Family Engagement Efficacy Beliefs of Educators: Validating the Interpretation and Use of a New Measure

Dissertation

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By

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Abstract

The publication of the *Family Engagement Core Competencies* by the National Association for Family, School, and Community Engagement in 2022 provided a body of knowledge of the work of educators engaging with families, a domain not well-understood previously. Situated in the pandemic recovery phase in U.S. education, this dissertation study aimed to explore the nature of efficacy beliefs of educators in family engagement, a latent construct grounded in social cognitive theory. To achieve this aim, a survey measure was developed, and an interpretation and use argument (IUA) anchored the process of the validation of the interpretation and use of its scores.

The study was conducted in five phases. In the first phase, the Family Engagement Efficacy Beliefs of Educators (FEEB-E) survey was drafted based on a review of literature, existing instruments, and subject-matter expert and user feedback. In the second phase, the FEEB-E was piloted with a national sample of educators, and exploratory factor, parallel, and reliability analyses were conducted. In the third phase, the FEEB-E was revised based on findings from the pilot study. In the fourth phase, the FEEB-E was administered to a sample of teachers in two Ohio urban school districts, and confirmatory factor, correlation, and reliability analyses were conducted. In the fifth phase, the IUA was constructed, and the appropriateness of the interpretation and use of the scores from the FEEB-E was determined.

The study found that survey items were valid for *interpretation* as representative of their target domain of self-efficacy beliefs for family engagement. There were no extraneous sources of variability in wording of items and directions, order of items, or the scoring scale. The survey items measured the intended population by reflecting a range of efficacy beliefs around multiple dimensions of family engagement and did so reliably ($\alpha = .917$). Further, the FEEB-E was found to be valid for *use* as a research instrument. Its benefits outweigh the potential consequences of its use, it is cost effective, and it improves upon other available surveys for measuring efficacy beliefs for family engagement.

Finally, in addition to the main study, it was examined how family engagement efficacy beliefs of educators (as measured by the FEEB-E) relate to other constructs, such as educators' trust in families and general teaching efficacy beliefs. Family engagement efficacy beliefs were significantly positively correlated with general teaching efficacy beliefs ($\rho = .576$, $p < .001$), indicating both that the constructs are related as expected and also that they are two distinct constructs. Second, family engagement efficacy beliefs were significantly positively correlated with teachers' trust in families ($\rho = .322$, $p < .001$), again indicating the constructs are related yet distinct.

Dedication

To Avelea, my little Bird,

and to Brett, my love.

You have been my hope on this strangest sea.

"Hope" is the thing with feathers –
That perches in the soul –
And sings the tune without the words –
And never stops – at all –

And sweetest – in the Gale – is heard –
And sore must be the storm –
That could abash the little Bird
That kept so many warm –

I've heard it in the chillest land –
And on the strangest Sea –
Yet – never – in Extremity,
It asked a crumb – of me.

~Emily Dickenson

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Any large feat takes a village in support of the effort. I am humbled by how many people have given selflessly, and I will not be able to do justice to the imprint you have made along this journey. I hope you see yourselves in these pages.

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Fields of Study

Major Field: Educational Studies

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Chapter 1. Introduction

In partial fulfillment of the requirements for the degree of Doctor of Philosophy of Educational Studies in the Graduate School of The Ohio State University, a new construct for the study of educators, family engagement efficacy beliefs, and a corresponding instrument, the Family Engagement Efficacy Beliefs of Educators (FEEB-E) were developed. The FEEB-E was designed to be used by researchers to measure educators' efficacy beliefs for collaborating with parents and caregivers (families) of their students. Among other potential applications in education research, the FEEB-B was designed for:

- Improving understanding of the role of efficacy in promoting the conditions for family engagement.
- Exploring the contributing factors to family engagement efficacy beliefs (e.g., preservice programs and coursework, in-service professional development, peer- and mentor coaching, etc.).
- Exploring how the practices of educators with high efficacy beliefs for engaging families compare to the practices of educators with low efficacy beliefs and whether these different practices may result in different student outcomes.

Family engagement, a theory and set of practices describing the collaborative relationship between schools and families to work towards the academic and social-

emotional progress of children, is considered a fundamental part of present-day education as evidenced by its codification in federal and state-level education policies such as IDEA and Title I. However, according to a 2022 study by the National Association of Family, School, and Community Engagement (NAFSCE), most educators exit their preparation programs feeling unprepared to partner with the families of their students. Moreover, while many effective family engagement strategies have been revealed through research studies, educators in the field have been disinclined to put the research into practice. Many schools employ the same family engagement strategies as in the past, unable or unwilling to break inertia or tradition. Therefore, the exploration of family engagement efficacy beliefs of educators is imperative. When family engagement does work, what happens?

In this chapter, the background of the study is described, the need and purpose are clarified, and important concepts are defined. Finally, the questions guiding the study are presented, and limitations are explained. Kane's Argument-Based Approach to Validation (Kane, 2013) provided the structure guiding the current study.

Background and Context

Why is the field of education now uniquely primed to explore the efficacy beliefs of educators for engaging families? This section describes the background framing this study in relation to current developments in the field of family engagement. The broader context provides a setting for major issues affecting public education.

Background

The National Association for Family, School, and Community Engagement

(NAFSCE) is a professional organization devoted to supporting and advancing family engagement and family-facing professionals (e.g., teachers, principals, school counselors, etc.). Over the last two years, the organization has endeavored to "identify and understand the knowledge, skills, and dispositions that family-facing professionals bring to forming these strong family, school, and community partnerships" (NAFSCE, 2022, p.1). NAFSCE identified family engagement competencies with input from the National Education Association, state education agency administrators, and university faculty members. The competencies were then compared to the professional standards of various family-facing professions and vetted by several focus groups. Finally, a field survey of 600 family-facing professionals provided final feedback. Therefore, the competencies selected represent the most accurate and current conceptualization of the work of teachers and other family-facing professionals collaborating with families for student success.

NAFSCE's (2022) eight core competencies are organized into four categories (p. 8). Each competency is then further subdivided into 2-3 descriptors, providing additional operationalism (see Table 1). The first category, **Reflect,** includes (1) *Respect, Honor, and Value Families* and (2) *Embrace Equity Throughout Family Engagement*. The second, **Connect**, consists of (3) *Build Trusting Reciprocal Relationships With Families* and (4) *Foster Community Partnerships for Learning and Family Wellbeing*. The third, **Collaborate for Learning**, consists of (5) *Co-Construct Learning Opportunities With Families* and (6) *Link Family and Community Engagement to Learning and Development*. The fourth, **Lead Alongside Families**, consists of (7) *Take Part in Lifelong Learning* and (8) *Advocate for Systems Change*.

Table 1 - Family Engagement Core Competencies

Category and Competencies	Descriptors
Reflect	
(1) Respect, honor, and value families	(1a) Examine, respect, and value the cultural and linguistic diversity of families and communities (1b) Explore, understand, and honor with families how children develop, grow, and change from birth through adulthood across settings, and how these changes affect families
(2) Embrace equity throughout family engagement	(2a) Look inward to develop cultural humility, cognitive flexibility, and perspective taking skills to practice anti-bias and equitable family and community engagement. (2b) Reflect on how history and social context influence family engagement systems and practices
Connect	
(3) Build trusting reciprocal relationships with families	(3a) Cultivate mutual trust (3b) Communicate effectively (3c) Create welcoming environments (3d) Reach out actively to families, especially those who might be most underserved
(4) Foster community partnerships for learning and family wellbeing	(4a) Build community partnerships to support children and families (4b) Establish systems to expand how families link to community resources (4c) Cultivate social support networks and connections among families
Collaborate for Learning	
(5) Co-construct learning opportunities with families	(5a) Build upon family knowledge as resources for learning (5b) Join together with families for planning, implementing, and evaluating learning opportunities and services
(6) Link family and community engagement to learning and development	(6a) Develop data systems that are accessible to each and every family (6b) Create conversations around developmental and academic progress 6c) Expand on family learning in the home and community

Table 1 Continued

Category and Competencies	Descriptors
Lead Alongside Families	(7a) Identify and participate as a member of the family engagement profession
(7) Take part in lifelong learning	(7b) Engage in professional learning to grow family engagement knowledge and skills (7c) Use data to assess, evaluate, and improve family and community engagement
(8) Advocate for systems change	(8a) Identify and examine new and existing policies and practices to further family and community engagement (8b) Champion equity as an essential element of family and community engagement and stand with families for equitable educational systems and outcomes (8c) Reframe the conversation around family and community engagement to expand public understanding

The National Education Association (NEA) published a micro-credential continuing education in-service training from an early iteration of the *Family Engagement Core Competencies*. Thus, the field of teacher education considers them a credible representation of the work of educators when they partner with families. At this time, the *Family Engagement Core Competencies* are considered representative of the content constituting the domain of educators' family engagement work.

Context

The context of this study of the nature of educators' efficacy beliefs for engaging

their students' families situates after two years of the COVID-19 pandemic. The importance of family-school interaction has been underscored by the growing educator awareness of opportunity gaps and systemic barriers impeding equitable student achievement since the convergence of the COVID-19 pandemic and the racial reckoning of 2020 (Mapp & Bergman, 2021). The everyday lives of students, teachers, and families in the U.S. were abruptly altered at the start of the pandemic. Normal patterns of action (and inaction) on the part of teachers and families, typical divisions of responsibilities, and expectations for communication were upended. With the rapid uptick of COVID-19 cases in the U.S., overnight, parents became full-time teacher-partners for their children (Beard, 2022). In some ways, trust and mutual regard between teachers and families grew as each understood the other's role and challenges faced through a new perspective.

Sadly, the COVID-19 period also evidenced increased mistrust in authority, financial unpredictability, and layoffs, along with increased burdens on mental health and wellness. Just before the pandemic's first summer heat, while in lockdown, the entire nation watched and witnessed the brutal murder of George Floyd (Beard et al., 2021), furthering the outrage provoked by the deaths of many other Black citizens at the hands of the police. Underwhelming and, in some cases, negligent government response continued to erode trust between Black families and White teachers, themselves representatives of government authority in the lives of children (Horsford et al., 2021). Even as the context and landscape of education shifted in many ways, a few elements remained unchanged.

According to Beard and Thomson (2021), one unchanged element is the

impediment of student learning by a variety of non-academic barriers, both internal to the school and external to the school. These barriers include inequitable distribution of funding and other resources, novice and underperforming teachers placed in schools serving the most vulnerable students, peer-to-peer harassment and violence, social-emotional stress exacerbated by an emphasis on high-stakes testing, biases – both implicit and explicit, and a lack of access to fundamental resources in the community such as healthcare and food. “In response to the critical need to advance equity and excellence in education and improve the life quality of marginalized populations, rigorous exploration of what works is required, particularly as educators reconsider pedagogy, access, and creating climates conducive for teacher and student engagement” (Beard, 2015, p. 353). While the odds appear stacked against successful student learning, positive psychology provides a valuable lens to enable researchers and educational leaders to examine what works within our school communities (Beard, 2015).

