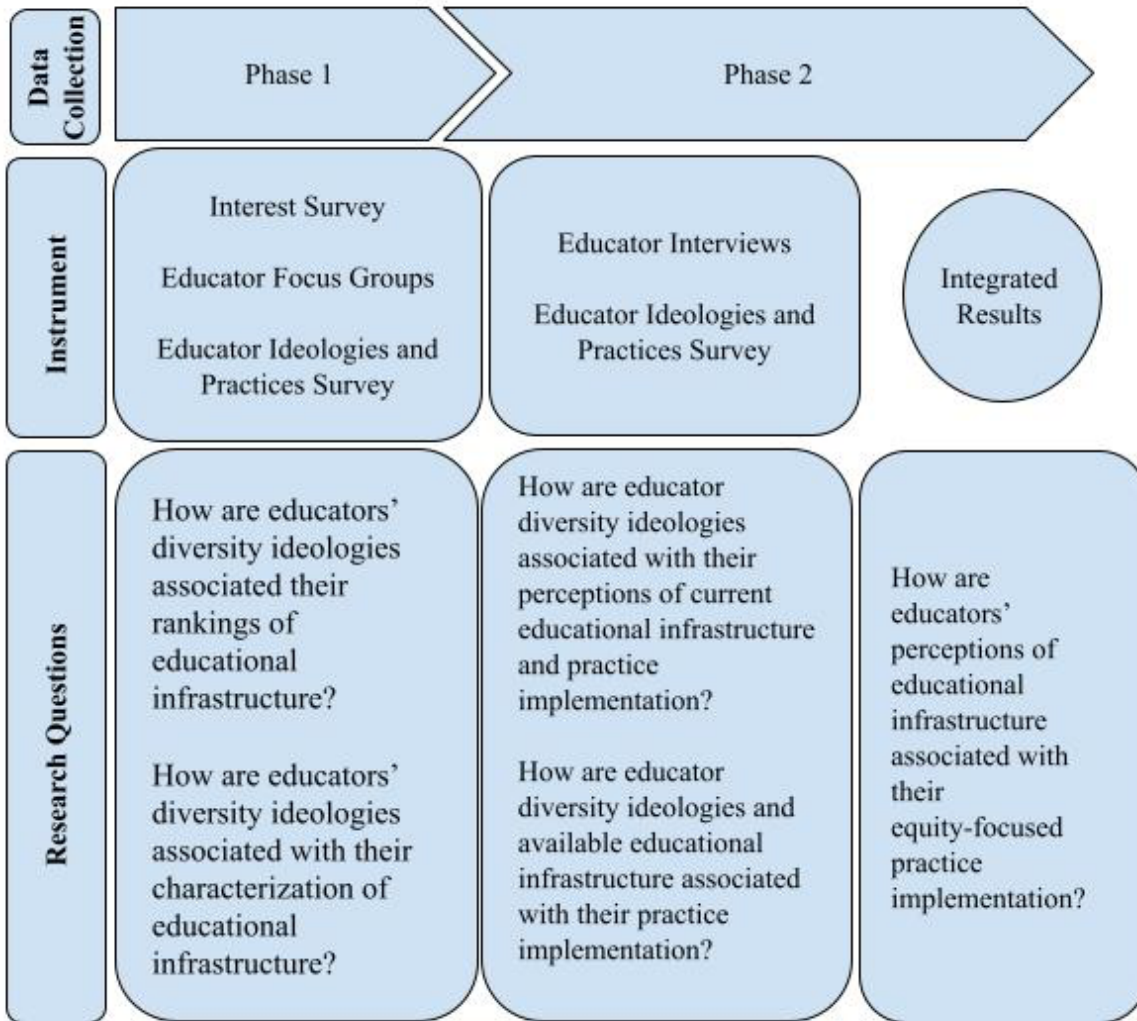


Figure 1. The relationship between the phases of data collection, the instruments used, and the study's aims. *Note:* Arrow figures indicate timing, moving from left to right, where circles indicate occurrences of data integration in the study.

Figure 1 details the overarching sequential nature of the study, as well as the instruments and research questions related to each of the research design phases. Within each phase, a qualitative and quantitative strand that was analyzed sequentially with a bidirectional interpretation to ensure equivalent weighting. As an example of this process, Foote (2019) employed a sequential mixed-methods design to conduct a cluster analysis of variables related to mathematics achievement and educational infrastructure in order to select cases for further investigation into the particulars of how these educational infrastructure support mathematics

achievement. During the final integration, the findings from the case study were employed for a re-interpretation of the educational infrastructure' relatedness to mathematics achievement.

Figure 2 demonstrates the planned bidirectional integration for phase one and phase two, in that the quantitative analysis shaped the qualitative analysis, and the qualitative analysis shaped the interpretation of quantitative findings.

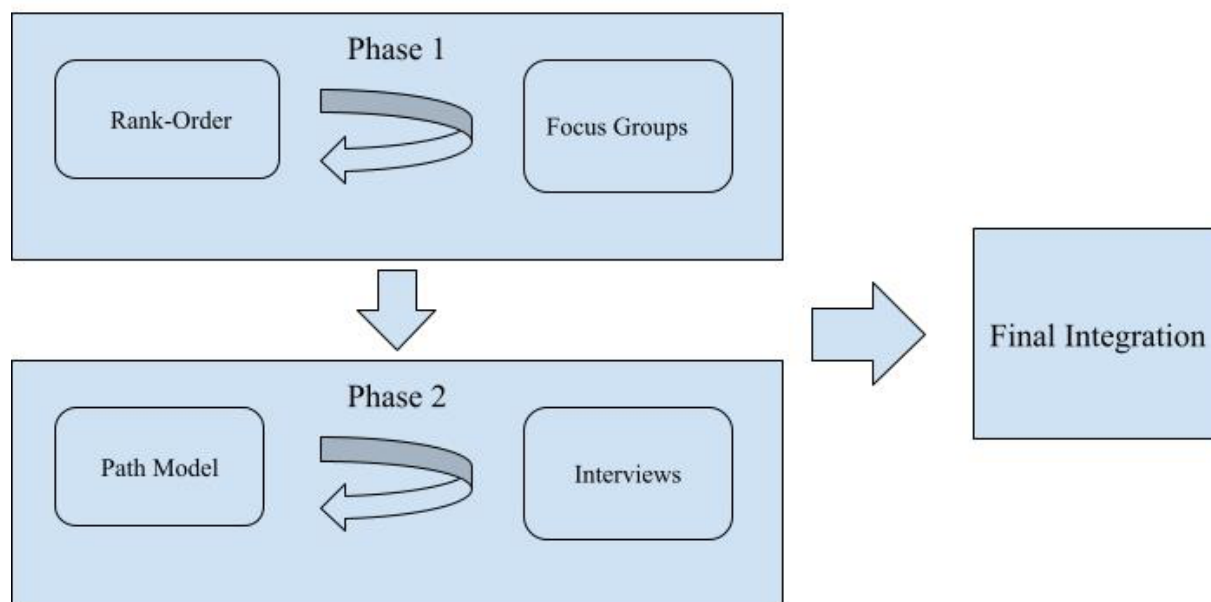


Figure 2. The bidirectional integration within each phase is demonstrated, where the u-turn arrow indicates how the analytical findings from the first analysis informs the second analysis, and the re-interpretation of the first analytical findings during integration. Figure adapted from Mosehelm & Fetters, 2017.

### 3.3 Data Sources and Preparation

This section gives an overview of the data sources used during the two phases of mixed-methods analysis described within the following sections. Participants consented to participate in the study using an IRB-approved consent form associated with this study during each form of data collection (HUM00218728). There were three main sources of data collected for this study: a survey issued to all educators within Pine Orchard School district, focus group interviews conducted at nine of nine schools, and individual interviews conducted at four of nine schools.

The selection criteria for limiting the follow up interviews to four schools is more explicitly detailed within the qualitative data analysis for phase two within chapter eight.

### **Data Collection.**

*Surveys.* In February 2023, all educators within Pine Orchard School District were eligible to participate in the survey and were recruited via emails sent by researchers. Responses were collected via electronic survey and educators received \$5 in exchange for participation.

1. *Educator Multiculturalism ideologies.* Six items assessed educators' endorsement of multiculturalism ( $\alpha = .80$ ; e.g. "Classrooms should teach from multiple perspectives"). Teachers responded using a 6-point scale (1 - Strongly Disagree to 6 - Strongly Agree) that was adapted from the work of Plaut & Markus (2005) and used in previous equity-focused educational interventions (Brady et al., in press; Morman et al., 2023; Wang et al., 2023).
2. *Equity-Focused Infrastructure.* Seven rank-order items indicated the importance of social aspects (i.e., "Support from colleagues", "Support from administrators") and formal aspects of educational infrastructure (i.e., "Time and resources", "professional development") that support equity-focused practices within their classrooms, and supportive individuals external to educational infrastructure (i.e., "positive sociopolitical climate", "supportive families / caregivers", "positive response from students"). These items were drawn from reviews on essential promotive factors to creating educational change (McLure & Aldridge, 2023).
3. *Perceptions of Educational Infrastructure.* Educators' perceptions of equity work within their schools (i.e., "My school implements the values it has for equity.")

were assessed on a 6-point likert scale (1- Extremely Uncomfortable to 6 - Strongly Comfortable) that was developed for use during this study.

4. *Equity-focused Practices*. Educators' implementation of equity-focused practices were assessed using 12 items split into two subscales of cultural background ( $\alpha = .83$ ; "Helping students see how course material can help them fulfill their roles in their families/communities") and cultural validation practices ( $\alpha = .83$ ; "Use the cultural background of my students to make learning meaningful."). Educators responded using a 6-point scale (1- Never to 6 - Daily) (Brady et al., in press).
5. *Educator Race*. Educators self-reported their racial/ethnic identity using a single item (Asian, Black/African American, Latino/Hispanic, Native/Indigenous, Multiple Races/Ethnicities, White) that included a write-in option. The write-in responses were examined and re-coded when responses indicated multiple racial identities or aligned with a larger umbrella racial identity answer (i.e., "Australian" was re-coded to white). Due to the nature of the sample size, race was re-coded into a binary BIPOC or white, and the remaining write-in options (i.e., "Human") were excluded from the analysis.
6. *Educator Gender*. Educators self-reported their gender identity using a single item ("male", "female", "nonbinary/transgender", or "prefer not to say"). A sensitivity analysis revealed the unequal sample sizes would not permit reliable analysis, and these categories were re-coded into a binary "male" and "non-dominant gender" categories.
7. *Educator Years of Experience*. Educators self-reported the number of years that they had been working as an educator.

8. *School Racial Demographics.* Student racial demographics by school were provided by district personnel and were compared with publicly available state reports. Due to the nature of the school demographics, which are largely white and Latino/Hispanic, these were re-coded into a binary white and BIPOC.

*Focus Group Interviews.* Focus group interviews designed to elicit available aspects of educational infrastructure and probe what educators found supportive about these aspects. Educators recruited via email and participated in focus groups led by the research team before or after school. Recordings were transcribed verbatim using Otter.ai (2023). And quality-checked by the research team. All data were uploaded into the qualitative software package Dedoose (2023). Educators received the equivalent of an hour of extra pay for participation in the study, which was provided by the school district.

*Individual Interviews.* Follow up individual interviews designed to elicit and probe educators’ perceptions regarding their school administrator support for equity were conducted with educators who had participated in focus group interviews during phase one. Educators from four schools were purposively selected based on overall mean perception of educational infrastructure (see Chapter 8 for a more detailed case selection rationale). Interviews were conducted via Zoom at a time and a location convenient for participants. The goal was to speak to a minimum of four educators within each of the four schools. Table 1 shows that 19 participants agreed to participate in the study, with a minimum of four participants for each school met.

Survey Demographics ( <i>n</i> = 288)		Focus Group Demographics ( <i>n</i> =79)		Interview Demographics ( <i>n</i> = 19)	
<b>Years of Teaching (<i>M</i>)</b>	13.7	<b>Years of Teaching (<i>M</i>)</b>	13.2	<b>Years of Teaching (<i>M</i>)</b>	12.9
<b>Position (%) Administration</b>	2.8	<b>Position (%) Administration</b>	11.4	<b>Position (%) Certified Instructor</b>	79

Certified Instructor	57.2	Certified Instructor	67.1	Specialist	21
Instructional Assistant	15.5	Instructional Assistant	03.7		
Specialist	14.7	Specialist	11.4		
Support Staff	6.7	Support Staff	3.7		
<b>School Level (%)</b>		<b>School Level (%)</b>		<b>School Level (%)</b>	
Primary (PK - 6)	58.1	Primary (PK - 6)	72.1	Primary (PK - 6)	100
Secondary (7-12)	41.9	Secondary (7-12)	27.9		
<b>Gender (%)</b>		<b>Gender (%)</b>		<b>Gender (%)</b>	
Female	78	Female	79.7	Female	84.2
Male	13	Male	16.4	Male	15.8
Nonbinary	1	Nonbinary	02.5	Nonbinary	0
Prefer Not to Say	4	Prefer not to say	02.5	Prefer not to say	0
<b>Race/Ethnicity (%)</b>		<b>Race/Ethnicity (%)</b>		<b>Race/Ethnicity (%)</b>	
Asian	1	Asian	1.2	Asian	0
Latino/Hispanic	26	Black/African-American	1.2	Black/African-American	0
Multiple Ethnicities	4	Latino/Hispanic	25	Latino/Hispanic	25.1
White	66	Native/Indigenous	2.5	Native/Indigenous	0
Write-in	7	Multiple Ethnicities	5	Multiple Ethnicities	5
		White	65.8	White	68.4
		Write-in	2.5	Write-in	7.4

Table 1. Educator participants' demographic information within data sources.