Because this study was situated in the 2022-2023 academic year, the examination of educator efficacy for engaging with families was squarely in the context of a continuing COVID-19 pandemic, which is increasingly moving into an endemic phase (Association for Professionals in Infection Control and Epidemiology, 2022; South Carolina Department of Health, 2019). Educators' and families’ respective roles have been renegotiated, re-envisioned, and have begun, in some ways, to return to prior patterns of interaction. Virulent national political rhetoric, too, provides a backdrop for the study. The U.S. has become increasingly politically polarized (Houston, 2021), which has recently spilled into the education domain in debates over curriculum (Anderson,

2022), freedom of speech and religion (Savage, 2022), gender-neutral bathrooms (Arundel, 2022) as well as the right to identity expression in the expansion of Title IX.

The escalated political polarization has increasingly added difficulty to the work of educators (Schwartz, 2022). While not the "mass exodus" predicted early in the pandemic, teacher attrition has increased (Goldhaber & Theobald, 2022), and districts have increased hiring to cope with the effects of the pandemic (Schwartz & Diliberti, 2022). A recent study found teachers reported significantly higher stress and burnout and lower resilience compared to other working adults (Steiner et al., 2022). Educators cite communication with families as a leading factor contributing to burnout during the COVID-19 pandemic (Pressley, 2021). Thus, an examination of the nature of educator efficacy for engaging families is vital to improve understanding of educators' beliefs about working with families and how these may influence the long-term stability of the labor market.

Need and Purpose

The efficacy beliefs of educators for engaging families are worthwhile for study. In this section, the need for the current study is presented, and the research purpose is clarified.

Need of the Study

"Teachers are best positioned to have consistent interactions and maintain the closest relationships with families" (Jung & Sheldon, 2020, p.11). As such, educators can also intentionally or unintentionally do the most harm; therefore, understanding the efficacy beliefs of teachers forging relationships with their students' families is critical.

Social cognitive theory posits that human experience exists within a system of triadic reinforcement among behavior (actions), personal (thoughts/feelings), and the environment (Bandura, 1997). In this framework, humans are both producers and products of the environment (Bandura, 1997) rather than solely products of the environment, as theorized by behaviorism. In other words, teachers' efficacy beliefs for engaging families reinforce and are reinforced by their behaviors and their environments. As educators successfully collaborate with families, relational trust will emerge and be nurtured. Once established, such trusting relationships with families enable teachers to take risks and experiment, recover from setbacks, implement advice and criticism, and raise the bar for students (Hoy et al., 2006).

Beyond just the direct benefits of a trusting relationship, efficacious family engagement also brings other positives. Family engagement encourages a sense of well-being – for teachers, students, and families (Boone, 2002; Epstein, 1986; Grolnick & Slowiaczek, 1994; Hoover-Dempsey & Sandler, 1995; NAFSCE, 2022). Furthermore, when educators collaborate effectively with families, parents/caregivers can influence policies and practices in schools. Effective and equitable family engagement can thus dismantle systemic barriers experienced by students and families in educational settings (Ishimaru, 2019). Thus, the exploration of teachers' sense of efficacy for engaging with families is essential for schools to learn from the expertise of all members of the school community. This study aims to provide an instrument to measure teachers' efficacy beliefs for engaging families, a tool for use in education research.

Before now, the field of education lacked a measure demonstrating a valid and

reliable interpretation and use for assessing the efficacy beliefs of educators for engaging with families. As we recover from a challenging time in our history, it is imperative to study the meaning and measure of efficacious collaborative effort towards common goals. Family engagement, in which individual teachers partner with their students' families to pursue the common goal of student success, is one such collaborative effort.

However, before NAFSCE's work to create the *Family Engagement Core Competencies*, no clear understanding of the domain of teachers' work with families existed. Therefore, extant prior teacher efficacy belief measures often focused more globally on teachers' work, with only a few, if any, items devoted to family engagement. Or, if entirely focused on efficacy beliefs for family engagement, they misconstrued the construct by using an organizational-level framework not accurately reflecting the tasks of individual educators. The instrument developed as a result of this study is based on the *Family Engagement Core Competencies* (NAFSCE, 2022), widely accepted by the education field as a definitive description of the work teachers undertake when engaging with families.

Purpose of the Study

The purpose of this study was to develop a family engagement efficacy belief measure, consistent with Bandura's social cognitive theory, demonstrating evidence of reliably and accurately measuring what it claims to measure. Such an instrument will enable future research explorations into the role of family engagement efficacy beliefs for promoting teacher job satisfaction, students' sense of belonging at school, students' academic outcomes, and parents' efficacy beliefs. An inventory for gauging educators'

sense of efficacy for engaging with families will also have research applications to explore the potential impact of professional development, teacher coaching, and other organizational family engagement initiatives on teacher efficacy beliefs.

Definition of Concepts

In the following section, key terms used in the study are defined based on prior theory and research. As needed, definitions are framed for the scope of this study.

Educator

The term *educator* is used to refer to any educational actor employed by PK-12 schools who participates in the learning and development of students. When more specific terms are needed, for example, to describe a particular research population in a prior or current study, those will be used instead. Educators may refer to administrators, teachers, counselors, intervention specialists, student support personnel, social workers, librarians, etc.

Family

The term *family* will be used to refer to any adult caregiver who takes primary legal responsibility for the care and upbringing of a PK-12 child. When a more specific term is needed, for example, to describe a particular research population in a prior study, those will be used instead. Families may refer to parents, grandparents raising grandchildren, other kinship caregivers, legal guardians, etc. Unless specified otherwise, the term is not meant to convey an entire family unit (i.e., younger siblings).

Family Engagement

For the purposes of this study, family engagement is defined using a positive

psychology lens as a balanced and equitable partnership between educators and families. This partnership is reciprocal and open because both educators and families share their expertise and seek feedback from the other party to improve their efforts to support children's academic and social-emotional development. By nurturing mutual trust through partnership, families and educators are freed from self-doubt and experience flow in their roles, each contributing to the shared goal of student success. As a result of effective family engagement, well-being is enhanced for students, parents, and teachers.

Self-Efficacy

Self-efficacy is a significant incentive to act (Bandura, 1997). Self-efficacy beliefs include perceptions about one's abilities to perform in such a way as to achieve one's goals (Bandura, 1997). In other words, a person with a high sense of self-efficacy believes she can do what is necessary to be successful in a particular pursuit. Self-efficacy influences what one chooses to do, how much effort one gives, how long one persists, whether one filters for productive or unproductive thinking, how well one copes with stress, and the level of achievement one realizes (Bandura, 1997). Self-efficacy is task-specific (Bandura, 1997). Because self-efficacy is task-specific, it is highly predictive of task behavior (Bandura, 1997).

Teacher Efficacy Beliefs

In simplest terms, teacher self-efficacy has been defined as "teachers' beliefs that they can teach, that their students can learn, and that they can access a body of professional knowledge when they need it" (Hoover-Dempsey et al.,1987, p. 429). However, Bandura (1997) noted teachers' efficacy beliefs constitute more than

instructional efficacy, including efficacy for classroom management, parental involvement, and counteracting negative social influences. Tschannen-Moran et al. (1998) defined teacher self-efficacy as "the teacher's belief in his or her capability to organize and execute courses of action required to accomplish a specific teaching task in a particular context" (p. 233). Thus, teacher efficacy beliefs have two dimensions: analysis of teaching task and assessment of personal teaching competence. A note on terminology, as discussed by Goddard et al. (2004), it is advisable to avoid the term "teacher efficacy," which can often be confused with the idea of "teacher effectiveness." Instead, terms should be selected emphasizing efficacy as a perception of one's capabilities rather than an actual measurement of achievement.

Family Engagement Efficacy Beliefs of Educators

Family engagement efficacy beliefs of educators can be defined as the degree to which an educator believes him- or herself capable of organizing and executing the courses of action required to partner with families for improving instruction and student learning. This definition closely mirrors *principal efficacy beliefs for instructional leadership* (Goddard et al., 2021), efficacy beliefs relating to another expression of proxy agency by educational actors in schools, principal beliefs about their ability to influence indirectly the educational outcomes in teachers' classrooms.

Social-Cognitive Theory

Social cognitive theory proposes that human experience exists within a system of triadic reinforcement among behavior (actions), personal (thoughts/feelings), and the environment. (Bandura, 1997). Viewed through a social cognitive lens, humans are both

producers and products of the environment (Bandura, 1997) instead of being products of the environment as theorized by behaviorism.

Human Agency

Human agency is a person's intention to act to make something happen (Bandura, 2001). Human agency is what gives humans consciousness, which Bandura (2001) defines as "purposive accessing and deliberative processing of information for selecting, constructing, and evaluating courses of action" (p. 3). Consciousness gives people meaning to their lives because people are both agents and products of experiences (Bandura, 2001). Agency represents an intentional act representing the commitment to bringing about a future outcome, which may or may not be what was initially intended (Bandura, 1997, 2001). Through human agency, intentions do not have to be thoroughly thought through; intentions will be implemented in an improvising way (Bandura, 2001).

While individuals often need other people to help them accomplish their goals, it can be challenging to combine disparate intentions for one collaborative purpose (Bandura, 2001). This challenge is relevant for teachers engaging with families. Unless they can center and unite on a common goal, human agency may motivate them to pursue separate and possibly conflicting courses of action. Human agency contributes to motivation for action through the desire to reach challenging goals, which are more motivating than goals easily within reach (Bandura 2001). According to social cognitive theory, human agency may be categorized into three types: personal agency (individual intention for accomplishing individual goals), collective agency (collective intention to pursue a common goal), and proxy agency (Bandura, 2002).

Proxy Agency

Proxy agency is a type of human agency in which individuals pursue goals by mobilizing the talents, resources, and power of others (Bandura, 2002). Proxy agency hinges on individual efficacy: "Effective proxy control requires a high sense of personal efficacy to influence intermediaries who, in turn, operate as the agents of desired improvements" (Bandura, 1997, p. 17). Individuals use proxy agency when they don't have a way of doing a task themselves, think others can do it better, or do not want the responsibility of doing it themselves (Bandura, 1997). Proxy agency also requires vulnerability (Bandura, 1997), manifested as a high degree of trust. Teachers engaging with families in education is a type of proxy agency.

Mastery Experiences

Mastery experiences are one type of information shaping efficacy beliefs. They are actions resulting in successful outcomes that serve as markers of one's ability. A pattern of successes overrides an occasional setback (Bandura, 1997). In addition, a person considers how difficult a task was when weighing its value as a mastery experience when determining self-efficacy for a future task (Bandura, 1997). When applied to teaching, mastery experiences contribute to a teacher's perceived sense of efficacy through successful implementation of lessons, adept classroom management, open and collegial relationships established with colleagues and families, and professional growth from acquired degrees and other learning.

Vicarious Experiences

Vicarious experiences are a second type of information shaping efficacy beliefs.

Vicarious experiences shape perceptions of efficacy by comparing oneself to others' capabilities and achievements (Bandura, 1997). People tend to compare themselves to those similar in role, situation, etc. (Bandura, 1997). For example, a teacher's self-efficacy may increase through the vicarious experience of another teacher on the team winning a teaching award, particularly if the two teachers have similar levels of knowledge and skill. Vicarious experience is significant in situations where a person has little personal experience; the less personal experience, the more we rely on vicarious experience (Bandura, 1997). Thus, this type of efficacy-shaping information may be compelling for early-career teachers.

Verbal Persuasion

Verbal persuasion is a third type of information shaping efficacy beliefs. Verbal persuasion and various other types of social pressures leading a person to conclude that they have specific skills are another powerful efficacy belief shaping type of information (Bandura, 1997). Once others persuade a person of one's competence, one is more likely to put forth the greater effort and show more perseverance (Bandura, 1997). For teachers, mentor and supervisor feedback are potent forms of verbal persuasion that can positively contribute to perceptions of efficacy. Even informal feedback from students ("You are my favorite teacher.") can serve as a form of verbal persuasion contributing to the development of self-efficacy beliefs.

Physiological and Affective States

Physiological and Affective States are a final type of efficacy belief-shaping information. Individuals also determine their abilities, skills, strengths, and weaknesses

through biofeedback from their own bodies (e.g., sweat, heart pounding) and from their feelings and moods (Bandura, 1997). When we react to stress physically, we are more likely to expect failure, which debilitates performance (Bandura, 1997). On the other hand, when we approach a challenging situation without experiencing physiological and affective indicators of stress, we are likely to judge ourselves to be more capable, contributing to our sense of self-efficacy. For a teacher, being brought to tears by an unruly student can devastate the teacher's efficacy beliefs. Conversely, the teacher perceiving a confident tone to her voice and successfully calming herself with a deep breath would contribute to her self-efficacy for handling classroom management.

Trust

Trust can be defined as "the willingness to be vulnerable to another party based on the confidence that the latter party is (a) benevolent, (b) reliable, (c) competent, (d) honest, and (e) open" (Tschannen-Moran & Hoy, 2000, p. 556). As applied to family engagement, trust can be defined as "confidence that another person will act in a way to benefit or sustain the relationship, or the implicit or explicit goals of the relationship to achieve positive outcomes for students" (Adams & Christenson, 1998, p. 6). In the present study, the Tschannen-Moran & Hoy five facets of trust will be retained with the acknowledgement of the interpersonal relationship and the shared goal to promote student learning and healthy development.

Positive Psychology

Positive psychology considers what is possible through a lens of optimal experience and function (Beard & Thomson, 2021). Thus, positive psychology counters a

deficit view of others we interact with and our context. Positive psychology primarily focuses on three aspects of lived experience: character, engagement, and meaning (Beard, 2015). In other words, positive psychology is the study of how people define and develop their sense of who they are, how they motivate and focus themselves, and the value they find in their lives.

Statement of the Research Questions

Three questions guided this study:

1. Can family engagement efficacy beliefs of educators be measured through a survey instrument?
2. How many factors represent the latent construct, family engagement efficacy beliefs of educators? What is the factor structure?
3. How do family engagement efficacy beliefs of educators relate to other constructs, such as trust in families and general teaching efficacy?

To explore these questions, the argument-based approach to validation is employed (Kane, 2013). This approach calls for approaching the task of validation as a logical argument, known as the interpretation/use argument (IUA). At its heart, validation requires a researcher to ask, "Does the instrument measure what it claims to measure when its scores are interpreted and used like this?" An IUA consists of inferences supported by claims based on facts. Each fact must be linked to the claim by warrants, each requiring backing to support them. The overall objectives guiding this study are (1) To determine if different levels of family engagement efficacy beliefs can be interpreted from different scores when the FEEB-E is administered to educators, and (2) To assess

the usefulness of the FEEB-E as a research instrument for studying family engagement efficacy beliefs of educators.

To meet these objectives, an IUA was constructed consisting of four inferences. The first objective relates to the *interpretation of scores* portion of the IUA, and its part of the IUA consisted of three inferences: (1) Survey items are representative of their target domains, (2) there are no extraneous sources of variability, and (3) the survey items measure the intended population adequately and reliably. The second objective relates to the *use* of the FEEB-E, and its part of the IUA consisted of the fourth inference: (4) the survey is appropriate for use as a research instrument.

The study was conducted in five phases to provide evidence backing the claims underlying these inferences. Phase I provided the background for an initial draft of the FEEB-E from a literature review and feedback from subject-matter experts (SMEs) and users. Phase II consisted of a pilot study to gather data for an exploratory factor analysis, parallel analysis, and initial reliability analysis. A revision of the FEEB-E based on the results of these analyses occurred in Phase III. Phase IV was a follow-up study for the purpose of collecting data for a confirmatory factor analysis, reliability analysis, and exploration of the correlation between the FEEB-E and measures of other related constructs. Phase V culminated with the construction of the IUA based on evidence gathered in Phases I-IV.

Scope and Limitations

This research centers on the nature of educators' efficacy beliefs for engaging with families of their students. Thus, the focus of the dissertation is on the construct at the

individual level, not at the collective level. The pilot study was distributed nationally through family engagement professional networks, a teachers' union, and to a distribution list of school administrators and family engagement staff in Ohio. As such, the initial pilot study may have had potential for volunteer bias. The follow-up study was limited to urban elementary, middle, and high schools in Ohio; therefore, no claim can be made that the follow-up study sample is a full representation of all teachers or of all educator roles in a school setting. The study is an exploration for the purpose of developing an initial scale for which the scores may be reasonably interpreted and used. Future research avenues include the generalizability of the scores across roles within a school staff and across types of school settings as well as explorations of any connection between the family engagement efficacy beliefs of educators and the achievement of their students.

Summary

This first chapter offers a brief introduction to the research study. First, the background was provided of a recent advance in understanding of the content of family engagement work and the urgent context brought on by closer-than-ever family-school collaboration during the COVID-19 pandemic. Then, the need and purpose of the study were clarified: to develop a family engagement efficacy belief measure demonstrating evidence of reliable and accurate measurement of what it claims to measure. Next, important definitions were provided in brief. Then, the research questions guiding the study were presented, along with a brief description of the objectives and inferences of the argument-based approach to validation used. The five phases of the study were introduced. Finally, the scope and limitations of the study were clarified.

Chapter 2. Literature Review

This chapter reviews the literature on the major conceptual frameworks guiding the study. These include social cognitive theory and self-efficacy, family engagement, trust, and validity. For each, influential theories and seminal research are reviewed. The extant survey measures are highlighted that were used to capture and understand each concept. Then, a rationale is provided for developing a new survey to measure the family engagement efficacy beliefs of educators. In the final section of the chapter, the inferences and supporting claims of the study are detailed that drive the interpretation/use argument for the scale developed. In future chapters, these inferences and supporting claims provide a roadmap for the presentation of the study's methods and results.

Major Concepts, Theories, and Frameworks

To provide context, a review is presented of the major concepts, theories, and frameworks guiding the study.

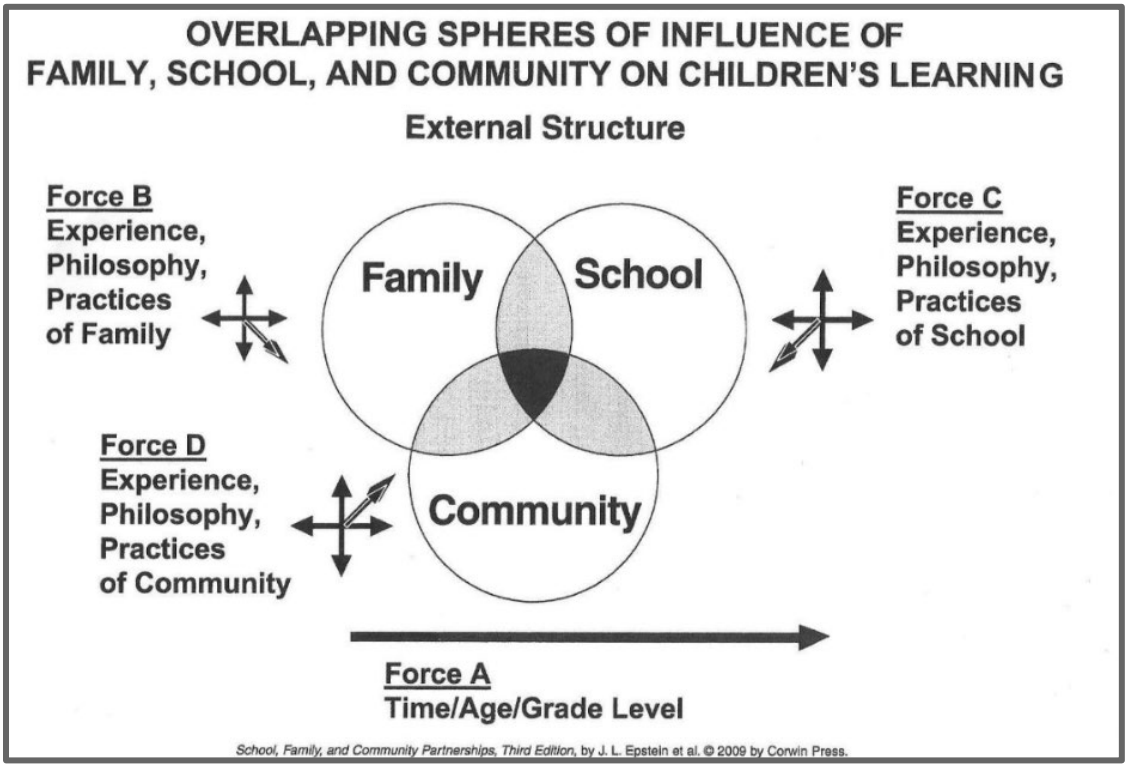
Family Engagement

To begin, the primary frameworks, theories, and concepts guiding the field of family engagement research and practice are explored. Then, special attention is given to the role of power and bias in family engagement especially as it pertains to collaborative relationships between families of color and the dominant White culture expressed in U.S. schools and by many White educators. Following, the benefits of family engagement are

discussed. Finally, the practices revealed as most effective for producing positive relationships between families and schools for the benefit of children are detailed.

Dr. Joyce Epstein is considered the preeminent scholar in the field of family engagement; her work spans the past forty years of educational research. Epstein et al. (2019) defined family engagement as a framework of school, family, and community partnerships, envisioned as three overlapping spheres of influence in children's learning and development (see Figure 1).