**Summary of Chapter Three.** Chapter three detailed the study context, research design, data sources and preparation. These were matched with the research questions detailed in Chapter One as well as the previous literature, hypotheses, and theoretical propositions detailed within Chapter Two. The elements discussed within this chapter are utilized within chapters four and eight which detail the research methods for each phase of the study design.

## **Chapter 4 Phase One Research Methods**

The aim of the first phase of the study is to establish that educator diversity ideologies are associated with their perception of educational infrastructure. The first quantitative analysis examined differences in educators' rank-order responses regarding the importance of various aspects of educational infrastructure by their multiculturalism beliefs. These results quantitative analysis shaped which aspects of educational infrastructure were comparatively analyzed within the qualitative analysis, separated by educators' multiculturalism ideologies. During integration, themes regarding educators' characterization of educational infrastructure were combined with the findings of the rank order analysis. This integration focused on cross-case differences between educators' characterization of educational infrastructure (i.e., made sense of how significant differences in the statistical analysis aligned or did not align with the qualitative analysis). While not causal, this integration provides direction for the secondary phase of the investigation, meaning that it establishes differences in educators' perceptions of educational infrastructure. This allows a further narrowing within the second phase to school cases for empirical observation regarding the association of structural and psychological factors on educators' practice implementation.

### **4.1 Quantitative Analysis: Rank-Order Investigation**

The aims of the first analysis within phase one were to determine how diversity ideologies are associated with educators' perceptions of educational infrastructure through the research question posed in Chapter One: *How are educators' diversity ideologies associated with*



*their rankings of educational infrastructure?* To do this, a Plackett-Luce model tree (PLMT) was used to determine how educators' diversity ideologies, gender, years of experience, and race statistically change educators' ranking of the available aspects of educational infrastructure (Plackett, 1975). This analysis provided relative ranking for aspects of educational infrastructure among participants (i.e., which aspects they were likely to rank first, second, and so on), as well as how educators' rankings of educational infrastructure are related to their diversity ideologies (i.e., whether having high multiculturalism was associated with ranking certain aspects of educational infrastructure differently).

**Data Analysis.** PLMT model was fitted to the data including educators' multiculturalism and colorblindness ideologies, gender, race, years of teaching, and student racial diversity as covariates. The time and resources item was used as the constant for the model and item-worth coefficients, standard errors, and *p*-values were returned. The resulting coefficients, standard errors, and *p*-value comparison between these groups are driven by the recursive partitioning algorithm.

#### **4.2 Qualitative Analysis: Framework Investigation**

The second part of phase one was to investigate how educators characterize the benefits of educational infrastructure they receive using framework thematic analysis (FTA; Ritchie & Lewis, 2003). This phase of the study answers the research question posed in Chapter One: *How are educators' diversity ideologies associated with perceived beneficial aspects of educational infrastructure?* To address this qualitative research question, focus group interviews were conducted and analyzed using framework thematic analysis (FTA). Because the integration within this phase is sequentially focused, the goal of this analysis is to categorize what educators describe as supportive or desirable about available educational infrastructure. In other words, this

qualitative analysis takes the form of a descriptive approach (Richie & Lewis, 2003) and seeks to provide a summary of the notable aspects of formal and social educational infrastructure discussed by educators within each group. These qualitative findings can then be integrated with the statistical analysis to provide an interpretation based on participants' words.

**Data analysis.** FTA contains three stages of analysis: data management, descriptive accounting, and explanatory accounting (Goldsmith, 2021). These stages emphasize transparent movement throughout the analytic process, which is helpful for novice researchers to explain their thinking and for ensuring rigor throughout qualitative analysis, though this process is iterative rather than linear (Braun & Clarke, 2021). During the data management phase, the typology was utilized to group responses by educational infrastructure. From there, in-vivo codes within the typologies are developed as a way to distill and maintain accuracy in educators' experiences. These are indexed into a coding matrix and consolidated into a more broad, but illustrative, category. These are checked with a critical thought partner, to ensure rigor and guidance throughout the process. Similar categories within a typology are then brought together to form initial dimensions. For example, responses that are sorted as being about professional development experiences can be coded around beneficial rationales (i.e., focused on content knowledge, allow for multiple points of entry, and delivery by experts) can be initially brought together as a theme about enhancing features of professional development. This initial theme is then carried into the descriptive phases of the analysis.

The goal of the cross-group analysis is to create and interpret an explanatory framework matrix regarding educators' experiences with educational infrastructure. During the cross-group examination, coded excerpts corresponding to the support of social and formal aspects of colleagues and administrators were charted by educators' multiculturalism belief scores. This

allowed an examination of dimensions present among educators by their multiculturalism beliefs. In-vivo codes and memoing guided this secondary descriptive process, and the resulting comparative features were written up in a narrative format with a data set distribution matrix.

### **4.3 Bidirectional Integration**

Procedures for linking mixed-method data are meant to be intentionally matched to the goals of the study and the research questions (Fetters, 2022). The goal of this data integration is to make a grounded interpretation of what makes some aspects of educational infrastructures more beneficial. These investigations are guided by the hypothetical premises that (a) there will be differences in values by educators' multiculturalism beliefs and (b) that there would be some common characterizations of educational infrastructure types by educator multiculturalism beliefs.

The first aspect of integration occurred at the end of the quantitative analysis with two decisions to shape the direction of the qualitative analysis: 1) to include a cross-group comparison based on educators' multiculturalism ideologies and 2) to limit cross-group comparison to those forms of support with significantly different rankings. This cross-group analysis resulted in a matrix that primarily focused on how educators' perceptions of educational infrastructure shift between groups. This matrix was then jointly combined with the educational infrastructure coefficients from the PLMT. This joint-display allowed a comparison of beneficial aspects within educational infrastructure and represents the second step within integration.

**Summary of Chapter Four.** The analysis for phase one aimed to provide evidence that educators' diversity ideologies are associated with their perceptions of educational infrastructure. These findings, which will be detailed in chapters five through seven, indicate that educators' diversity ideologies do shape how they value social aspects of educational infrastructure and that

the noted salient aspects between educators by their diversity ideologies have distinct dimensions of difference. These findings enable the second phase investigation into the association of diversity ideologies and educational infrastructure onto educators' implementation of equity-focused practices.

## Chapter 5 Phase One Quantitative Results

This chapter details the results of the phase one quantitative analysis, which investigates the question: *How are educators' diversity ideologies associated with their rankings of educational infrastructure?* through a reporting of Plackett-Luce Tree with Covariates (PLMT). Including covariates to examine differences in ranking patterns suggested that educators' multiculturalism beliefs significantly predicted the value educators place on administrator and colleague support. Educators higher in multiculturalism place more value on administrator support and less value on colleague support when compared to educators with normative multiculturalism beliefs. This difference was integrated during qualitative analysis to focus on differences between educators' characterization of support from school administrators.

### Sample Description

The mean ranks, pairwise comparisons, and marginal frequencies appear in Table 2. Formal aspects of time and resources was the highest ranked form of educational infrastructure support among Pine Orchard educators, followed by the social aspect of administrator support, the formal aspect of professional learning, and the social aspect of supportive colleagues. All of these means were higher than the more broad support from vested parties (i.e., students, caregivers, supportive sociopolitical climate). Among educators in Pine Orchard, 68 participants ranked time and resources as being most important, and only two participants ranked time and resources as least important. These descriptive statistics demonstrate a general pattern that educational infrastructure in any form (i.e., time & resources, administrator support, supportive

colleagues, and professional learning) received higher value from educators than the more broad support of other vested parties (i.e., families & caregivers, positive student response, supportive sociopolitical climate).

	<b>Time &amp; Resources</b>	<b>Admin. Support</b>	<b>Professional Learning</b>	<b>Supportive Colleagues</b>	<b>Supportive Sociopolitical Climate</b>	<b>Support from Families &amp; Caregivers</b>	<b>Positive Student Response</b>
<b>Mean (SD)</b>	2.06 (1.38)	2.98 (1.54)	3.9 (2.05)	4.3 (1.68)	4.65 (1.97)	4.9 (1.67)	5.08 (1.66)
<b>Pairwise Rank Comparisons</b>							
<b>Time &amp; Resources</b>	0	100	122	107	128	127	121
<b>Administrator Support</b>	43	0	109	89	113	116	104
<b>Professional Learning</b>	36	54	0	80	83	90	94
<b>Supportive Colleagues</b>	21	34	63	0	74	90	99
<b>Supportive Sociopolitical Climate</b>	22	39	60	69	0	70	75
<b>Support from Families &amp; Caregivers</b>	15	30	53	53	73	0	72
<b>Positive Student Response</b>	16	27	49	44	68	71	0
<b>Marginal Frequencies</b>							
	<b>Rank 1</b>	<b>Rank 2</b>	<b>Rank 3</b>	<b>Rank 4</b>	<b>Rank 5</b>	<b>Rank 6</b>	<b>Rank 7</b>
<b>Time &amp; Resources</b>	68	34	21	11	3	4	2
<b>Administrator Support</b>	25	36	36	24	11	6	5
<b>Professional Learning</b>	22	23	20	18	15	26	19
<b>Supportive Colleagues</b>	3	21	27	24	29	20	19
<b>Supportive Sociopolitical Climate</b>	12	13	15	27	21	15	40
<b>Support from Families &amp; Caregivers</b>	5	10	15	22	26	38	27
<b>Positive Student Response</b>	8	6	9	17	38	34	31

Table 2. Descriptive statistics for ranks of educational infrastructure support and broader support from vested parties among Pine Orchard educators.

**Plackett-Luce Model.** To explore how diversity ideologies are associated with educators' valuation of educational infrastructure, an initial examination for significant differences between rankings was conducted. A PLM model was fit to the data with time and resources was treated as the reference and quasi standard errors (QSE) were calculated (see Table 3). Results indicate that worth values for time & resources were significantly higher than all other forms of educational infrastructure support (Figure 3). The approximation error for the QSE is between -1.8% and 3.7%, and the model fit was excellent (Agresti, 2013).

Item	PLM with Time & Resources as reference	
	Worth	QSE
Time & Resources	0.00	0.07
Administrator Support	-0.44***	0.07
Supportive Colleagues	-1.07***	0.07
Professional Learning	-0.95***	0.07
Support from Families & Caregivers	-1.32***	0.07
Positive Student Response	-1.50***	0.07
Supportive Sociopolitical Climate	-1.38***	0.07
AIC 4618.8	Residual Deviance ( <i>df</i> ) 4606.8 (6042)	
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1		

Table 3. Item worth value coefficients from PLM with time & resources and administrator support as reference.

Model fit of the PLM was evaluated using a chi-square distribution of the residual deviance with degrees of freedom, and suggested an excellent fit of the model estimating the difference between the rankings predicted by the PLM and those actually observed in the data (Agresti, 2013). Given the small approximation error of QSE and the excellent model fit, these results indicate that the predicted values and differences regarding rankings of equity-focused educational infrastructure are reliable interpretations.

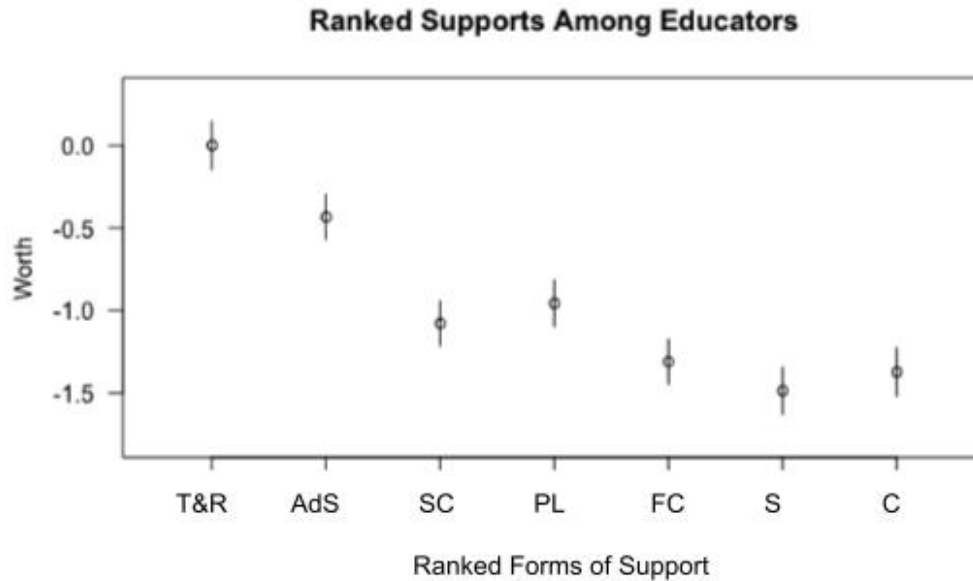


Figure 3 Item worth value coefficients from PLM with time & resources as reference. T&R = time & resources; AdS = administrator support; SC = supportive colleagues; PL = professional learning; FC = support from families and caregivers, S = positive response from students, C = supportive sociopolitical climate

### Plackett-Luce Tree with Covariates

The covariates for educators' responses regarding multiculturalism, colorblindness, race/ethnicity, gender, and years of experience were included within the model. The PLMT returned a tree with two nodes from a single branch reflecting differences in educators' multiculturalism responses (Figure 4). One node includes educators with multiculturalism scores less than or equal to 5.4 (also referred to as educators with normative multiculturalism endorsement), while the second node includes educators with multiculturalism scores greater than 5.4 (also referred to as educators with high multiculturalism endorsement). Results indicate that educators with multiculturalism endorsement higher than 5.4 provided significantly different rankings of support for equity practices than those with lower scores.