Figure 1 - Epstein Model for Family Engagement

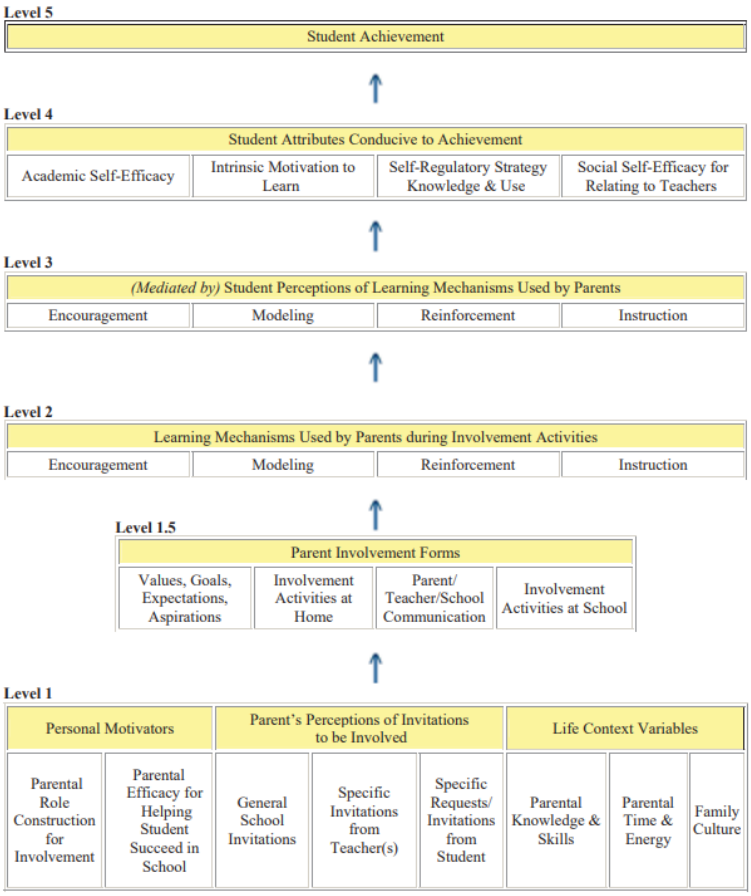


In optimal collaboration, the degree of overlap between the spheres increases. In more contentious relationships, the spheres move further apart, and each entity exerts a dissonant influence on the child. In Epstein's framework, family-school partnerships ideally enact six involvement practices: parenting, communicating, volunteering, learning at home, decision making, and collaborating with the community. Epstein's framework focuses on what schools can help families do and has been criticized for failing to acknowledge the complex power dynamics inherent in school-family relationships (Beard & Thomson, 202l; Ishimaru, 2020).

Hoover-Dempsey and Sandler (1995) focused on a different aspect of family engagement in their model of parental involvement. Through several iterations of model development (Hoover-Dempsey et al., 2005; Walker et al., 2005; Green et al., 2007, Walker et al., 2010), they explored the pre-involvement factors which influence parents and caregivers becoming involved in their children's education. These include parents' motivational beliefs (parental role construction, parental self-efficacy), parents' perceptions of invitations for involvement from others (generally from the school, specifically from the teacher or child), and parents' perceived life context (skills and knowledge, time and energy, family culture). Then, once parents and caregivers do involve themselves in their children's education, their involvement takes several forms: helping to impart values, goals, expectations, and aspirations; engaging in involvement activities at home; communicating with the teacher/school; and engaging in involvement activities at the school. These serve to encourage, model, reinforce, and instruct children in their learning. Still, for these to result in actual student growth, they are mediated by

several student-level factors such as students' perceptions of parents' efforts and students' own learning attributes. Finally, the outcome of the model is some degree of student achievement. While the Hoover-Dempsey and Sandler model (see Figure 2) illuminates the practices and process of parent/caregiver engagement actions, little can be understood about teachers' beliefs and practices facilitating or hindering this process. Compared with Epstein's framework, the Hoover-Dempsey and Sandler model explains only one role in the family engagement relationship: the parent/caregiver.

Figure 2 - The Hoover-Dempsey and Sandler Model of Parental Involvement



Moll et al. (1992) offered yet another view of how families might contribute to their children's education through their funds of knowledge theory, developed through collaborative ethnographic work between teachers and Hispanic communities. Moll et al. (1992) defined funds of knowledge as "historically accumulated and culturally developed bodies of knowledge and skills essential for household or individual functioning and well-being" (p. 133). Further, family engagement is envisioned as a means through which educators might draw upon family and community funds of knowledge to improve children's education in school. When funds of knowledge are considered, Moll et al. (1992) explained that families' expertise is poised to be a great asset to the school's understanding of children because of the inherently more profound degree to which children are known and understood by their families:

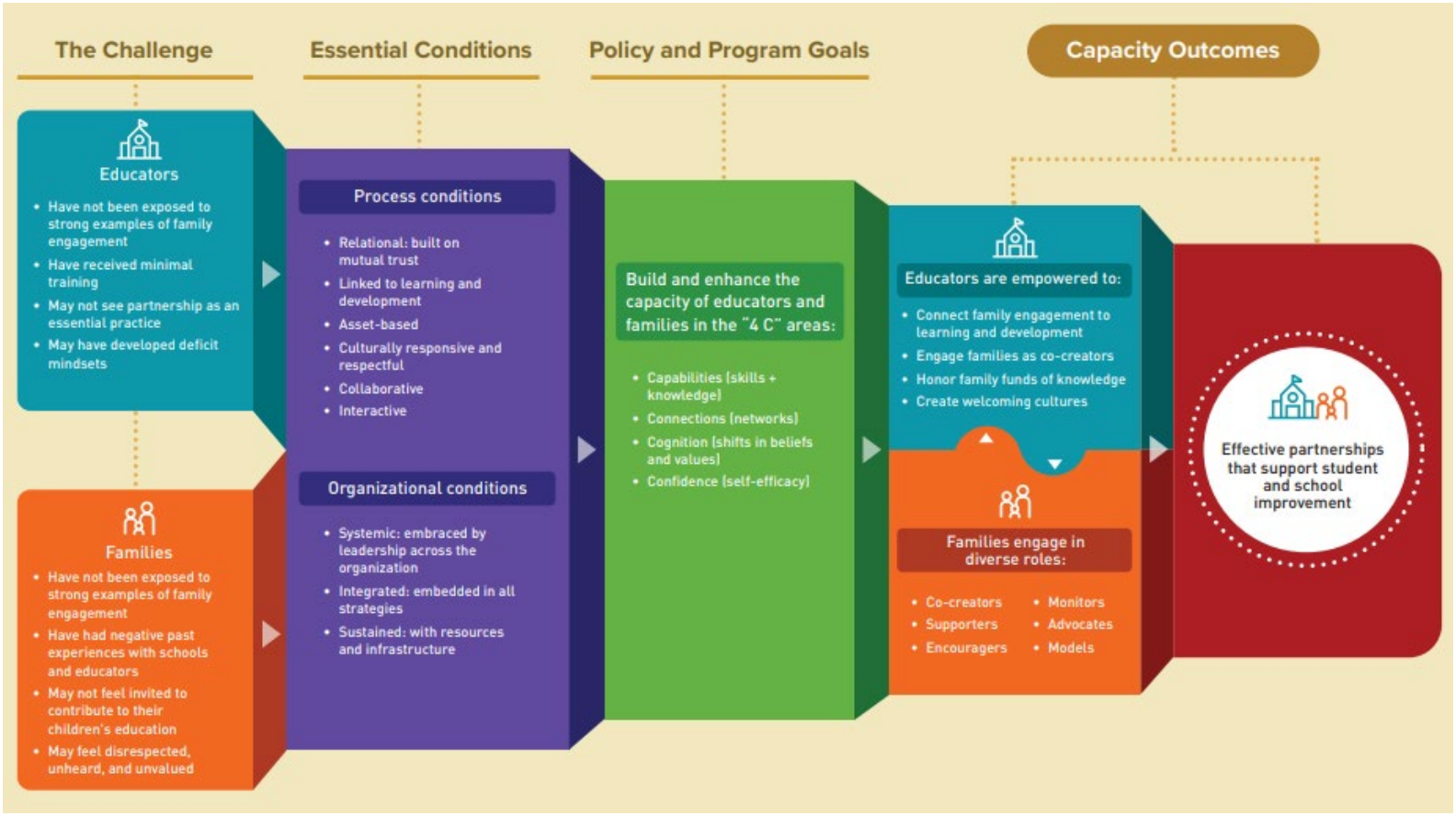
> [Family] networks are flexible, adaptive, and active, and may involve multiple persons from outside the homes; in our terms, they are 'thick' and 'multi-stranded' meaning one may have multiple relationships with the same person or with various persons...Thus the teacher in these home based contexts of learning will know the child as a 'whole' person, not merely as a 'student,' taking into account or having knowledge about the multiple spheres of activity within which the child is enmeshed. In comparison, the typical teacher-student relationship seems 'thin' and 'single-stranded,' as the teacher 'knows' the students only from their performance within rather limited classroom contexts. (pp. 133-134)

When adopting a funds of knowledge approach to family engagement, the emphasis on learning about families' funds of knowledge builds a more symmetrical relationship with families to inform and improve curriculum and instruction.

The Dual Capacity-Building Framework (Mapp & Kuttner, 2013) offered yet another model of family engagement, emphasizing the need to "build capacity among educators and families to partner with one another around student success" (p. 6). The

Dual Capacity-Building Framework (see Figure 3) is the currently promoted lens for understanding family engagement by the U.S. Department of Education. Emphasized is both educators and families face challenges (and implied deficits arising from structural barriers to partnerships) which must be addressed through systemic, integrated, and sustained family engagement policies and programs. While limited peer-reviewed research supports the Dual Capacity-Building Framework's effectiveness, the model is popular with policymakers and family engagement practitioners. This popularity perhaps rests on its emphasis on student outcomes as goals of family engagement efforts and its acknowledgment that educators need more knowledge and skill development for effective family-school partnerships. Essentially, for family engagement efforts to reach their full potential, capacity-building efforts must develop educators' mindsets, skills, and practices for them to appreciate fully and partner effectively with their students' families.

Figure 3 - The Dual Capacity-Building Framework for Family Engagement



Power and Bias in Family Engagement. As the official face of public education, public school educators are considered a form of governmental authority both legally and by general opinion. This authority grants educators a degree of power stemming from their education, their knowledge and wielding of policies and procedures, and the daily practices serving as literal and figurative gatekeepers to familial access to the school. For example, suppose a father wants to speak to his son's teacher. He may visit the school, where he may find only one door out of twenty granting him access to his son. Once the correct door is determined, he must knock and wait for permission to enter. Once permission is granted, indicated by a beep or a buzz, he must open the door at the correct time after it is unlocked before it automatically locks again. If this process is not completed satisfactorily, he will have to repeat the steps or seek further assistance by pressing a button and speaking to a faceless voice through a monitor – not exactly a welcoming experience.

This short vignette illustrates one of the many literal and figurative barriers families experience when they attempt to partner with the school. There are "often-ignored and unspoken dynamics that prevent the cultivation of effective partnerships between families and educators" (Mapp & Bergman, 2021, p. 6). Mapp and Bergman (2021) illuminate how power dynamics impact educators' perceptions of families and the access families have to partnerships, no matter families' intentions. "Depending on their place in the caste system, families may be seen and valued or discounted and ignored" (p. 9). In other words, depending on families' relative social capital and racial/cultural

privilege, educators' receptiveness to families' attempts at engagement vary. "[Families from nondominant communities] have come to believe that it's best to stay away from schools, either because they are worried about possible retaliation against themselves or their children if they raise a concern or because they believe nothing will change" (Mapp & Bergman, 2021, p. 9). Even when goals are well-intentioned, educators' family engagement efforts are almost always enacted in ways that serve to assimilate families into the dominant culture (Ishimaru, 2019).

The following paragraphs describe how power dynamics and deficit views of families affect the degree to which the definition of family engagement, provided in Chapter 1, is realized. Also explained is how cross-cultural (racial, socio-economic, language/cultural, geographic) family-school partnerships may be strengthened when educators adopt an asset-based perspective.

Barriers to Engagement Faced by Nondominant Families. As explained by Ishimaru (2020), "*Nondominant families* refers to those impacted by systemic oppression such as marginalization based on race, class, language, or immigration status and is a term that explicitly references relationships to dominant power" (p. 8). Applied to family engagement in schools, dominant power is personified by educators, most of whom are White, middle class, college-educated, females. Ishimaru (2020) notes several "prickly" problems with family engagement for Black parents and other parents of color.

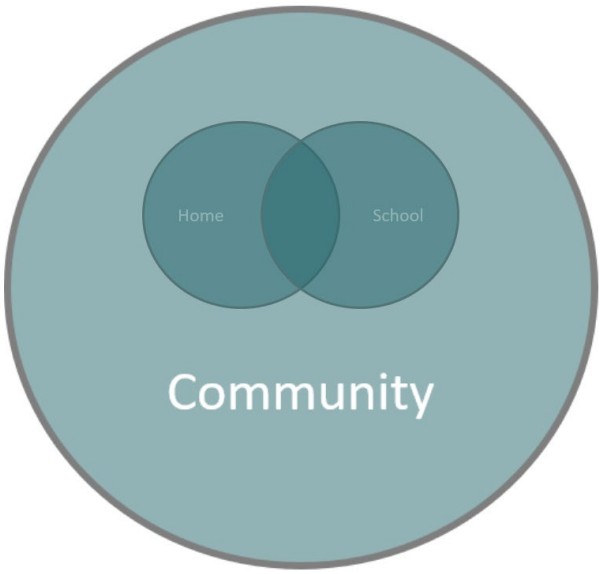
First, a deficit view of families of color is historically and systematically embedded into the policies and practices of schools. Educators' deficit views prevent them from perceiving the assets of families of color (Grice, 2020). The attempts of

involvement and advocacy of families of color are frequently interpreted as hostility, and families of color are "pushed to the margins" of decision-making opportunities such as PTAs (Ishimaru, 2020, p. 157). Second, exacerbating the issue is White families' "opportunity hoarding," that is, the use of their privilege to disproportionately secure resources for their own children (Ishimaru, 2020, p. 29). "Schools often disproportionately attend and respond to [W]hite parents' concerns and demands not only because parents are able to mobilize [W]hiteness as a resource in their interactions with educators but because of the material and social resources that would be lost if [W]hite, middle-class families chose to leave the district" (Ishimaru, 2020, p. 29). Families of color often are left frustrated with the lack of acknowledgement of their efforts to help their children and the silencing of their voices when they try to intervene and advocate (Grice, 2020).

Finally, African American parents face an impossible predicament eroding the trusting partnership with their children's teachers: "preparing their children for potential encounters with racism, stereotypes, and discrimination" (Beard & Thomson, 2021, p. 1072). Known as the *triple quandary,* Black parents must simultaneously socialize their children into the cultural traditions of African American culture, prepare them to assimilate into a school culture dominated by White cultural beliefs and values, and prepare them to face discrimination based on their minoritized status (Boykin and Toms, 1985). Children of color often experience instances of racism occurring at school perpetrated by peers and staff, further eroding their trust and the trust of their families in schools (Grice, 2020). Drawing on Boone's (2002) revision of the Epstein framework for

school, family, and community partnerships (see Figure 4), the relationship between the school and family occurs within the current and historical context of the community, which, without careful reconciliation and attention to equity, will tarnish surface-level attempts to engage families in the work of the school.

Figure 4 - Boone's Revised Model for Family Engagement



Similar patterns of marginalizing and deficit-thinking characterize family engagement practices of educators with families of lower socio-economic status (SES), less attained formal education, and less attained English-language proficiency. For example, many family engagement efforts necessitate a certain SES for successful

participation (e.g., PTO-sponsored schoolwide fundraising efforts). When working in high-poverty schools, educators may assume a significant motivator for families of lower SES to attend school events is to meet basic needs (e.g., "Feed them, and they will come" is a common saying). In an early study of teacher perceptions of their students' families, Becker and Epstein (1982) found teachers articulated "common stereotypes of parents - 'pushy' upper-middle-class parents, 'helpful' middle-class parents, and 'incapable' lower-class parents" (p. 97).

However, despite these stereotypes, Becker and Epstein (1982) found no correlation between SES or attained formal education level and how often parents would engage in education-related activities with their children. Education level and English-language proficiency may serve as additional gatekeepers to families' active partnership if educators fail to implement equitable family engagement practices by extending opportunities to families using ordinary, jargon-free terminology communicated in a family's primary language (Ishimaru, 2020). Therefore, when nondominant families do not engage with the school, the first response from the school must be one of self-assessment of their own family engagement policies, programs, and practices.

Concerning geography, community context does influence family engagement efforts, but not fitting the typical stereotype of urban neighborhoods. For example, Boone (2002) concluded urban, high-poverty schools had the highest positive perception of their school after sustained family engagement practice implementation. In contrast, rural schools faced the most challenges with sustained family engagement implementation, perhaps because of the physical distance between homes and the school (Boone, 2002).

Now, however, with many advances in technology allowing for video conferencing and instant messaging, the geographic distance between homes and the school may be a diminishing barrier for family engagement.

***The Strengths of Nondominant Families*.** Schools stand to benefit by applying an assets lens to their view of nondominant families. Drawing on a positive psychology framework to study what *is* working, now discussed are the strengths of nondominant families and cultures that benefit students and may strengthen the school's instructional practices, climate, and culture. For example, educators should value nondominant families' cultural norms and parenting/engagement practices. Galindo and Sheldon (2012) found that students with immigrant parents or in non-English speaking homes had lower levels of family involvement at school, as did Black and Asian students, but higher educational expectations than did White students. Educational expectations communicated to children as young as kindergarten have a significant effect on reading and math achievement (Galindo & Sheldon, 2012).

Black parents also demonstrate high rates of family involvement in learning at home, communicating with the school, and providing academic socialization through community-based educational experiences (Latunde & Clark-Louque, 2016). Furthermore, Black families form strong social networks to advocate and support their children (Latunde & Clark-Louque, 2016). Therefore, while schools may not see minoritized families' efforts to engage as evidenced by event attendance, these families' unseen (and perhaps undervalued) efforts at engagement do support their children's academic success. According to Pushor and Amendt (2018), school leaders have the

responsibility to guide staff in “a deep and honest examination of their beliefs about parents, and the place and voice of parents in teaching and learning” to understand and appreciate the value they bring to partnership (p. 202).

Similarly, Moll et al. (1992) discovered that the funds of knowledge from blue-collar professions were largely untapped resources for which teachers could make instructional and curricular connections. Furthermore, the poverty level of the school’s families was not found to be a significant indicator of parent and staff perceptions of the school (Boone, 2002). Thus, families who work in a wide range of professions, including lower-paid occupations, should be considered an asset rather than a liability for the educational efforts of a school.

Many studies of Black parents’ family engagement practices have applied frameworks better suited to White cultural norms and practices. Huguley et al. (2021) found that Black parents enact home-based family engagement, school-based family engagement, and academic socialization, as do White parents, but their practices are tailored to assisting their children with navigating and overcoming obstacles they face in the education system as well as to socialize them to historical and cultural knowledge and values of African Americans. For example, while White parents may enact school-based involvement for the purpose of supporting the academic environment through practices like participating in the PTA, Black parents may enact school-based involvement by helping their children navigate school systems and by engaging in reform-based involvement in reaction to discriminatory behavior of school staff and peers (Huguley et al., 2021). Black parents engaged in traditional academic socialization such as valuing

education and talking about future plans, and they also socialized their children to the accomplishments of Black people in various fields and highlighted important history and culture overlooked in school (Huguley et al., 2021; Latunde & Clark-Louque, 2016). As such, Black parents' engagement efforts may be overlooked by school staff who tend to invite and value dominant-culture oriented engagement practices.

Taken together, families of color possess *community cultural wealth*, defined as "an array of knowledge, skills, abilities, and contacts possessed and utilized by Communities of Color to survive and resist macro and micro-forms of oppression" (Yosso, 2005, p. 77). According to Yosso (2005), community cultural wealth falls into at least six categories: *aspirational capital* (the resiliency to maintain hope for the future in the face of barriers), *linguistic capital* (multilingual and skilled in many modes of communicating), *familial capital* (sense of family and strong commitment to community well-being), *social capital* (use of social networks for upward mobility and resistance), *navigational capital* (skill in moving through oppressive systems), and *resistant capital* (skill in challenging and resisting inequalities). Each of these forms of community cultural wealth. When recognized and valued by educators, community cultural wealth can be an asset to the school community, both applied to the success of individual children and leveraged for schoolwide improvements. Undervaluing community cultural wealth, or worse, actively working to suppress it, is a missed opportunity and subverts the expressed goals for school improvement.

Benefits of Family Engagement. Students, teachers, families, and schools all benefit from family engagement. First, family engagement helps students in many ways,

including their readiness for kindergarten, academics, social-emotional skills, and their likelihood of high school graduation (NAFSCE, 2022). Jung and Sheldon (2020), in their review of years of studies involving family-school partnerships, described significantly higher academic achievement of students even controlling for prior achievement (Galindo & Sheldon, 2012), higher rates of school attendance (Epstein & Sheldon, 2002; Sheldon, 2007; Sheldon & Epstein, 2002), fewer disciplinary actions taken at schools and fewer behavior problems (Domina, 2005; Sheldon & Epstein, 2002). Furthermore, family engagement leads students to feel more confident, better self-regulate, and, in turn, achieve higher school grades (Grolnick & Slowiaczek, 1994). A child's skills and knowledge grow as well as their sense of efficacy as a learner for succeeding in school (Hoover-Dempsey & Sandler, 1995).

Teachers, of course, benefit directly through performance evaluations when students succeed. Furthermore, when teachers believe their students' families trust them, they are more willing to experiment with new practices, thus increasing their instructional skillset and contributing to their sense of efficacy for instruction (Hoy et al., 2006). A seminal study of family engagement found that family-teacher partnerships "maximize cooperation and minimize antagonism between teachers and parents and enhance teachers' professional standing from the parents' perspective" (Epstein, 1986, p. 290). In other words, families see teachers as more personable and better at teaching. Teachers also are energized and find meaning from collaborating with families; teachers' perceptions of higher parent involvement correlate with lower teacher burnout (Pas et al., 2012).

For families, engaging with their children's teachers to support their child's education leads to a sense of enhanced leadership, health, safety, and well-being (NAFSCE, 2022). They report feeling more positive about the school and teachers and having an increased understanding of what their child is learning (Epstein, 1986). Parents and caregivers in a school with a well-established program for family engagement are more likely to have positive experiences in the building and with staff (Boone, 2002).