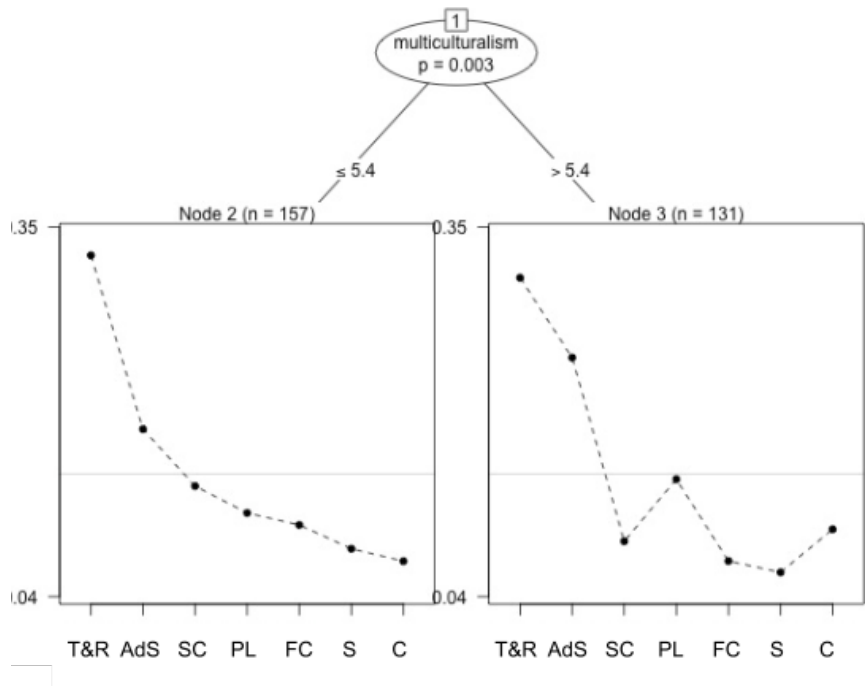


Figure 4. PLMT with two nodes returned by educators' multiculturalism responses. T&R = time & resources; AdS = administrator support; SC = supportive colleagues; PL = professional learning; FC = support from families and caregivers, S = positive response from students, C = supportive sociopolitical climate

Strength of Support Type among Educators with Multiculturalism Scores ≤ 5.4					Strength of Support Type among Educators with Multiculturalism Scores > 5.4			
	Est.	St. Error	Z Value	P value	Est.	St. Error	Z Value	P value
Time & Resources	00000				00000			
Administrator Support	-0.59	0.13	-4.47	< .0001	-0.25	0.15	-1.68	p = .09
Supportive Colleagues	-0.90	0.13	-6.67	< .0001	-1.27	0.15	-8.34	< .0001
Professional Learning	-1.09	0.14	-7.83	< .0001	-0.80	0.15	-5.30	< .0001
Support from Families & Caregivers	-1.18	0.14	-8.51	< .0001	-1.48	0.15	-9.64	< .0001
Student Response	-1.40	0.14	-10.04	< .0001	-1.63	0.16	-10.32	< .0001

Supportive Sociopolitical Climate	-1.54	0.15	-10.64	< .0001	-1.16	0.15	-7.52	< .0001
Signif. codes: ‘**’ 0.0007 ‘*’ 0.007 ‘+’ 0.05 ‘ns’ 1 Residual deviance: 2522.7 on 3291 degrees of freedom AIC: 2534.7 Number of iterations: 8					2053.4 on 2745 degrees of freedom AIC: 2065.4 Number of iterations: 9			

Table 4 Strength of support type among educators by PLMT groups

In addition to returning a graphical depiction of differences between nodes, the model returned statistical values indicating the strength of each form of educational infrastructure among grouped educators. The statistical significance reported within each group is a measure of comparison between their valuation of time & resources to all other types of support. Among educators with normative multiculturalism endorsement (Table 4), the strength of their time & resources ranking is significantly higher than all other forms of support. Post-hoc comparisons were conducted to test the statistical difference between the strength of the PLMT item rankings between groups (Table 5), and a Bonferroni adjustment was used to account for the multiple comparisons.

When comparing the strength of item rankings between groups returned by the PLMT, there were several significant differences returned from post-hoc comparisons with a Bonferroni adjustment to account for multiple comparisons. Educators with high multiculturalism endorsement placed more value on support from administrators ( $M_{HM-Admin} = 2.81, t(258.77) = 2.70, p < .007$ ) and supportive sociopolitical climate ( $M_{HM-Climate} = 4.20, t(253.79) = 2.63 p < .001$ ) compared to educators with multiculturalism scores less than 5.4 ( $M_{NM-Admin} = 3.39; M_{NM-Climate} = 4.8$ ). Educators with multiculturalism scores greater than 5.4 placed significantly lower value on colleagues ( $M_{HM-C} = 4.70, t(256.75) = -3.31, p < .001$ ) and positive responses from families and caregivers ( $M_{HM-FCG} = 5.11, t(250.87) = -3.56 p < .001$ ) compared to educators with multiculturalism scores less than 5.4 ( $M_{NM-C} = 4.01; M_{NM-FCG} = 4.36$ ).

Post-hoc Comparison of PLMT groups (NM as reference)				
	<i>t</i>	<i>df</i>	CI	<i>p</i> -value
Time & Resources	0.38	257.94	(-0.32, 0.47)	<i>ns</i>
Administrator Support	2.70	258.77	(0.15, 0.97)	0.006*
Supportive Colleagues	-3.31	253.79	(-1.10, -0.28)	0.001*
Professional Learning	1.66	249.85	(-0.08, 0.91)	<i>ns</i>
Support from Families & Caregivers	-3.56	256.75	(-1.17, -0.33)	0.0004**
Positive Student Response	-1.23	246.76	(-0.70, 0.16)	<i>ns</i>
Supportive Sociopolitical Climate	2.63	250.87	(0.16, 1.14)	0.006*
Signif. codes: ‘***’ 0.0007 ‘**’ 0.007 ‘.’ 0.05 ‘ <i>ns</i> ’ 1				

Table 5. Post-hoc comparison between groups resulting from the PLMT (Bonferroni adjustment  $p < 0.007$ ).

Unlike multiple regression models, where summary tables permit an interpretation of all included variables (even those that are insignificant), PLMT does not return values for covariates that are stable during partitioning. Demographic statistics were calculated to better understand and describe differences among educators by group membership before the conclusion of the quantitative analysis for phase one (Table 6). Where categorical variables were calculated, chi-square tests of independence were included and where continuous numeric variables were calculated, a difference of means two-sample t-test was included. These results are described in the following paragraphs, organized by demographics, ideological beliefs, equity-focused perceptions, and equity-focused practices. A Bonferroni adjustment was used to account for the multiple statistical comparisons, placing the  $p$ -value significance level at 0.007.

Educators with high and normative multiculturalism did not have underlying demographic compositions. There were similar percentages of educators by racial identity ( $\chi^2$  (1,

$N=325$ ) = 1.64, *ns*), as well as by gender identity ( $X^2$  (1,  $N=325$ ) = 1.67, *ns*). Educators within each group have similar average years of experience ( $M_{HM} = 13.06$ ,  $M_{NM} = 13.62$ ), teach within a Title I school ( $X^2$  (1,  $N=325$ ) = 0.57, *ns*), spend the majority of their day with students ( $X^2$  (1,  $N=325$ ) = 0.01, *ns*), and have similar percentages of white colleagues,  $t(277.89) = 0.42$ , *ns*.

Collectively, these statistics suggest that the compositional differences between the groups are not due to differences in lived experiences that tend to coalesce by gender, race, or teaching experience.

In terms of ideological beliefs, perceptions of educational infrastructure, and practice implementation, there were several significant mean differences between educator groups. As expected, educators with higher multiculturalism beliefs endorsed colorblindness ( $M = 1.5$ ) less than educators with normative multiculturalism beliefs ( $M = 2.5$ ),  $t(274.76) = 10.80$ ,  $p < .001$ . Educators with higher multiculturalism beliefs had more negative perceptions of educational infrastructure ( $M = 3.7$ ) compared to educators with normative multiculturalism ( $M = 4.5$ ),  $t(279.84) = -3.89$ ,  $p < .007$ . Educators with higher multiculturalism beliefs ( $M = 3.7$ ) reported implementing more cultural background practices than educators with normative multiculturalism ( $M = 3.1$ ),  $t(168.08) = 4.17$ ,  $p < .001$ , as well as implementing more practices that validate students' cultural backgrounds than their colleagues with normative multiculturalism beliefs ( $M = 3.2$ ),  $t(178.35) = -4.34$ ,  $p < .001$ .

Variable	Educators with multiculturalism scores 5.4 (NM)	Educators with multiculturalism scores > 5.4 (HM)	p-value
	N (%)	N (%)	
<b>Gender</b>			
Female/nonbinary	139 (78.5)	118 (84.9)	<i>ns</i>
Male	35 (19.8)	19 (13.7)	
<b>Race</b>			
BIPOC	53 (29.9)	52 (37.4)	<i>ns</i>

White	120 (67.8)	84 (60.4)	
<b>Teaches in a Title I school</b>			
Yes	84 (47.5)	72 (51.8)	<i>ns</i>
No	83 (46.9)	58 (41.7)	
<b>Spends majority of the day with students</b>			
Yes	113 (63.8)	87 (62.6)	<i>ns</i>
No	64 (36.2)	52 (37.4)	
	<b>Mean (SD)</b>	<b>Mean (SD)</b>	
<b>Years of Experience</b>	13.06 (10.1)	13.62 (9.04)	<i>ns</i>
<b>% of White colleagues</b>	70.2 (.2)	70.2 (.2)	<i>ns</i>
<b>Perception that Equity Work is Valued (1-6)</b>	4.5 (0.9)	3.7 (1.2)	< .007
<b>Multiculturalism Ideologies</b>	4.7 (0.6)	5.8 (0.2)	< .001
<b>Colorblindness Ideologies</b>	2.5 (1.0)	1.5 (0.5)	< .001
<b>Cultural Background Practices</b>	3.1 (1.0)	3.7 (1.1)	< .001
<b>Culturally Validation Practices</b>	3.2 (1.0)	3.9 (1.0)	< .001

Table 6. Descriptive statistics within and between groups resulting from the PLMT

**Summary of PLMT and Forward Integration.** When examining educators’ rankings of educational infrastructure and broader support from vested parties, PLM results indicate that educators tend to rank any aspect of educational infrastructure (in the form of time & resources, administrator support, supportive colleagues, and professional learning) higher than broader support from vested parties like students, families & caregivers, and the supportive sociopolitical climate. This analysis partially supported the initial hypothesis, that educators with higher multiculturalism would place more value on social aspects (i.e., administrator support, supportive colleagues) of educational infrastructure.

The returned educator groups from the PLMT suggest that educators’ diversity ideologies, specifically their multiculturalism beliefs, are associated with different values for social aspects (i.e., colleagues and administrators) of educational infrastructure. The PLMT

results indicate that placing educators in groups by their multiculturalism beliefs improved model fit beyond the overall ranking patterns and beyond other included covariates, creating two groups of educators with multiculturalism beliefs above 5.4 (high multiculturalism) and educators with multiculturalism beliefs at or below 5.4 (normative multiculturalism). The significant differences between educators' rankings by multiculturalism occurred in their values for social aspects of educational infrastructure, specifically their values for administrator support and supportive colleagues. Educators with higher multiculturalism beliefs placed more emphasis on the value of support from administrators, while colleague support was more important for educators with normative multiculturalism beliefs. Further analysis is needed to determine what salient aspects educators are considering during these rankings.