The school also benefits from family engagement through a more positive school climate (NAFSCE, 2022). As a result of family engagement, parents and staff have better attitudes about the school, an increased sense of understanding and partnership, and a sense that the school is improving (Boone, 2002). Hoy, Tartar, and Woolfolk-Hoy (2016) determined that such perceptions of trusting partnership are a critical element of academic optimism, a school-level property characterized by trusting relationships, collective efficacy, and an emphasis on academics.

Effective Family Engagement Practices. Jung and Sheldon (2020) examined teacher-level practices contributing to effective partnerships between families and schools. Effective techniques include involving parents in their child's learning through classroom and home activities, open communication, and personal invitations into the classroom and school. Teachers should build relationships through conferences and home visits. The purpose of teachers' family engagement efforts should be to help equip parents to understand school and to feel more knowledgeable and empowered. Jung and Sheldon (2020) cautioned that family engagement must be systemic rather than haphazard. It must be embedded within school improvement planning and supportive of

student goals.

Based on the NAFSCE (2022) efforts to establish content validity regarding the body of knowledge of family-facing professionals, the following practices can be considered most effective for engaging with families:

1. Respect, honor, and value families.
2. Embrace equity throughout family engagement.
3. Build trusting reciprocal relationships with families.
4. Foster community partnerships for learning and family wellbeing.
5. Co-construct learning opportunities with families.
6. Link family and community engagement to learning and development.
7. Take part in lifelong learning.
8. Advocate for systems change.

While these can be considered general best practices, they must be tailored across different developmental stages for students. For example, for younger children in elementary school, teachers should engage directly with parents through specific teacher invitations for home- and school-based engagement opportunities (Smith et al., 2019) while valuing parents' expertise as children's first teachers (Mapp & Bergman, 2021). In middle school, teachers should engage with families by empowering them to promote academic socialization with their adolescents (Hill & Tyson, 2009), which often occurs in the home. This evolution of family engagement promotes adolescent autonomy by imparting the skills they need to self-advocate and self-regulate as learners. Finally, by high school, family engagement efforts should shift focus to parental expectations and

future planning (Sanders, 2011). Clearly, while these modifications in family engagement practices correspond to stages of development as children mature to adulthood, the essential competencies from NAFSCE (2022) transcend as a set of practices enacting and representing a systemic, integrated, and sustained approach to family engagement (Mapp & Bergman, 2021).

Self-Efficacy

Turning now to the second major construct of the study, self-efficacy, the following section describes the major theory guiding understanding of the construct. Then, the major principles of self-efficacy are reviewed and contextualized for their application to education generally and family engagement more specifically. Next, a brief history of measurement in self-efficacy in education is provided, and a rationale for developing a new measure for the family engagement efficacy beliefs of educators is detailed. Finally, the section concludes with the presentation and rationale for the first hypothesis of the study.

Social cognitive theory. According to social cognitive theory, human experience is shaped through triadically reinforcing interactions among behavior/actions, thoughts/feelings, and the environment (Bandura, 1997). Humans both produce and are produced by the environment (Bandura, 1997). Social cognitive theory, thus, represented a major shift away from prior conceptualizations of human behavior as a mere reaction to the stimuli from the world around them. Instead, humans are understood to be active participants in meaning-making, recognizing that a person's interpretations of the environment and their assessment of their potential to act in such a way as to achieve

their goals creates motivation or demotivation.

Self-efficacy. Self-efficacy beliefs are one's assessment of one's ability to execute the actions necessary to achieve one's goals (Bandura, 1997). Self-efficacy is best understood as task-specific (Bandura, 1997), but has more recently been explored as a continuum from general self-efficacy to domain-specific to task-specific (Kim & Park 2000; Liu et al., 2020). The more task-specific the self-efficacy, however, the more predictive it is of task behavior (Bandura, 1997; Liu et al., 2020). Prior research has indicated a nested hierarchical correlation among general to domain-specific to task-specific efficacies (Kim & Park, 2000).

Self-efficacy is built in four primary ways. First, mastery experiences, or prior experiences of success on the same or similar tasks, contribute to a sense of efficacy (Bandura, 1997). Second, vicarious experiences, or the degree of success experienced by peers, also contribute to efficacy beliefs (Bandura, 1997). Vicarious experiences tend to be most influential to the shaping of efficacy beliefs when the object is a peer in a similar role or situation. Such experiences are particularly useful in situations where one has limited personal experience in an endeavor (Bandura, 1997). Third, verbal persuasion shapes efficacy beliefs through social pressure from others that persuade a person of their competence and likelihood of success (Bandura, 1997). The final type of efficacy belief-shaping information is physiological and affective states, which refers to biofeedback and feelings experienced as a reaction to stress or confidence in a situation. Negative biofeedback (heart pounding, sweating) sends a powerful message of potential for failure that can lower self-efficacy beliefs and become a self-fulfilling prophecy.

Self-efficacy influences human agency – that is, a person's intention to act to bring about a future outcome (Bandura, 1997, 2001). Human agency is organized into three types: personal, collective, and proxy. Personal agency is the intention to act arising from individual efficacy for accomplishing individual goals (Bandura, 2002). Collective agency is the intention to act as a group collaboratively to pursue common goals (Bandura, 2002). Proxy agency is the intention of an individual to act to mobilize the talents, resources, and power of others. According to Bandura (1997), "Effective proxy control requires a high sense of personal efficacy to influence intermediaries who, in turn, operate as the agents of desired improvements" (p. 17). Teachers engaging with families with the intention to mobilize their talents, resources, and power to influence and support children's success is an example of proxy agency.

Applied to family engagement in education, a teacher's negative assessment of the challenge of engaging families – that is, holding low task-specific self-efficacy beliefs – may lead a teacher to experience stress in her job. "Occupational stress arises when perceived task demands tax or exceed perceived efficacy to manage them" (Bandura, 2002, p. 279). When teachers cannot collaborate using proxy agency when engaging families to manage task demands exceeding their own capabilities, their occupational stress will increase, and their sense of well-being and satisfaction in the profession will decrease. The task-specific efficacy for engaging with families must be differentiated from other types of teacher self-efficacy, which have primarily emphasized domain-specific efficacy for teaching. Efficacy beliefs for family engagement are expressed as proxy agency, the degree to which one can enlist others' expertise, power, and efforts to

collaborate for a common goal (Bandura, 2001). Furthermore, tailoring efficacy belief measures for the task, such as family engagement, increases their predictive value, rather than relying on overly general measures, which are less predictive (Bandura, 1997).

Impact of Efficacy Beliefs on Valued Outcomes. Self-efficacy beliefs have positive impacts on valued outcomes. Self-efficacy reduces uncertainty and anxiety over how things will go (Bandura, 1997). When one has a high sense of efficacy, one feels empowered to go after one's goals and to prevent unpleasant things from happening. This "provides a powerful incentive for the development and exercise of personal control" (Bandura, 1997, p.2). Efficacy perceptions influence not just an individual's behavior but also the goals set, the expected outcomes, the tendency towards positive or negative thinking, and the interpretation of challenges or benefits in the context (Bandura, 2000). Therefore, a teacher with a high sense of efficacy for teaching in general would not just be more likely to use effective instructional techniques but would also set higher goals, expect more from his students, be an optimistic thinker, and view his school and community context as an asset to his work. A low sense of teacher efficacy would contribute conversely.

Finally, when working within systems, trust in the system seems to contribute to whether one exercises human agency in support of or against the system. "People who believe they can achieve desired changes through their collective voice, and who view their governmental systems as trustworthy, are active participants in conventional political activities" (Bandura, 2000, p. 78). Without trust, they participate in a more disruptive way. Here may be a relevant connection to family engagement efforts: efficacy

beliefs and a sense of trust for the other party are needed for active participation in conventional family engagement efforts; without trust, teachers and families may engage, but as adversaries rather than collaborators.

Teachers' Sense of Efficacy Scale Development. The next section provides a brief history of scale development in individual efficacy beliefs of teachers in the domain of teaching.

The Rand Measure. The first measure developed to study a teacher's general sense of efficacy was based on Rotter's social learning theory (locus of control). The Rand measure had two items on a 5-point Likert scale: one measuring external locus of control, "*When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment*," and one measuring internal locus of control, "*If I really try hard, I can get through to even the most difficult or unmotivated students*," (Tschannen-Moran et al., 1998). Even though the Rand measure stirred interest in the study of teacher efficacy in the education research community, Tschannen-Moran et al. (1998) noted concerns about reliability for a 2-item measure led to the development of additional measures.

Teacher Locus of Control (TLC). Rose and Medway (1981) developed a 28-item scale to measure "teacher locus of control." In each TLC item, the respondent assigns responsibility for student successes or failures as internal or external to the teacher. Tschannen-Moran et al. (1998) found that TLC items have been weakly but significantly related to the RAND items and demonstrated better prediction of teacher behaviors, probably because the measure was more specific consisting of more items.

Responsibility for Student Achievement (RSA). Guskey (1981) developed a 30-item scale for measuring responsibility for student achievement (success or failure). Respondents were asked to distribute 100 percentage points, assigning responsibility for outcomes to the teacher or external factors. The scale was developed based on Weiner's attributional theory, and respondents received an overall score as well as a score indicating how much responsibility they assumed for student success and failure (Tschannen-Moran et al., 1998). Tschannen-Moran et al. (1998) noted the RSA demonstrated a strong positive correlation between responsibility for student achievement and teacher efficacy from the Rand measure.

The Webb Efficacy Scale. The Webb scale (Ashton et al., 1982) followed but was never used beyond the original study (Tschannen-Moran & Hoy, 2001). The scale contained seven items. Respondents were forced to choose between two statements in an attempt to reduce social desirability bias.

The Ashton Vignettes. The Ashton Vignettes were a unique type of measure in which respondents were given example situations representing problems encountered in various aspects of the teaching profession (Tschannen-Moran et al., 1998). Fifty such "vignettes" were included in the measure. For each, the respondent rated their effectiveness from extremely effective to extremely ineffective, at times compared to other teachers. Unfortunately, one distinct disadvantage noted by Tschannen-Moran and Hoy (2001) was the Ashton Vignettes were not used in research beyond the original study.

Teacher Efficacy Scale (TES). Gibson and Dembo's (1984) 30-item teacher

efficacy scale (TES) consisted of two factors: *personal teaching efficacy* and *teaching efficacy*, the names of which were generally confusing to the field (Tschannen-Moran & Hoy, 2001). In addition, the scale has had continued issues with factor consistency across studies. According to Tschannen-Moran and Hoy (2001), "Problems remain both conceptually and statistically. The lack of clarity about the meaning of the two factors and the instability of the factor structure make this instrument problematic for researchers" (p. 789).

Bandura's Teacher Efficacy Scale. Bandura then created his own scale, which included 30 items with seven subscales, one of which is efficacy to enlist parental involvement, but that subscale only has three items (Bandura, 1997). However, according to Tschannen-Moran and Hoy (2001), Bandura never published reliability/validity data.