However, educators with high and normative multiculturalism do not differ in their importance of formal aspects of educational infrastructure. Time & resources had the highest ranked value within both groups. These findings suggest that while multiculturalism may produce an overall difference in the importance of aspects of educational infrastructure, this association may be most visible when considering the social aspects of educational infrastructure. Notable differences regarding educators' perceptions of beneficial social aspects within educational infrastructure are discussed in the next chapter.

## Chapter 6 Phase One Qualitative Results

The focus of this chapter is to detail the dimensions of difference regarding supportive formal and social aspects of educational infrastructure. Educators with differential endorsement of multiculturalism (i.e., high vs. normative) identified distinct aspects of administrator support needed within equity-focused initiatives. Each dimension was connected to at least four contributing responses (i.e. answers where at least one educator provided a substantive response that was more than concurrence). All participants, regardless of their level of endorsement of multiculturalism, discussed the available equity-focused infrastructure in their schools. Educators also described the extent to which they desired these forms of support, and what supports they would like to see. In this way, educators revealed their perceptions of benefits and constraints regarding current equity-focused educational infrastructures. These are discussed below and within Table 7 and have been organized into formal and social aspects of school administrator actions.

	<b>Normative Multiculturalism Educators</b>	<b>High Multiculturalism Educators</b>
<b>Formal Aspects of District Resources</b>		
Challenges to educational infrastructure	Resources regarding equity-focused professional learning	Isolated approach to equity-focused initiatives
<b>Social Aspects of School Administrator Actions</b>		

Supportive ideological alignment	Provides protection from external pressures	Can create beneficial social cohesion
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Table 7. Thematic results by categorical code and educator group

**Perceptions of formal aspects within educational infrastructure across groups.** Both educator groups discussed the need for formal aspects of educational infrastructure. There were also noted differences in how educators discussed their desired formal aspects of support. Educators with high multiculturalism beliefs expressed the challenge of having equity-focused initiatives isolated to professional learning and expressed a desire to integrate equity more broadly across the instructional process, including explicit integration of equity into the curricula.

Educators with high multiculturalism beliefs tended to juxtapose the equity educational infrastructure with the other content-specific instructional infrastructure, like the literacy curricula or the sequencing of social studies curricula. One educator discussed noticing this segmented approach by saying, “It feels like, ‘Oh, this is the thing that we're going to focus on.’ But we don't. It's not everywhere. It's not what we live and breathe and see and do. It's not. It's a thing we go to, and then it goes.” Another educator from a different school discussed it in similar ways, saying, “That's how equity is here. If we have a meeting, it's not woven in when we're looking at data, we're not having conversations about ‘Okay, what are some other things we could be looking at?’ It's a thing that comes off the shelf. When it's time, and it hasn't been time yet this year.” After noting the shape of this segmented approach, other educators discussed an integrated approach to formal aspects of educational infrastructure as something they desired, pondering aloud, “How can we infuse equity into all of the work we do? Not just equity in equity meetings, but like, how do we bring it up in every conversation even with, like, in literacy, like it plays a part.” In this way, Educators with high multiculturalism beliefs discussed formal aspects



of educational infrastructure by noting either 1) the lack of connection between professional learning and other instructional infrastructure and 2) a desire to see greater infusion between professional learning and other instructional infrastructure.

When discussing the ways in which their current equity-focused infrastructure were constrained from achieving this integration, Educators with high multiculturalism beliefs pointed to time and resources. One educator noted that implementing an integrated approach was currently time-constrained, and expressed a desire for time that could be utilized for this more integrated equity approach saying, “I would say like, just the time for the team to get together like protected time like to get together and develop, like look at our system as a whole and come up with, you know, like, ‘here's a huge thing we're seeing in our system. What can we do to dive deep into this?’” Another educator phrased this desire for integration as constrained by district resources, saying, “The resources are not put into that. Through personnel, through leadership, at a very deep equity level, not surface. You know, it’s not through an equity lens and equity department. Like when we get that, we're going to start to see some rollout like we do with our literacy adoption.” Across educators, regardless of constraint-type, the challenge was phrased as something that required coordination between school and district infrastructure to achieve.

Among normative multiculturalism educators, challenges to equity were described as constrained by educator training and a need for structured guidelines in professional learning resources. Educators with normative multiculturalism beliefs tended to talk about this need in terms of frequency or content. When talking about frequency, one educator discussed the need for structure by saying, “So I guess some kind of structure from the district level, like a framework, but also like these are like the guiding things that we can then go alongside. So kind of similar to what we said before, like, more, hearing more from the district level as to this is the

guide that we can then come with, I think would be really helpful.” Another educator succinctly described frequency in professional learning as a way to reinforce equity-focused knowledge, “We need consistent PD, to be constantly reminded of it.” When normative multiculturalism educators described a need for professional learning content, it tended to focus on concretizing equity-focused professional learning into specific topics. One educator demonstrated a desire for concrete professional learning saying, “[We need guidance on] how to connect like, these great ideas and information. What does that look like on a personal level or like implemented in the classrooms and between our staff? So taking the ideas and that information, and really making them applicable right here.” Another educator echoed this sentiment for specific knowledge by saying, “I would need some training on that. You know, you're gonna give that to me. You've got to help me know how to handle it. You know what I mean?” One administrator even discussed their desire for concrete resources as “canned PDs, that the experts come and give us, that we can then deliver to our staff.”

To summarize, challenges to the current educational infrastructure were noted differently across educators by their multiculturalism. Among Educators with high multiculturalism beliefs, the challenge was considered the lack of integration between educational infrastructure and other instructional processes. Among Educators with normative multiculturalism beliefs, challenges were discussed as the need for additional clarity in equity-focused professional learning, which often took the form of concern for frequency and resources.

**Differences in school administrator social support across groups.** Educators with high multiculturalism beliefs, across multiple school sites, desired school administrators to set cohesive expectations for educators to engage equity-focused initiatives at their school. While educators varied in their views on whether administrators at their school were currently setting

these expectations, one administrator explicitly acknowledged their choice to set this expectation at their school, saying, “Part of that is, at [school], I have an expectation that we do these things. And maybe this isn't the right place for you, [if not]. And I hate to sound like that. But again, I have to reflect on this, if we wait for certain staff to catch on, we're never gonna get anywhere.” In another school, an educator explained that these strong expectations emboldened them, saying, “That accountability piece is huge, right? Because in this room, we're accountable to [our principal]. Well, that's easy. We're on the same page. But there's so many other buildings with administrators that are not on that page. It becomes really hard to be comfortable in this work. There's many of the schools that I have taught in, I would not ever--I mean, I close my door and do it--but I'm not about to do it where my administrator would see. I know I can go to [principal] and be like, ‘Okay, this is what's going on, just giving you a heads up.’ And I know, it's gonna be okay, she's talking about it, too. That's rare.”

While strong school-level administrator support was described as extant and desirable at these two schools, this was not always the case among educators with high multiculturalism, including one who remarked, “I just want to feel like I did when I first came here, like equity is part of our identity here. This is an expectation here. This is something we invest our time into.” Another educator at a different school noted the necessity for social aspects within educational infrastructure by saying, “I think probably also, the buy-in or the support from admin staff is part of it. Because I can only imagine being like an admin of color in a school with all white teachers. And you're trying to do the work and just be there by yourself.” In this way, educators noted differences in social support within equity-focused infrastructure.

This sense that there were differences between schools regarding the social support aspects in educational infrastructure was noted by educators with high multiculturalism in

multiple schools. One educator described their sense that they were at a school with strong social support by saying, “You know, it's it's I think we're just at a different level in this school. And I don't say just because I think that. I hear that from other people saying that.” Educators with high multiculturalism at a different school also referenced feeling a lack of social support aspects. One educator noted, “This is a challenging building, like I said, compared with the other buildings I've been in in the district. You don't feel it, like as supported. And so that's what we've been trying to kind of change.” These perspectives suggested that educators were aware of differences of social aspects of school-level administrator support between schools within their educational infrastructure.

Among normative multiculturalism educators, desires in school-level administrator support were more concerned with protecting educators from negative parent interactions. One educator summarized succinctly by saying, “A big one for me, is that admin has my back, like admin’s gonna protect me around parents to do this work. Because that's been huge for me.” Another educator at a different school described an incident where an administrator intervened on their behalf by saying, “[They’re] the person I called when a parent told me I could not teach Black History. I emailed [them] and [they] instantly called me and got on a zoom call with me and set up a meeting the following week. So I feel we’re supported now. Last year if you would have asked me that would have been a different answer, but we have a different administrator.” In these instances, the protective aspect of an administrator was salient in how supported educators felt.

To summarize, educators discussed salient aspects of school-level administrator support within educational infrastructure differently by multiculturalism. Among educators high in multiculturalism beliefs, school-level administrators who would either create or set social

expectations of adhering to equity-focused initiatives were desirable. Among educators with normative multiculturalism beliefs, school-level administrators who would protect educators from negative parent interactions was desirable.

### **Summary of Chapter Six**

This chapter detailed analysis regarding educators' descriptions of educational infrastructure by their multiculturalism beliefs. Educators, regardless of their multiculturalism, noted a lack of supportive formal aspects within educational infrastructure connected to district resources. As educators discussed their desired supports, differences by their multiculturalism beliefs emerged. Educators with high multiculturalism beliefs desired current equity-focused professional learning to be more integrated with other instructional infrastructure, like the curricula and pacing guides. Educators with normative multiculturalism beliefs desired more concrete guidance within their professional learning.

When discussing supportive social aspects of educational infrastructure regarding their administrative and colleagues, educators, regardless of their multiculturalism beliefs, overall noted variation between school administrator support and a lack of certainty about their colleagues' support for equity. In regards to school administrators' social support, educators with high multiculturalism desired that their administrators set and maintain cohesive expectations for social support and practice implementation. Educators with normative multiculturalism discussed their desires for administrator support in terms of protection from external pressures of parents. Among educators with high multiculturalism, colleague support was characterized as a desire, but something that they did not experience. Among educators normative multiculturalism, colleague support was described as something that could be gained by building trust, but evidence was not strong that this was something they currently experienced.

## **Chapter 7 Phase One Integration**

The aim of this chapter is to integrate the quantitative and qualitative results from phase one of this study. Examining educators' rankings and characterizations of educational infrastructure by their multiculturalism beliefs demonstrated: 1) that educators' multiculturalism beliefs significantly change their rankings regarding educational infrastructure important to their practice implementation and 2) ranking differences align with notable aspects of educators' characterizations regarding the benefits of educational infrastructure. Integrating these two analyses permitted a more robust interpretation of the meaning educators attribute to educational infrastructure above and beyond statistical significance between groups. Thus, this chapter is organized as follows: integrated interpretation of educational infrastructure connected to administrators and section noting the limitations within this interpretation.

Educators' diversity ideologies, specifically their multiculturalism beliefs, were associated with both educators' value for and perceptions of administrator support. Educators with higher multiculturalism beliefs ranked administrator support more highly when compared to their colleagues with normative multiculturalism, suggesting a stronger value for administrator support. Dimensional differences in educators' characterization of administrator support, particularly in regards to discussion of integrating equity into infrastructure among district administrators and support from school administrators, were notable during this analysis.

Within characterizations of district administrators, the salient desire among educators with high multiculturalism was to move away from a segmented approach of equity as a topic of

professional learning, and toward a model where equity was infused into every instructional conversation. Among educators with normative multiculturalism, the salient dimensions of difference were their desire for district administrators to concretize policies for equity professional learning into more explicit direction regarding frequency (i.e., how often meetings should occur) and implementation (i.e., what do equity-focused practices look like).

These findings suggest that educators' endorsement of multiculturalism predicted how they characterize their desires for district administrator support, as well their perceptions of how mis/aligned current forms of equity-focused infrastructure are with their diversity ideologies. The desire for more integration among educators with higher multiculturalism aligns with prior research indicating that individuals with higher multiculturalism are supportive of significant restructuring to infrastructure in order to support equity initiatives, while educators with more normative multiculturalism may be looking for more regimented supports as a way to ensure meeting the standard set forth by the district administration.

These findings confirm the initial hypothesis that the value for social aspects of educational infrastructure would be different by educators' diversity ideologies. The explanatory qualitative analysis further nuanced these findings: educators with high multiculturalism are more likely to attribute integration across infrastructure to their district administrators, while attributing the benefits of ideological alignment to their school administrators. With the lack of a true colorblind comparison group, I was unable to confirm any hypothesis regarding the way that colorblindness shapes educators' perceptions of supportive educational infrastructure. However, there was evidence that normative multiculturalism educators values for and perceptions of educational infrastructure.

These findings suggest that educators' perceptions of school and district administrator support through consideration of social and formal aspects of educational infrastructure do vary by their multiculturalism beliefs, even if their colorblindness beliefs were less visible during interviews. Further examination regarding the association of school administrator support with educators' equity-focused practice implementation, which is the focus of the next results chapter, can further elucidate the additive influence of ideologies and infrastructure on practice implementation.

**Limitations.** One notable limitation of this analysis is its associative design. More plainly, this analysis cannot conclusively prove that discussing different desired supports within educational infrastructure is the result of educators' multiculturalism beliefs. Replication with different educators and a more causal analysis is needed to conclusively prove these. However, what this analysis does suggest is that it is possible to more closely attend to educators' desired support within educational infrastructure alongside their diversity ideologies, and focus on intentionally designing infrastructure to provide these.

**Summary of Chapter Seven.** While the initial quantitative analysis indicated that educators' diversity ideologies, specifically their multiculturalism beliefs, change their rankings of social aspects (i.e., administrative support and supportive colleagues) within educational infrastructure, the qualitative analysis noted different salient aspects of support regarding school and district administrators. The final, bidirectional turn in integration utilized the framework matrix from the qualitative analysis to re-interpret the PLMT coefficients to gain a more meaningful understanding about the differences in ranking. While educators with high multiculturalism were more likely to characterize administrators' who set strong expectations for educators to engage with equity-focused initiatives as valuable, educators with normative



multiculturalism were more likely to prize administrators who protected them from negative parent interactions.

## Chapter 8 Phase Two Research Methods

The aim of the second phase of the study is to investigate the association of educators' diversity ideologies and educational infrastructure on equity-focused practices. The theorized model investigation took place using two separate strands of data analysis that were combined for a bidirectional convergent interpretation. Within this section, I detail the site selection process, the path model analysis, the FTA analysis, and the integration process.

**Site Selection: perceptions of educational infrastructure.** In phase one, the integration of results suggested that educators' perceptions of administrator support differed by their multiculturalism ideologies. As the goal of the second phase was to continue to test the association between diversity ideologies and perceptions of educational infrastructure, the second phase qualitative analysis necessitated the selection of schools with differing perceptions of available educational infrastructure (Small, 2009). From the nine possible schools from phase one, four schools were selected based on similarities in their grade levels, school demographics, and sizes, while also providing the opportunity to investigate contextual differences in perceptions of available educational infrastructure by schools (see Table 8).

The goal of this selection process was to select schools with differences in perceptions of educational infrastructure. Two schools were selected to explore educators' lower than average perception of educational infrastructure ( $M_{Three} = 3.4$ ,  $M_{Four} = 3.7$ ), while two schools were selected to explore educators' higher than average educational infrastructure perceptions ( $M_{One} = 4.95$ ,  $M_{Four} = 4.57$ ). These schools had similar grade levels and racial compositions to one

another. Other schools within the district were excluded from selection due to differences in grade level (Schools Eight and Nine), noted differences in the range of educators' multiculturalism (Schools Five and Six). Thus, these educators from these four schools were theorized to teach in contexts able to investigate the two primary variables of interest (i.e., perceptions of educational infrastructure and educator multiculturalism) while ensuring that differing student contexts were not an underlying confounding factor.

School	Perceptions of Educational Infrastructure (Mean)	Range of Educators' Multiculturalism Scores	Grade Levels	Student Racial Demographics	Assignment OR Reason for exclusion
One	4.95	3.8 - 6.0	K-6	1 % Asian 1 % Black/ African American 87 % Hispanic / Latino 1 % Multiracial <1 % Native / Indigenous 12 % White	Group Two
Two	4.57	3.8 - 6.0	K-4	2 % Asian 2 % Black/ African American 62 % Hispanic / Latino 2 % Multiracial 0 % Native / Indigenous 31 % White	Group Two
Three	3.4	3.8 - 6.0	5-6	1 % Asian 1 % Black/ African American 54 % Hispanic / Latino 4 % Multiracial 1 % Native / Indigenous 38 % White	Group One
Four	3.7	3.4 - 6.0	K-4	2 % Asian	Group One

				2 % Black/ African American 29 % Hispanic / Latino 7 % Multiracial 1 % Native / Indigenous 60 % White	
Five	3.45	4.2 - 5.4	K-4	2 % Asian < 1% Black/ African American 8 % Hispanic / Latino 9 % Multiracial 1 % Native / Indigenous 78 % White	Range of MC scores
Six	4.6	2.8-6.0	K-4	1 % Asian 1 % Black/ African American 59 % Hispanic / Latino 2 % Multiracial 1 % Native / Indigenous 37 % White	Range of MC scores
Seven	4.21	2.8 - 6.0	K-4	0 % Asian 0 % Black/ African American 95 % Hispanic / Latino 1 % Multiracial 1 % Native / Indigenous 2 % White	Perception mean right at District mean
Eight	3.9	2.0-6.0	7-8	1 % Asian 1% Black/ African American 63 % Hispanic / Latino 3 % Multiracial <1 % Native / Indigenous 31 % White	No grade level overlap

Nine	3.83	2.6-6.0	9-12	1 % Asian 1% Black/ African American 59 % Hispanic / Latino 3 % Multiracial <1 % Native / Indigenous 35 % White	No grade level overlap
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Table 8. Schools with Pine Orchard by educational infrastructure ratings, range of multiculturalism beliefs, student racial demographic details, and reason for inclusion or exclusion

### 8.1 Quantitative Analysis: Path Model

The aim of the second part within phase two was to determine the impact of perceptions of educational infrastructure on educator equity-focused practices using a path model analysis. This phase of the study answers the research question posed in Chapter One: *What is the association of educator diversity ideologies with their perceptions of current educational infrastructure and educator equity practices?* To address this quantitative research question, a path model was used to examine 1) the direct influence of educators’ diversity ideologies on practice implementation on their equity-focused practice implementation, and 2) the path influence of educators’ diversity ideologies and their perception of equity-focused infrastructure on their equity-focused practice implementation.

**Data Analysis.** Composite variables for multiculturalism and practices were entered and estimated. A path model was fitted to the data using educators’ multiculturalism and perceptions of educational infrastructure as predictors of educators’ implementation of equity-focused practices. Covariates for educator race, gender, years of experience, and student racial diversity were included to account the association between educators’ lived experience and everyday contexts on their practice implementation. Coefficients, standard errors, and p-values were

returned. The resulting coefficients, standard errors, and p-values were inspected for report, which comprises the contents of chapter nine.

## **8.2 Qualitative Analysis: Framework Thematic Analysis**

The qualitative analysis during phase two took a comparative form with within- and cross-group analysis based on two groupings, which were developed during quantitative analysis for phase one and the case selection described above (Yin, 2009). This phase of the study answers the research question posed in Chapter One: *How are educator diversity ideologies and available educational infrastructure associated with their practice implementation?* To address this qualitative research question, individual interviews were conducted with 19 educators from the four schools selected (see Table 1). This section provides a description of the procedures used to gather and analyze data for educator interviews within-groups (which largely follow the qualitative analysis described in phase one); the following section details the procedure for cross-case analysis.

The analytic goals of this phase of the study are to establish salient aspects of educators' perceptions of available educational infrastructure. While the quantitative analysis collected educators' rating of educational infrastructure, this analysis was needed to concretely establish which salient elements of educational infrastructure were being considered. These features allowed the integration of the qualitative analysis with the quantitative analysis to take on a simultaneous role able to expand on the findings from phase one analysis.

**Qualitative data analysis.** FTA was used during the second phase of the analysis and took a similar structure to the analytical plan previously described during the phase one qualitative analysis (see section 3.2.2). Because the purpose of this analysis is to characterize the salient aspects of educators' perceptions of educational infrastructure, the analysis works to

confirm and expand on prior results from phase one and the quantitative analysis. The descriptive step within this analysis focused on establishing the range within salient aspects of educators' perceptions, while the explanatory step within the analysis focused on establishing the presence of salient perceptions within groupings within a framework matrix. These findings comprise the bulk of chapter ten.

### **8.3 Bidirectional Integration**

To examine the additive influence of educators' diversity ideologies and educational infrastructure on their implementation of equity focused practices, we conducted a cross-case thematic analysis. Specifically, we examined the relationship between educators' endorsement of multiculturalism (i.e., comparing those with high versus normative levels of endorsement) and their likelihood of implementing equity-focused practices. We examined this relationship in the context of schools with more robust equity infrastructure and schools with less robust equity infrastructure, focusing on administrator and educator actions.

### **Summary of Chapter Eight**

Chapter eight detailed the multiphase analysis and integration performed during the second phase of this study. The results from these analyses are contained within chapters nine through eleven, respectively, and conclude with a final discussion regarding the findings, limitations, and future directions for this research.

## Chapter 9 Phase Two Quantitative Analysis

This section details the results of the phase two quantitative analysis, which investigates the association between diversity ideologies and perceptions of educational infrastructure on educator practices using a path model reported below. These results conclude with a forward integration and are followed by the qualitative results in the next chapter.

	1	2	3	4	5	6	7	8
1. Educator Race	1							
2. Educator Gender	0.03	1						
3. Educator Years of Experience	-0.11	-0.03	1					
4. Student Racial Diversity	0.34****	0.01	-0.12	1				
5. Multiculturalism	0.10*	0.10	0.05	0.12*	1			
6. Perception of Equity Work	0.17**	-0.07	0.09	0.26****	-0.09	1		
7. Cultural Background Practices	0.18*	0.14	0.04	-0.02	0.28****	0.11	1	
8. Cultural Validation Practices	0.21**	0.18*	0.02	0.15	0.32****	0.09	0.82****	1

Table 9. Correlations among variables in Pine Orchard data

### Path Model Investigation

The hypothesized structural equation model (SEM) is indicated graphically in Figure 5. I performed a SEM analysis based on data from 171 educators within Pine Orchard School District. Results are presented in Table 11 and below. The hypothesized model demonstrated a good fit to the data: CFI = .94; TLI = .93; RMSEA = .037; SRMR = .047.



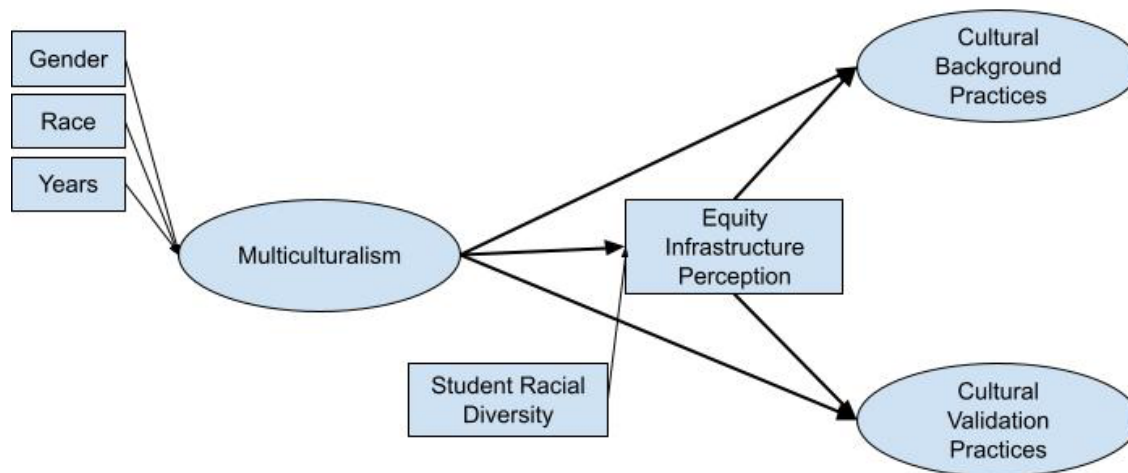


Figure 5. Hypothesized path model to be tested

<i>Summary of path model results</i>				
Path	Path ( $\beta$ )	<i>t</i>	<i>p</i>	Comment
Educator Race → Multiculturalism Beliefs	0.20	2.4	.01	Aligns with prior research
Educator Gender → Multiculturalism Beliefs	0.13	1.5	<i>ns</i>	Aligns with prior research
Educator Experience → Multiculturalism Beliefs	-0.01	-0.06	<i>ns</i>	
Multiculturalism Beliefs → Perception of Educational Infrastructure	-0.06	1.85	<i>ns</i>	H1 not supported
Student Racial Diversity → Perception of Equity-Focused Educational Infrastructure	0.24	3.43	.000	Aligns with prior research
Perception of Educational Infrastructure → Cultural Background Practices	0.12	1.62	<i>ns</i>	H2 not supported
Perception of Educational Infrastructure → Culturally Responsive Practices	0.12	1.72	<i>ns</i>	H2 not supported
Multiculturalism → Cultural Background Practices	0.37	4.00	.000	Aligns with prior research
Multiculturalism → Culturally Responsive Practices	0.38	3.85	.000	Aligns with prior research

Table 10. Summary of path model results.

**The Influences of Covariates.** Educators of color ( $r_r = 0.10$ ) had a more positive relatedness to multiculturalism, while gender and years of experience were unrelated to multiculturalism. Being an educator of color was predictive of higher multiculturalism ( $\beta_{\text{Local}} = 0.20$ ). Student racial diversity (i.e., having more students of color) was positively related to educators' perceptions of educational infrastructure practices ( $r_{\text{Local}} = 0.26$ ) and positively predicted educators' perceptions of educational infrastructure ( $\beta_{\text{Local}} = 0.22$ ).