Teacher Sense of Efficacy Scale (TSES). Tschannen-Moran & Hoy (2001) described the development of an improved measure for gauging teacher sense of efficacy, which they defined as an assessment of one's capabilities and an analysis of the task's difficulty. The scale was developed by participants in a class on self-efficacy in teaching and learning, including two researchers and eight graduate students. The class created a measure based on Bandura's efficacy scale and independently selected items from that scale. Each student wrote eight to 10 new items they felt were missing from the Bandura scale. All the items were considered and eliminated based on clarity, importance, and preventing redundancy. Next, 52 items were piloted and rated regarding the importance for effective teaching. Principal-axis factoring with a varimax rotation led to a reduction down to 32 items. The refined scale was piloted again, and another principal-axis

factoring with varimax rotation was performed, and three factors emerged. Finally, items were reduced to 18 based on factor loading. The three factors were called efficacy for student engagement, efficacy for instructional strategies, and efficacy for classroom management. The three subscales revealed one strong factor measuring the underlying construct of efficacy. Reliability for the scale was determined by Cronbach's *alpha* of 0.95.

This scale was compared to responses on the other previously described teacher efficacy scales to assess construct validity, which was established. Discriminant validity was established by comparing answers on a work alienation scale, with which it was significantly negatively correlated. An external team then criticized the classroom management factor and recommended it be eliminated, but instead, the group wrote more items based on Emmer's teacher efficacy for classroom management scale. After field-testing it, the final instrument was 36 items. A final sample of 410 participants took the instrument: reliabilities were high, and intercorrelations were strong. Intercorrelations for long and short forms were also high. Tschannen-Moran & Hoy (2001) concluded it is a superior instrument to previous teacher efficacy belief measures.

Collective Efficacy Scale Development. Following, a history of scale development for collective efficacy of educators for the domain of teaching is provided.

Collective Efficacy Scale. Goddard et al. (2000) developed a scale to measure teachers' collective efficacy. Both positively and negatively worded items were included for both group competence and task analysis. The Gibson and Dembo TES scale short version was used as a template, adapting the items to fit the categories, and rewriting

them as group-referent items. A panel of experts reviewed and gave feedback, and revisions were made. The measure was field-tested with six teachers who provided feedback on clarity, length, and content. Then it was given to a sample of 70 teachers to test the psychometric properties. They came from half high-conflict schools and half low-conflict schools. They also responded to a sense of powerlessness scale, an individual teacher sense of efficacy scale, and a teacher trust in colleagues scale, all of which were included to explore the validity of the scale.

Teacher responses were submitted to principal axis factor analysis with a varimax rotation revealing two factors representing the two dimensions of self-efficacy. The factors were correlated, revealing a strong relationship ($r = .71$, $p < .001$) between the factors. A second factor analysis with a one-factor solution showed that collective efficacy is a single construct that unites the two dimensions. Criterion validity was explored with the other measures, and the results were as expected. The pilot revealed some item redundancy and a need for a few items. Then, the researchers conducted a second study to test the measure again and explore its predictive utility regarding student achievement. The second larger sample took the revised 21-item measure. Factor analysis revealed one strong factor explaining 57.89% of the variance. For criterion validity, all relationships were as hypothesized. Also, according to Goddard et al. (2000), "collective teacher efficacy is a significant predictor of student achievement in both mathematics and reading achievement" (p. 500).

Collective Efficacy Scale – Short Form. Goddard (2002) created a short form of the Collective Efficacy Scale "by constructing a more conceptually pure and

parsimonious version of the scale" (p. 97). Goddard coded each item in the original scale as either *group competence* or *task analysis*, following the advice of Tschannen-Moran and Hoy (2001), and then also as positively or negatively worded. The original scale was given to a sample of teachers. Their responses were subjected to a principal axis factor analysis. Based on factor scores and concerns for substance (as coded), 12 items were selected, and a second principal axis factor analysis was performed. The original scores and the scores on the reduced scale were compared for criterion-related validity with Pearson product-moment correlation. Scores were also used for predictive validity with other between-school differences in student math achievement. The researcher kept two items from the original Rand scale as well. Thus, a 12-item scale was created with three items from each of the four categories. Items mainly were selected with the largest structure coefficients unless there was a good theoretical or substantive reason to choose a different one.

Collective Efficacy: Self- or Group-Referent Items? According to a study by Goddard and LoGerfo (2007), group-referent items are far better predictors of intergroup variability in goal attainment. First, the researchers distributed a short form based on Gibson & Dembo's TES and a short form of parallel items of collective efficacy, noting that using the TES at an individual level is psychometrically problematic but works better at the organizational level. Next, confirmatory factor analyses were conducted separately, showing acceptable fit. Then, measurement model analyses were conducted, revealing that the group-referent model had more significant paths, even though both models fit the data well. Thus, they concluded that measuring collective efficacy (and other

organizational properties) is preferable through group-referent items.

Principal Efficacy Scale Development. More recently, efficacy belief scale development has turned to the beliefs of principals. Here, a domain-specific scale is described followed by a scale emphasizing the task-specific efficacy beliefs of principals for instructional leadership.

Principal Sense of Efficacy Scale (PSES). Smith & Guarino (2006) developed the Principal Sense of Efficacy Scale. Item selection was based on the theoretical framework proposed by Bandura. Drawing upon the knowledge and experience of a panel of principals and from the research literature, 14 items assessing two factors were generated. The measure was administered to a sample of 284. First, the researchers checked for normalcy and used FIML to estimate missing data. Then, they tested a series of models for fit, employing CFA for construct validity. Finally, Smith and Guarino selected the best-fitting model to the data by comparing fit indices for the different models, confirming a 2-factor model.

Principal Efficacy Beliefs for Instructional Leadership (PEBIL) Goddard et al. (2021) determined that earlier research into leaders' self-efficacy was not focused enough on specific leadership tasks in particular contexts. They defined "school principals' sense of efficacy for instructional leadership as the degree to which principals believe themselves capable of organizing and executing the courses of action required to support teachers in improving instruction and student learning" (Goddard et al., 2021, p. 476). Measure development went through several stages. First, a panel of experts reviewed content literature and generated items. Then, the team conducted cognitive interviews

with 10 principals ensure the leaders' interpretations of the questions matched the intention of the question. Then, a sample of 95 principals responded to the measure. In their analysis, researchers first checked the normality of data. Then, they used CFA to validate the measure using Mplus with a maximum likelihood estimator with robust standard errors. Cronbach's alpha was used to assess reliability, and CFA was used for construct validity to determine if all items loaded on a single factor. Then, the team used MSEM to test the hypothesis of principal efficacy beliefs on collective efficacy and collective efficacy on student achievement. As expected, these paths were significant.

Family Engagement Efficacy Beliefs of Educators. In this section, the task-specific efficacy belief construct of interest is introduced: family engagement efficacy beliefs of educators. First, a definition will be provided. Then, prior attempts to measure this construct will be described. Finally, a justification will be provided for the creation of a new scale.

Definition. Whereas Bandura cautioned researchers not to rely on global efficacy measures when more specific scales would be more sensitive, few scholars have attempted to define or study the task-specific nature of self-efficacy beliefs an educator holds for family engagement. For example, Stuckey (2010) described efficacy toward parent involvement as consisting of "self-competency beliefs regarding one's capability to involve parents" and "expectancy beliefs regarding general efforts to involve parents in educational activities" (p. 7). Notably, this definition mirrors the Gibson and Dembo (1984) definition of general teacher self-efficacy, which Tschannen-Moran et al. (1998) noted was a misrepresentation of the self-efficacy construct.

Instead, the following definition is proposed, mirroring the definition of a principal's sense of efficacy for instructional leadership (Goddard et al., 2021): An e*ducator's efficacy beliefs for engaging families can be defined as the degree to which an educator believes him- or herself capable of organizing and executing the courses of action required to partner with families for improving instruction and student learning.* Like Tschannen-Moran et al.'s (1998) definition of teacher sense of efficacy, this definition involves analyzing one's personal competence and the demands of the task. Also, just as Goddard et al.'s (2021) principal sense of efficacy for instructional leadership is exercised through proxy agency as they "support teachers in improving instruction and student learning" (p. 478), so too is an educator's sense of efficacy for engaging with families expressed through proxy agency.

Individual or Collective? The question then turns to whether the proposed construct for study is best conceived as an individual or collective characteristic. An educator's sense of efficacy for engaging with families is an individual characteristic that arises when exercising proxy agency. Within the school as an organizational system, a teacher must mobilize the talents, resources, and power of families if she wishes to practice effective family engagement for student achievement. Thus, the intention to engage families exemplifies proxy agency. Educators, however, have little direct control over the degree or form in which families respond to their engagement efforts. Moreover, a teacher may complain about families' perceived lack of engagement, but the teacher still bears the consequences (via performance evaluations based on high stakes testing) of her work. As Bandura (1997) described, "Under low system interdependence, members

may inspire, motivate, and support each other, but the group outcome is still the *sum of the attainments produced individually* rather than by the members working together" (pp. 76-77, emphasis added). The efforts a teacher makes to collaborate with families of her students is an example of "low system interdependence." Family engagement practices occur under conditions of low system interdependence and reflect the sum of individual efforts. Thus, the construct of educator efficacy beliefs for engaging families is best understood as an individually held belief expressed as proxy agency for promoting student learning.

How have efficacy beliefs been studied in the context of family engagement before now? What has been learned, and what was left unanswered? First, two investigations into the relationship between general teacher efficacy beliefs and family engagement are described, and then, the attempts at more task-specific scale development are previewed.

General Teacher Efficacy and Family Engagement. Hoover-Dempsey et al. (1987) used the "Teacher Opinion Questionnaire" with 11 items, alpha = .87, to explore the link between teacher efficacy beliefs and parent involvement practices. The efficacy portion of the scale assessed teachers' certainty in the effectiveness of their instructional skills; sample item: "I feel that I am making a significant difference in the lives of my students" (Hoover-Dempsey et al., 1987, p. 425). A preliminary version was pretested, and final adjustments were made. The research article does not describe content validation. Teacher efficacy scores were significantly correlated with all five criterion variables for parent involvement: parent-teacher conference participation, parent

volunteers, parent tutoring, parent home instruction, and parent support.

Wu (1995) investigated the relationship of teachers' sense of efficacy on parent involvement practices in early childhood programs in Taiwan, which was significantly related to the variety and effectiveness of the techniques. This study used the TES (Gibson & Dembo, 1984) to measure efficacy.

Teacher Efficacy Beliefs for Family Engagement Scale Development. Garcia (2004) also used the TES (Gibson & Dembo, 1984) to measure teacher efficacy and the Family Involvement Teacher Efficacy Scale to measure teacher efficacy for family engagement. Originally presented at AERA, the scale consists of 35 Likert-type items from 1-6 matching tasks in Epstein's family engagement model and following the I can/Teachers can dichotomy that Gibson and Dembo used. Internal consistency was demonstrated at alpha of .85. Scores are summed. The full scale, however, is not published. In the study, teacher efficacy significantly correlated to and predicted five types of family involvement, based on the Epstein model. However, because the Epstein model is an organizational-level model for family engagement, items in the Garcia scale may not be a good fit for teacher-level efficacy beliefs since they do not well-represent the work of individual educators.