**Effect of Multiculturalism Beliefs on Practices.** Educator multiculturalism beliefs were positively related to cultural background (i.e., practices that help students see how school will help their communities) and cultural validation practices (i.e., practices that integrate students' cultural backgrounds into learning) ( $r_{\text{CB}} = 0.28$ ;  $r_{\text{CR}} = 0.32$ ), and were predictive of higher cultural background ( $\beta_{\text{Local}} = 0.38$ ) and cultural validation ( $\beta_{\text{Local}} = 0.39$ ) practice implementation.

**Effects on Perceptions of Educational Infrastructure.** Educators' multiculturalism beliefs were unrelated to their perception of educational infrastructure within the local data and did not predict their perception of educational infrastructure.

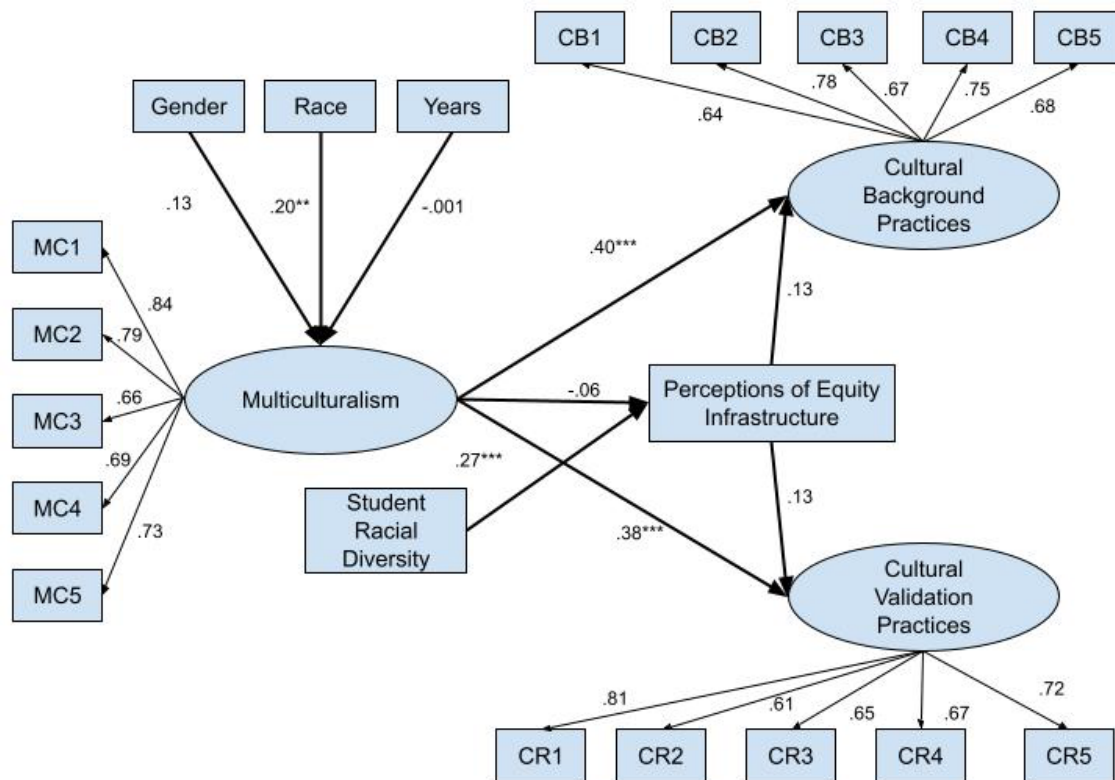


Figure 6. Tested path model betas with latent construct item loadings.

**Effect of Perceptions of Equity Work on Practices.** Educator perception of educational infrastructure was unrelated to their cultural background and cultural validation practices and was not predictive of more practices.

**Summary of Path Model and Forward Integration.** The results from the path model analyses did not support the hypotheses regarding either the relatedness of multiculturalism on perceptions of educational infrastructure or the path model from educators' multiculturalism and their practice implementation through their perceptions of equity-focused infrastructure. While the path model re-confirmed the relationship between educators' multiculturalism and their practice implementation, there was no support for the hypothesis that educators' perceptions of educational infrastructure predicted their implementation of equity-focused practices.

One possible explanation for these results is that there is limited variation within the available educational infrastructure, partially stemming from the focus on a single school district. For example, the average mean for all educators' perception of educational infrastructure ( $M = 4.1$ ) and multiculturalism is higher than the midpoint ( $M = 4.3$ ). There may not be enough variation within a single district to demonstrate that low multiculturalism and low perceptions produce lower implementation of equity-focused practices. The expected findings from the qualitative was revised explanatory depth to these null findings within quantitative data.

To integrate these results with the qualitative analysis, two analytical decisions were made to re-shape the analysis. While the quantitative results do not support the theorized relationship between educator diversity ideologies and perceptions of educational infrastructure on educator practice implementation, they create an opportunity for the qualitative analysis to take on an explanatory function. In particular, the qualitative analysis can serve to answer the research question proposed in Chapter Two, namely why the current educational infrastructure is not influencing equity-focused practice implementation. Given the contextual nature of the relatedness between educators' multiculturalism and perceptions of the educational infrastructure, the qualitative analysis illuminates the variation in experiences between educators at different schools, while holding differences in their multiculturalism beliefs constant.

Moreover, if limited range does explain the null findings, this explanation could be supported with the addition of quantitative analysis containing educators from more than one school district. In order to test this explanation, the same path model was examined using a national sample. The findings of this examination are described in Appendix A and suggest that the path model supports the model with more variation in the sample.

## Chapter 10 Phase Two Qualitative Results

This chapter details the results of the phase two qualitative investigation of how educators' discussion of supportive school administrators relate to educators' equity-focused practice implementation. As school sites were purposefully selected for differences between educators' perceptions of educational infrastructure, the narrative description of these results are organized by school site (i.e., schools with lower equity-focused support ratings, schools with higher equity-focused support ratings).

These comparisons respond to the following question: *How are educator diversity ideologies and available educational infrastructure associated with their practice implementation?* The qualitative results below detail three areas where there are noticeable differences in educators' perceptions of educational infrastructure between educators at schools with high and low ratings of educational infrastructure (Table 15).

As currently enacted, available social and formal aspects of educational infrastructure at schools with higher ratings of educational infrastructure were described by educators. Notably, social aspects from school administrators included receiving protection from parents among educators with normative multiculturalism beliefs, and receiving cohesive expectations among educators with high multiculturalism beliefs. Educators, regardless of multiculturalism, had different perceptions of how beneficial formal aspects of educational infrastructure were.

Educators with normative multiculturalism described being able to adapt available resources for

equity-focused practice implementation, while educators with high multiculturalism described these as being transactional rather than meaningful.

Among educators at schools with lower educational infrastructure ratings, social aspects from school administrators were described as being constrained by competing instructional initiatives among educators with high multiculturalism or by site-specific challenges among educators normative multiculturalism. Educators, regardless of their multiculturalism beliefs, described being able to adapt formal aspects of educational infrastructure for their practice implementation.

The notable elements that emerged in a comparative analysis of supportive educational infrastructure between school sites with different ratings were contained within the social aspects from school administrators. Between educators with high multiculturalism by school site, receiving their desired form of school administrator support was associated with differing perceptions of social and formal aspects of district-level educational infrastructure. Between educators with normative multiculturalism by school site, receiving their desired form of school administrator support was associated with differing perceptions of social aspects of district administrators. Overall, receiving desired social aspects of school administrator support within educational infrastructure by educators’ multiculturalism beliefs were associated with differences in educators’ perceptions of their district-level social and formal aspects of educational infrastructure.

High multiculturalism educators		<b>Educators at schools with lower equity-focused infrastructure ratings</b>	<b>Educators at schools with higher equity-focused infrastructure ratings</b>
	<b>School Administrator Social Supports</b>		
	Social Aspects	Social aspects constrained by competing initiatives	Social aspects offers cohesive expectations

Normative multiculturalism educators	School Administrator Supports		
	Social Aspects	Responsive to site challenges	Protection from parents

Table 11. Thematic results by category of educational infrastructure and educator group

**Differences between educator groups and sites regarding school administrator**

**support.** Across school sites and groups, educators discussed their perceptions of their school administrators’ equity-focused support. Among the four groups, there were four different perceptions. Educators with normative multiculturalism at schools with low educational infrastructure discussed their school administrator’s support as reactive rather than anticipatory of equity needs, while their high multiculturalism colleagues described their school administrators’ actions as constrained attempts to adapt existing processes. At schools with higher rated infrastructure, educators with normative multiculturalism discussed how their administrators protected them from internal and external pressures, while educators with high multiculturalism discussed their administrators’ support as setting cohesive expectations among colleagues.

*Social aspects of school administrator support among educators with normative multiculturalism by school site.* The main difference between educators with normative multiculturalism beliefs across schools by different ratings of educational infrastructure was their perceptions of school administrators actions. Among educators at schools with lower ratings of equity-focused infrastructure, school administrators' supportive actions were described as mostly reacting to challenges in equity at their schools. One educator noted, “They did a week of interventions on racist language and I think that they consistently give consequences pretty consistently to kids who continue to struggle with their words.” Another educator noted how school administrators’ reactions to equity challenges among students could feel prescriptive,

saying, “We're being told what to do rather than being asked to work with it, if that makes sense. Like, ‘You will do this,’ and ‘You will do that,’ and, ‘This is what we're doing.’ As opposed to, you know, ‘Let's meet and discuss this. Let's talk about this.’ It's more of a direction where we're being told what to do, rather than us working together as a staff.” In this way, educators with normative multiculturalism at schools with low educational infrastructure ratings expressed a perception that their school administrators’ supportive actions were centered on reacting to challenges in equity at their schools.

Among educators with normative multiculturalism at schools with high equity-focused infrastructure ratings, school administrators’ actions were discussed as protecting educators from internal and external pressures. One educator described the influence by saying, “I've never gotten any pressure about test scores. Even though that's, you know, something that he gets pressure about, and maybe classroom teachers get, feel more of that. As far as influencing my work, I mean, I have the freedom to diverge from something in the curriculum because it's in the name of equity and he's gonna back me.” This sense that school administrators’ actions were protective extended to parents. Another educator noted, “Well, I mean they, they were ready to speak with the parent and they were protective of me and the way I teach. It's important that our students see themselves reflected in our curriculum. Our students and families deserve authentic representation.” In this way, educators with normative multiculturalism expressed a sense that school administrators’ actions were protective of educators.

*Differences among educators with high multiculturalism by school site.* The sense that school administrators support for equity to the form of tangible actions was also present among educators with high multiculturalism beliefs. Educators with high multiculturalism beliefs at schools with low ratings of educational infrastructure noted that their school administrators’



actions were constrained by competing initiatives, while their high multiculturalism colleagues at schools with high educational infrastructure discussed school administrator support as forming cohesive expectations for colleagues. As these educators work in the same district and do not differ in their beliefs, only in their school sites, these differences notably demonstrate how school administrators support for equity change differ between schools within the same district.

Among educators with high multiculturalism beliefs at schools with low educational infrastructure ratings, educators felt that consistent administrator support was constrained by competing initiatives. One educator noted, “I do think they are concerned about it. I don't know. Like, it's hard to make changes. So I think little things are changing and conversations are happening but no big moves have been made.” Among these perceptions, educators explained that, “I do think that they place a lot of importance on equity. They, you know, they talk the talk really well. But I think that with so many things that happen during the day, during the week, during the year, it's not centered because other things get in the way.” In this way, educators with high multiculturalism at schools with low educational infrastructure expressed a sense that their school administrators' supportive actions were constrained by competing initiatives within their school.

Among educators with high multiculturalism beliefs at schools with high educational infrastructure ratings, district administrators who communicated support for equity were described as providing cohesive expectations to colleagues. One educator explained the impact on their school, saying, “the school is a lot better, because they're a lot more coherent. And they're always trying to find ways to to be equitable, in spite of whatever is happening outside. We all have, like, a same vision and go for it. There's not that much struggle to like, create buy-in get some people interested. It's like, we're all in the same boat, and we're going to the same

place. So I think that is something that helps at the school. I think it extends beyond what the district expects.” These educators described a sense that setting common expectations was a supportive school administrator action. Another educator expanded by noting, “There's not any, like explicit policies or like meetings that have happened this year, but it's just so ingrained in the school that I can feel it like. And that's just like, who our administrator is, and they're known for equity work. It makes me feel like I said, what the other one makes me feel safe to bring equity into the classroom and have the conversations.” In other words, rather than a sense that equity was competing with other initiatives for their school administrator's support, educators had a sense that their administrator was able to make equity into a coherent understanding shared among school colleagues.

In summary, educator groups examined across school sites described their school administrators' support for equity as extant and observable actions, but varied on how cohesive and effective these actions felt. While educators with high multiculturalism at schools with high educational infrastructure ratings thought their school administrators set cohesive expectations that could be implemented by their colleagues, neither educators with high multiculturalism at schools with low educational infrastructure ratings thought competing initiatives constrained their school administrator's supportive actions. Among educators with normative multiculturalism, those at schools with high educational infrastructure ratings discussed educators' supportive actions to protect them from internal and external pressures, while those at schools with low educational infrastructure ratings felt like their administrators' support was reactive rather than protective.

		<b>Educators at schools with lower equity-focused infrastructure ratings</b>	<b>Educators at schools with higher equity-focused infrastructure ratings</b>
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	<b>Association with Practices</b>		
High Multiculturalism educators	Educator Actions	Expend time and labor to implement practices beyond those supported formal resources	Expend time and labor to implement practices beyond those supported formal resources
	<b>Association with Practices</b>		
Normative Multiculturalism educators	Educator Actions	Implement equity-focused practices available from formal resources	Adapt formal resources to be meaningful

Table 12. Thematic results by school and educator.

**Differences between educator groups and sites regarding practice implementation.**

Across school sites and groups, educators discussed their practice implementation three distinct views of practice implementation by educator beliefs and school site emerged. Educators with normative multiculturalism at schools with low educational infrastructure discussed implementing those equity-focused practices supported by formal resources from educational infrastructure, while colleagues at schools with high educational infrastructure ratings noted having to adapt formal resources to implement meaningful practices. Among educators with high multiculturalism beliefs, educators at schools with high and low ratings described expending time and labor to implement equity-focused practices that were beyond those supported by formal resources.

***Difference among educators with normative multiculturalism by school site.*** The main difference between educators with normative multiculturalism beliefs across schools with different ratings of educational infrastructure was the perception of whether district-provided resources needed to be adapted by educators in order to meaningfully support their equity-focused practice implementation. Among educators with normative multiculturalism beliefs at

schools with lower ratings of equity-focused infrastructure, practice implementation discussions were limited to those with extant district support, and these did not always take the form of curriculum. One educator described confidence navigating extant systems by saying, “Any support that we need with regards to contacting parents who don't speak English, we have people that can help us. They've set that up, as a system, that I can go to a specific person in the dual language program and they will help translate for me. So there are avenues that have been put in place. And even when writing, we know who to go to so that documents can be translated.” Another educator expanded on the limitations of these systems, but noting, “Equity is not something that I feel is, is followed up and, and reinforced throughout the year. And so then the further you get from [a training], the more you forget, and then you're like, oh, right, I really need to be, you know, revisiting that whole idea.” Another educator explained their equity-focused practice implementation by saying, “I do exit tickets, and I try to incorporate, you know, their thoughts about their families as much as I can, as much as I've been taught.” In this way, educators with normative multiculturalism expressed a perception that while some non-curricular supports existed for practice implementation, these were not systematically available and required educator effort in order to be integrated for implementation.

Among educators with normative multiculturalism at schools with high equity-focused infrastructure ratings, they discussed the opportunity to adapt formal resources to make equity-focused practice implementation meaningful. One educator noted, “This year, specifically, it has felt, and I'm sure a lot of it has to do with having a really great curriculum, that we can talk about in a way that isn't as trying to build a lesson. And so it has been really good this year, having really productive conversations and being able to focus on equity things rather than just like, ‘Are we meeting the standard or not?’” This sense that district resources could provide a

foundational structure upon which to build was echoed among educators, including an educator at a different school who explained, “that’s the biggest thing that pops into my mind, it’s like choosing a curriculum that allows that to happen. Because if it’s not already included, a lot of people will bring it in, like supplemental material. So bring it in, choose materials that allow that conversation to happen in the first place.” In this way, educators with normative multiculturalism at high educational infrastructure schools expressed a sense that their district resources presented an opportunity to increase equity-focused practice by providing a foundation of curricula that could be built upon.

***Lack of differences among educators with high multiculturalism by school site.***

Educators with high multiculturalism beliefs at schools with low and high ratings of educational infrastructure noted spending time and labor to implement equity-focused practices beyond district-supplied systems and resources. As these educators work in the same district and do not differ in their beliefs, only in their school sites, these differences demonstrate how a difference in school administrator support may not change educators’ practice implementation, merely their perceptions of support.

Among educators with high multiculturalism beliefs at schools with low educational infrastructure ratings, educators described needing to be self-reliant to implement equity-focused practices. When discussing support systems and implementation, one educator noted, “So you really have to, in your own practice, just be constantly reminding yourself to do these things. But they do try; they present it at the beginning of the year.” Educators also noted that a lack of time within their day could also limit the amount that they could meaningfully implement practices, saying, “This is part of math and reading, like, you have to be intentional with what you read to the kids, you have to be intentional with, like the classroom management strategies that you have

and how you deal with certain behaviors and like, how you talk about your kids, how you might unconsciously label your students and stuff. Like, all of that matters, but I don't think we get time to plan for how that all interconnects” In this way, educators with high multiculturalism expressed a sense that communicating support for equity was an insufficient district administrator action.

Like their colleagues at schools with high multiculturalism beliefs at schools with high educational infrastructure ratings, educators with high multiculturalism beliefs at schools with low educational infrastructure ratings discussed the additional work they put in to implement equity-focused practices. One educator summarized this view saying, “I have a student who speaks Tagalog and is from the Philippines. So like, when we're talking about like, ‘What's your favorite food?’ I bring in food from that culture. So it's more I feel like it's more like I'm the one who's bringing in the practices into the classroom versus my leader or my district.” There was also a notable frustration that their efforts were frequently unrecognized among leadership. Another educator expanded by noting, “I think they are the people who work the hardest to bring equity into the classroom. And I don't feel like they get recognized. We already have some really amazing people in this district that work really hard on bringing equity into the classroom. So like, let's work with them. Let's get their ideas, let's pay them for their time.”

In summary, educator groups examined across school sites described different ways of engaging with equity-focused resources for practice implementation. Educators with normative multiculturalism at schools with low educational infrastructure discussed implementing those equity-focused practices supported by formal non-curricular resources but did not discuss curricular resources. Colleagues at high resource schools did not note non-curricular resource but did describe adapting curricular resources in order to implement meaningful practices. Among

educators with high multiculturalism beliefs, educators at high and low resources schools described expending time and labor to implement equity-focused practices that were beyond those supported formal resources.

### **Summary of Chapter Ten**

This chapter detailed analysis regarding educators' perceptions of educational infrastructure by their multiculturalism beliefs and associated equity-focused practice implementation. Between school sites, educators by multiculturalism beliefs noted receiving social aspects of school administration support that were aligned with desired supports described within phase one qualitative analysis. Receiving desired support within social aspects of educational infrastructure was associated with differences in educators' perception of district-level social aspects of support among educators regardless of multiculturalism, while differences in practice implementation were notable only among normative multiculturalism educators between schools. The integrative interpretation of these findings with the quantitative analysis, and overall interpretation of the study, limitations, and future directions are contained within the next chapter.

## **Chapter 11 Phase Two Integration and Discussion**

This study employed a multi-phase mixed methods approach to investigate two key questions: 1) how educators' diversity ideologies are associated with their perceptions of educational infrastructure and 2) how these ideologies, in conjunction with educators' perceptions of educational infrastructure, are associated with educators' equity-focused practice implementation. This chapter presents an integrated interpretation of the findings from phase two of the study, an overall discussion, outlines the limitations, and suggests future directions for research.

### **Phase Two Integration**

The findings within this section elucidate the contextual dynamics on the association of educators' multiculturalism beliefs regarding their perception of educational infrastructure. Analysis from two sets of quantitative data revealed differing relationships between educators' multiculturalism beliefs and their ratings of educational infrastructure. Specifically, the hypothesized relationship between educators' diversity ideologies and perceptions of educational infrastructure was not supported in the Pine Orchard data. However, a replication of the model with national data confirmed the hypothesized association. These results indicate that the current forms of educational infrastructure may not provide adequate support to educators, regardless of their multiculturalism beliefs. Furthermore, they highlight a contextually specific relationship between educators' diversity ideologies and enacted implementation of educational infrastructure.



The qualitative results both support and deepen the understanding of the null findings from the local sample by comparing educators' experiences with district and school administrators between schools that vary in their ratings of educational infrastructure. Integratively, these results build upon the quantitative results, revealing that while educators at schools with higher ratings of educational infrastructure receive the social support they desire from school administrators, they find the formal aspects of equity-focused infrastructure lacking. This discrepancy highlights the interplay between social and formal elements within educational infrastructure, aligning with previous research that emphasizes their interconnected nature.

Even in schools where educators felt supported by the social aspects of educational infrastructure provided by their school administrators, this support was insufficient to offset the lack of formal educational infrastructure support. In schools with higher educational infrastructure ratings, the path model indicated no association between educators' multiculturalism beliefs and their perceptions of educational infrastructure. Despite this, educators perceive the social actions of their school administrators--such as setting cohesive expectations or shielding them from external pressures--as supportive. They also felt that available formal support could be adapted to facilitate equity-focused practices. At schools with lower educational infrastructure ranking, educators--regardless of their multiculturalism beliefs--tended to feel that neither the formal nor the social aspects of educational infrastructure were supportive of their equity-focused practice implementation.

Collectively, the null findings from the local sample, alongside the confirmatory results from the national dataset, underscore a common finding: in schools with higher educational infrastructure ratings, educators implement more equity-focused practices, even though these vary by educators' multiculturalism beliefs. When considering this alongside the qualitative

results, the formal aspects of educational infrastructure were more commonly lacking. This pattern highlights a disparity in available aspects of educational infrastructure support types, reflecting a need for a more balanced approach to fostering both social and formal elements of educational infrastructure.

The synthesis of these findings reveals a pattern: higher educational infrastructure perceptions do facilitate the implementation of equity-focused practices, but this is largely dependent on the interplay of available supports--social and formal--and how these supports align with educators' multiculturalism beliefs. This nuanced understanding underscores the need for a more intentional approach to educational infrastructure design, one that strategically strengthens both social and formal aspects of educational infrastructure to truly support and enhance equity-focused practices across all schools, educators, and students.

### **Overall Discussion**

This study examined the relatedness of educators' diversity ideologies and their perception of educational infrastructure on educators' equity-focused practice implementation. The central question guiding this dissertation investigation was *How do educators' diversity ideologies influence their perceptions of educational infrastructure and equity-focused practice implementation?* The theoretical proposition posited examining the association of educators' diversity ideologies with their perceptions of educational infrastructure could elucidate an understanding of supports helpful for sustaining educators' equity-focused practice implementation. This premise rests on the notion that while there are a suite of supportive actions that educators can receive through educational infrastructure, educators may require and prefer depending on their diversity ideologies.

Broadly, the results supported this theoretical proposition and have methodological and practical implications for research investigating the intersecting association of educational infrastructure and psychological factors on educators' equity-focused practice implementation. The results from the first phase indicated significant variation in how educators, based on their multiculturalism beliefs, value administrator support and supportive colleagues. Additionally, there were notably distinct perceptions among educators regarding the support from school and district administrators, associated with their differing diversity ideologies. The second phase further confirmed that path influence of multiculturalism beliefs and perceptions of educational infrastructure exist and that educators' views on formal and social support vary depending on their multiculturalism.

Statistical analysis across both phases revealed that educators' diversity ideologies, specifically their multiculturalism beliefs, significantly associated with their ratings of educational infrastructure. These findings align with the theoretical proposition that diversity ideologies serve as sensemaking frameworks, helping educators define what they consider desirable within formal and social aspects of educational infrastructure.

In terms of how educators' diversity beliefs are associated with their perceptions of educational infrastructure, findings from phase one and phase two suggest desired social aspects of educational infrastructure are associated with diversity ideologies. Ranking and qualitative investigations indicated that the social aspects of educational infrastructure, particularly school administrators, were highly valued among educators with higher multiculturalism beliefs. In separate data collection and analysis, educators receiving support aligned with their desires for social aspects of school administrator support gave their educational infrastructure higher ratings. These findings suggest that, while contextually dependent, there is a degree of stability in the

desired social aspects of school administrator support across time, and receiving these supports is positively associated with educators' perceptions of educational infrastructure.

When considering educational infrastructure, these findings also provide support for the understanding that social and formal aspects are interrelated in creating enacted supportive infrastructure. While educators noted dimensions of difference in their desired formal educational infrastructure by their multiculturalism beliefs, they were united in their perception that these desired formal supports were unavailable to them. Receiving desired school administrators social support did not buffer the experience of lack of formal supportive aspects. Thus, researchers and practitioners can note that receiving social aspects of educational infrastructure are not related to increased educators' equity-focused practice implementation.

When discussing the desired formal aspects of educational infrastructure, educators noted dimensionally distinct desires. In some ways, each dimension of desired formal educational infrastructure by educators' multiculturalism are different ways to discuss cohesion and consistency, which are hallmarks of success within educational change initiatives (McLure & Aldridge, 2023). Educators with higher multiculturalism's desire for equity to be infused across formal instructional supports is aligned with this prior research and is indicative of their desire to see equity-focused initiatives succeed within their district. Moreover, educators with normative multiculturalism' desire to see more concrete guidelines for frequency in professional learning and practices align with prior theorizing that equity is a particularized content knowledge (Dyches & Boyd, 2017) wherein educators adjust or rely on curricula to compensate for their own strengths and weaknesses (Beyer & Davis, 2011). Educators with more normative multiculturalism may recognize their understanding of equity as less intuitive and compensate by looking for external indicators.

In a broad way, these findings suggest that strategic efforts to support educators with educational infrastructure would benefit from multiple scaffolds that can benefit a wider range of diversity ideologies than simply those with normative multiculturalism. Educators will continue to bring their diversity ideologies to their interpretations of equity, and some of those educators will primarily engage in colorblindness, believing it to create an even playing field, while some will use interpretations more aligned with multiculturalism. Knowing these core differences in diversity ideologies, researcher-practitioner partnerships have an opportunity to align educational infrastructure supports in ways that anticipate these differences. If a goal is to see educators' practices shift toward equity-focused practice, educational infrastructure could be aided by planning to meet differences within diversity ideologies, particularly as these are associated with shaping educators' perceptions of support. While those with normative multiculturalism may feel supported by isolated formal supports and communication of equity as a value, educators with high multiculturalism were dissatisfied with these formal supports, desiring more interconnection between professional learning, performance evaluation, assessment, and curricula. When coupled with the understanding that normative multiculturalism educators implement fewer equity-focused practices than their high multiculturalism colleagues, these perceptions suggest that educational infrastructure is more supportive to educators with normative multiculturalism, but not in ways that are statistically observable within their practice implementation. In a practical way, these findings suggest that when equity-focused infrastructure exist, but these are not aligned with educators' diversity ideologies, it is educators' multiculturalism beliefs that are responsible for their practice implementation.

### **Limitations and Future Directions**

Overall, the future directions of this research are contained within a central understanding that refining an examination of educational infrastructure will yield more precise and illuminative understandings. One future direction is tied to survey development and validation, the other is tied to more explicit examinations of the interplay between formal and social aspects of educational infrastructure.

Within this study, survey items regarding educators' perceptions of educational infrastructure had low reliability and needed to be split into individual item analysis for use. After completing the qualitative analysis, one possible explanation is that educators' perceptions regarding social and formal aspects of district and school administrators were not explicitly operationalized within the survey. Likert-scale survey items regarding educators' perceptions of their district and school administrators' social and formal actions supporting equity initiatives (i.e., "During conversations with my district administrators, it is clear that they value equity-focused practices") would permit a multi-level model where the association of these perceptions are examined across schools and educators. Methodologically and conceptually, these scales could work to support the frameworks set forth by Peurach and colleagues regarding the interrelated nature of social and formal aspects within educational infrastructure (2019).

Second, the qualitative analysis within this study was chosen for its' usefulness in categorizing and describing educational infrastructure, which leaves open the opportunity for more fine-grained analysis of communication as a culturally distinct phenomenon. An analysis capable of tracing how this communication occurs regarding educational infrastructure, such as sociocultural discourse analysis, could yield a more comprehensive understanding of the discursive nature of communicating perceptions, particularly infrastructure that constrain and enable practice implementation.

## **Methodological and substantive contributions**

The significance of this investigation has methodological and substantive implications within research, but these also sit within our current context. Educators' diversity ideologies and educational infrastructure relatedness with educator practice implementation. Equity-focused practices have alternatively been encouraged or considered dangerous, as evidenced by the 65 different legislative bills introduced in the last four years (Watson, 2024). Substantively, this study contributes knowledge on meaningfully examining the relatedness of educational infrastructure and educator diversity ideologies on practice implementation. Results of this study indicate that diversity ideologies shape educators' perceptions of educational infrastructure and enhance equity-focused practice implementation. Educator's diversity ideologies may be an important, though less examined, feature that may further unpack differences in equity-focused practice implementation during equity-focused initiatives. Researchers interested in examining potential sources of variation within practice implementation may find this association meaningful to carry forward.

Methodologically, mixed methods research has existed within educational research for a number of years, but has been under-utilized within both practice implementation and educational systems research (Mosehelm & Fetters, 2017; Plano-Clark, Foote & Walton, 2018, Walton et al., 2020). This investigation generates new insights regarding the benefits of methodologically combining analysis, particularly as related to methods of integration and sequential investigation into an emergent phenomenon, which may be of interest to the mixed methods community. Educational researchers may be interested in this investigation that utilized research regarding educational infrastructure, while using different methods to examine educators' perceptions regarding the benefits of these educational infrastructure.

## **Conclusion**

As schools work to create educational infrastructure capable of supporting educators' equity-focused practice implementation, it is essential to understand these processes as enacted, by which I mean interpretative, rather than an objective, by which I mean universal, processes. There are dimensions of difference in what infrastructure educators experience as supportive and beneficial. Taking into consideration the beliefs that influence these dimensions of difference can allow a more intentional design of educational infrastructure. While this study investigated the benefits of receiving educational infrastructure on educators' practice implementation that align with their multiculturalism beliefs, there are still unexplored ways that experiencing beneficial educational infrastructure that may come to bear on educators persistence in their professions, the classroom culture that they create, and thus, how students experience schools. In order for educators to continue to implement equity-focused practices, we must understand how to support them. One way to do this is to attend to educators' beliefs and thus shape available educational infrastructure to these beliefs.



## Appendix A: Preliminary Path Model Analysis and Replication

### Preliminary Analysis

As a preliminary step, the data was examined for linearity, normality, homoscedasticity, multicollinearity, outliers and missingness. Assumptions were met for linearity, homoscedasticity, and multicollinearity. No outliers were detected. Models examining relatedness of diversity ideologies and perceptions of educational infrastructure failed the normality examinations. Q-Q plots of the model revealed a right skewed distribution of the data. To correct for the non-normal distribution of data, a general linear model was used. There was 34% missingness among the Pine Orchard educators regarding practice implementation. To account for the large degree of missingness, educators practice were estimated using multiple imputation via the mice R package (van Buuren & Groothuis-Oudshoorn, 2011).

### National Sample Replication

Educators within this data sample came from all 50 states and the District of Columbia. The composition of the participant sample, including average years of experience ( $M = 13.6$ ), gender, grades taught, and position were similar to the sample from Pine Orchard. The racial composition of the national sample included more Black / African American educators and fewer Latino/Hispanic educators, which is closer to national racial composition estimates.

National Survey Demographics ( $N = 1088$ )	
Years of Teaching ( $M$ )	13.6

<b>Position (%)</b>	
Administration	7.2
Certified Instructor	60.3
Instructional Assistant	10.5
Specialist	10.4
Support Staff	11.5
<b>School Grade (%)</b>	
Primary (PK - 6)	54.4
Secondary (7-12)	45.6
<b>School Type (%)</b>	
Public	77.8
Private	10.2
Charter	12.0
<b>Gender (%)</b>	
Female	79.7
Male	19.5
Nonbinary	0.6
Transgender	0.2
<b>Race/Ethnicity (%)</b>	
Asian	3.7
Black / African American	11
Indigenous/ Native	0.5
Latino/Hispanic	7
Multiple Ethnicities	3.8
White	70

Appendix Table 1. National data demographics.

	1	2	3	4	5	6	7
Race	1						
Gender	0.05	1					
Years of Experience	-0.04	-0.21****	1				
Student Racial Diversity	0.06*	0.11****	-0.04	1			
Multiculturalism	0.12****	0.09**	-0.03	0.05	1		
Perception of Equity Work	0.02	-0.02	-0.05	0.07*	0.26****	1	
Cultural Background Practices	0.10**	0.09**	-0.11***	0.13****	0.35****	0.26****	1
Cultural Validation Practices	0.10***	0.11***	-0.06*	0.12****	0.39****	0.27****	0.80****

Appendix Table 2. Correlations for national data set

## Path Model Investigation

The hypothesized SEM is indicated graphically in Figure 5. I replicated the SEM analysis with the 1088 educators within the national sample. Results are presented below and in Table 14.

The hypothesized models demonstrated good fit: CFI =.95; TLI =.94; and =RMSEA is .046.

Results of path model from national sample.				
Path	National Data			Comment
	Path ( $\beta$ )	<i>t</i>	<i>p</i>	
Educator Race → Multiculturalism Beliefs	0.08	2.4	.01	Aligns with prior research
Educator Gender → Multiculturalism Beliefs	0.15	4.05	.000	Aligns with prior research
Educator Experience → Multiculturalism Beliefs	-0.02	-0.77	<i>ns</i>	
Multiculturalism Beliefs → Perception of Educational Infrastructure	0.30	7.13	.000	H1 supported
Student Racial Diversity → Perception of Educational Infrastructure	0.05	2.07	.000	Aligns with prior research
Perception of Educational Infrastructure → Cultural Background Practices	0.19	5.52	.000	H2 supported
Perception of Educational Infrastructure → Cultural Validation Practices	0.16	4.86	.000	H2 supported
Multiculturalism → Cultural Background Practices	0.35	8.04	.000	Aligns with prior research
Multiculturalism → Cultural Validation Practices	0.44	9.41	.000	Aligns with prior research

Appendix Table 3. Results of path model from national sample

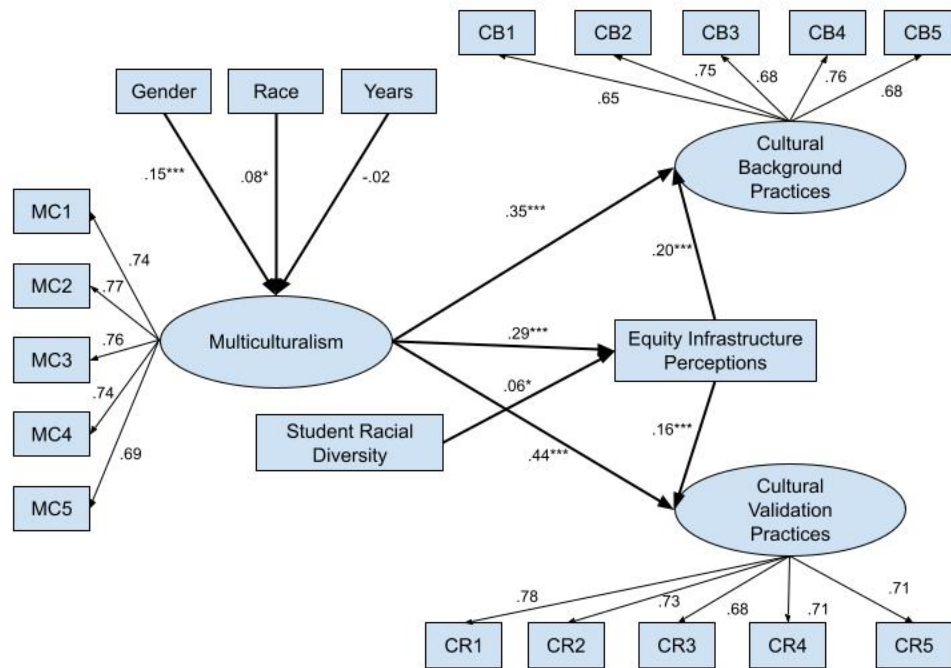
**The Relatedness of Covariates on Multiculturalism Beliefs.** Educators' race and gender ( $r_r = 0.12$ ;  $r_g = 0.09$ ) were related to their multiculturalism. Educator race was predictive

of higher multiculturalism ( $\beta_{\text{National}} = 0.08$ ), while student racial diversity positively predicted educators' perceptions of educational infrastructure ( $\beta_{\text{National}} = 0.06$ ).

**Effect of Multiculturalism Beliefs on Practices.** Educators' multiculturalism beliefs were positively related to their cultural background and cultural validation practices ( $r_{\text{CB}} = 0.35$ ;  $r_{\text{CRI}} = 0.39$ ) and predictive of higher cultural background ( $\beta_{\text{National}} = 0.34$ ) and cultural validation ( $\beta_{\text{National}} = 0.44$ ) practice implementation.

**Effects on Perceptions of Educational Infrastructure.** Student racial diversity was positively related to ( $r_{\text{National}} = 0.06$ ) and predictive of educators' perceptions of educational infrastructure ( $\beta_{\text{National}} = 0.06$ ). Educator multiculturalism beliefs were positively related to ( $r_{\text{National}} = 0.26$ ) and predicted educators' perceptions of educational infrastructure ( $\beta_{\text{National}} = 0.30$ ).

**Effect of Perceptions of Equity Work on Practices.** Educators' perception of educational infrastructure was positively related to their cultural background and cultural validation practices ( $r_{\text{CB}} = 0.26$ ;  $r_{\text{CRI}} = 0.27$ ) and was predictive of higher cultural background ( $\beta_{\text{National}} = 0.20$ ) and cultural validation practice ( $\beta_{\text{National}} = 0.17$ ) implementation.



Appendix Figure 1. Tested path model betas with latent construct item loadings for national data sample

**Summary of Path Model.** Analyses of data from a national sample of educators supported the hypothesis that 1) educators’ diversity ideologies predict their perceptions of educational infrastructure and 2) educators’ perceptions of educational infrastructure predict their equity-focused practice implementation. Moreover, these results indicate that educators’ social identities are significant predictors of their diversity ideologies and the student population in the schools in which educators teach are significant predictors of their perceptions of educational infrastructure.

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