Stuckey (2010) defined efficacy toward parent involvement as consisting of "self-competency beliefs regarding one's capability to involve parents" and "expectancy beliefs regarding general efforts to involve parents in educational activities" (p. 7), which is much like Gibson and Dembo's definition of teacher efficacy. Alternatively, Stuckey provided a more straightforward definition: teachers' "confidence in their ability to get

parents involved in educational activities" (p. 9). As part of her dissertation study, Stuckey developed a measure for assessing teacher efficacy beliefs for family engagement. First, she conducted a pilot study of 38 pre-service teachers. Her initial measure consisted of 11 items, on a scale of 1-4 from strongly disagree to strongly agree with no neutral response. Items are worded primarily as "I will be able to." Principal component and reliability analyses were conducted to explore the construct validity and reliability of the measure, which revealed an alpha of .83. Self-competency beliefs carried 51% of the variance with an eigenvalue greater than 1.00, and expectancy beliefs loaded on the second component and accounted for 10% of the variance. Then, Stuckey used the measure for a pretest-posttest nonequivalent control-group quasi-experimental design.

Alaçam & Olgan (2017) used the Stuckey (2010) measure, translated into Turkish, called the Assessment of Parent Involvement Efficacy Scale. The original scale had two factors, with 11 items addressing various parent involvement areas based on the Epstein model. Different experts examined if the items were appropriate for the Turkish language or culture. First, pilot data were collected, and a reliability analysis was conducted, revealing Cronbach's alpha of .93. Then an exploratory factor analysis was conducted to collect evidence on construct validity, which showed a single factor structure, confirmed through a scree test. Then the main study was conducted. A single factor model was established in a good fitting model, and Cronbach alpha level was .87.

Rationale for Developing a New Measure. According to Bandura (2006), "There is no all-purpose measure of perceived self-efficacy. The 'one measure fits all' approach

usually has limited explanatory and predictive value because most of the items in an all-purpose test may have little or no relevance to the domain of functioning" (p. 307). Thus, while valid and reliable measures for teachers' efficacy beliefs for teaching in general have been developed, these primarily focus on the instructional and classroom management domains of a teacher's job. Whereas these measures may have an item or two relevant to family engagement, they fail to capture the full scope of the practices teachers must perform to engage with their students' families fully. Furthermore, there has been little agreement about the body of knowledge of family-facing professionals (including teachers) until recently. Absent a "good conceptual analysis of the relevant domain of functioning" (Bandura, 2006, p. 310), the few prior scales (e.g., Garcia, 2004; Stuckey, 2010) attempting to assess efficacy beliefs for engaging families have failed to reflect the tasks at the individual educator-level accurately. Prior efforts over-relied on the Epstein model for family engagement, an organizational-level model.

Fortunately, the National Association of Family, School, and Community Engagement (NAFSCE) has recently completed a comprehensive, multi-phase project to document the practices, knowledge, and skills of individual family-facing professionals (including teachers), which they recently shared as a report to the field (NAFSCE, 2022). To develop this list, NAFSCE convened a team of to draft an initial long list, which was synthesized into eight competencies aligned with critical frameworks and reports from the field. The eight competencies were then shared with two key stakeholder groups: the National Education Association and state education agency administrators and faculty members. They each confirmed the content validity of the competencies. The

competencies were then cross-walked with professional standards from 15 professional family-facing fields (such as teaching, school psychology, etc.) to determine convergence and divergence. Then, the eight competencies were further refined through four separate focus groups of parents, teachers, district leaders, and community partners to gather their impressions. Finally, a large-scale field survey was launched, and 600 family-facing professionals provided further validation evidence confirming that these competencies reflect the nature of family engagement professionals' work.

Therefore, prior measures of teacher efficacy beliefs have either been too broad to capture teachers' efficacy beliefs for family engagement sensitively (e.g., Teacher Sense of Efficacy Scale) or have failed to reflect the nature of family engagement accurately and completely (e.g., Parent Involvement Efficacy Scale). Before now, there was no consensus about the domain of the work of family-facing professionals. However, now consensus has been reached.

Hypothesis 1. Family engagement efficacy beliefs of educators will positively correlate with general teaching efficacy beliefs. As previously explained, an educator's efficacy belief for engaging families is a task-specific, individual characteristic expressed through proxy agency. As one task nested within the entire domain of an educator's work, prior research has indicated this construct will positively correlate with the domain under which is nested (Grether et al., 2018; Liu et al., 2020). Therefore, the greater a teacher's general sense of efficacy for teaching, the greater a teacher's efficacy for engaging families, and vice versa. The task-specific nature of family engagement efficacy beliefs of educators lends value as a more detailed exploration of the role of efficacy

beliefs for one facet of educators' work.

Trust

"Trust is a fragile plant."

(A. Baier, 1986, p. 260)

Trust is the third major construct of the study. This section devotes space to defining trust philosophically and through the lenses of education and family engagement. Then, major research advancing understanding of the role of trust in family engagement is described, with extra attention to the role of trust between minoritized families engaging with predominantly White educators. Finally, the section concludes with the presentation and rationale for the second hypothesis of the study.

Definitions. Trust, like efficacy, is a construct vital to academically optimistic schools. Turnbull et al. (2014) describes trust as the "keystone" for partnerships between families and schools. The moral philosopher Annette Baier (1986) explained trust as a matter of shared cooperation for the care of something of importance:

> Since the things we typically do value include such things as we cannot singlehandedly either create or sustain (our own life, health, reputation, our offspring and their well-being…) we must allow many other people to get into positions where they can, if they choose, injure what we care about, since those are the same positions that they must be in in order to help us take care of what we care about. (p. 236)

Here, Baier recognizes that the care and upbringing of one's children requires a high degree of trust. Parents allow educators an enormous amount of latitude to participate in the care and upbringing of their children. An educator can change a child's life for the better or worse forever. To put it in simplest terms, trust consists of three elements: "A trusts B with valued thing C" (Baier, 1986, p. 236), in other words, the actor (A), the

trusted (B), and the cared for (C).

Trudy Govier (1997), social philosopher, defined an attitude of trust as comprised of four features: expectations of benign behavior, assumptions of personal integrity, acceptance of risk and vulnerability, and a general disposition to view the trusted person's actions favorably (p. 6). She critiqued Baier's definition for an over-reliance on the idea of caring for "valued things" rather than other types of trust.

Trust can be defined as the willingness to be vulnerable to another based on the assumption that they are benevolent, reliable, competent, honest, and open (Tschannen-Moran & Hoy, 1998, 2000). This definition expands upon Baier's definition and echoes Govier's by acknowledging the risk at stake in the trusting relationship and detailing traits upon which a person judges the other worth the risk.

Philosopher Marek Kohn (2008) also noted the inextricably intertwined role of human agency in the context of a trusting relationship:

> Trust is an expectation about another's actions, based on the understanding that the other has the capacity to create mental models of possible courses of action, and to evaluate them within a framework that can incorporate interests besides the other's own. (p. 17)

Trust cannot be coerced; it must be based upon the perception that another person intends to act in a way beneficial for the "cared for thing" with full opportunities to do otherwise.

Research centering on the role of trust in the school-family partnership has defined trust in several other ways. Some scholars have adopted the Tschannen-Moran and Hoy (1998, 2000); for example, Goddard et al. (2001) used this definition but highlighted the element of vulnerability as particularly salient to the family-teacher relationship. Bryk and Schneider (2003) similarly defined trust based on an assessment of

the traits of another: the "discernment…of the intentions embedded in the actions of others…organized around four specific considerations: respect, personal regard, competence in core role responsibilities, and personal integrity" (p. 41). While these traits bear some overlap to the Tschannen-Moran and Hoy definition, some ideas (open) are missing, as is the concept of vulnerability or risk-taking.

Several other family engagement scholars have highlighted the essential goal of shared collaboration for the benefit of student outcomes in their definition. Adams and Christenson's (1998, 2000) well-known studies comparing the trust beliefs of parents and teachers, defined trust as "confidence that another person will act in a way to benefit or sustain the relationship, or the implicit or explicit goals of the relationship to achieve positive outcomes for students" (1998, p. 6). They described three hierarchical levels to trust – predictability, dependability, and faith – each of which must be satisfied to move to the next level. Houri et al. (2019) built upon this definition, adding the idea of certain relationship factors improving trust: "confidence placed upon another person to act in a manner that will benefit either the relationship or a similar goal of the relationship and is facilitated by relationship factors, such as commitment" (p. 422).

Finally, philosopher Niklas Luhmann (1973, 1975/1979) points out, "trust occurs within a framework of interaction which is influenced both by personality and social system, and cannot be exclusively associated with either" (p. 6). Several researchers have examined the nature of trust through the context of the school as a social system, not merely a phenomenon between individuals. Adams and Forsyth (2009) state, "we see the formation of trust in schools as occurring at the group level and manifesting itself as a

shared perception of the group—that is, not in the aggregated discernments of individuals" (p. 131), reminiscent of how collective efficacy is conceived. Further, members of the school community gain information about what and who to trust both from direct interactions with the one to be trusted as well as indirectly from interactions with others. This definition may highlight a particularly useful idea that the "valued thing C" in the family-school relationship is the child, an autonomous human being through whose perspective most trust-producing (or eroding) information is filtered. Other parents and colleagues as well as external actors such as the media, special interest groups, community members, etc. are other sources of such information.

Hill (2018) explained Black parents' trust in schools must be defined by differentiating between the trust on an interpersonal and institutional level. She noted that Black families' direct experiences with interpersonal racism from White staff members undermine their interpersonal trust in those individual educators. At the same time, Black families hold a high degree of trust for the institution of public education as a force for upward mobility.

Research on the Role of Trust in Family Engagement. Some of the most oft-cited studies exploring the nature of trust in the family-school relationship were a series of studies by Adams and Christenson (1998, 2000). Using two scales, one measuring teachers' individual trust in their students' families and one measuring parents' individual trust in their children's teachers, they discovered parent trust in teachers to be significantly higher than teacher trust in parents. This finding was confirmed by their second study (2000). Further, they found trust between parents and teachers to be higher

in elementary school and diminishing as children grow up. They also found that the perceived quality of the interaction is a better predictor of trust than the frequency of interaction. Finally, they found that trust is positively correlated to school performance. Their fundamental contribution, that teacher trust in parents is lower than the reverse, has been repeated by a subsequent study (Stuck, 2004).

Goddard et al. (2001) unambiguously clarified the importance of trust in family engagement: "The extent to which teacher-student and teacher-parent interactions are productive is affected by the trust that holds these relationships together" (p. 4). They found teachers' trust in students and parents to be unrelated to school size and the racial composition of students. However, they discovered the socioeconomic status of students to be a significant predictor of trust. Poverty has a large negative influence on social relationships, harkening back to Becker and Epstein (1982)'s seminal study revealing the biases of educators towards lower-income families. Goddard et al. (2001), echoing Adams and Christenson (2000), likewise found trust to be a positive predictor of student achievement, controlling for all demographic factors.

The Bryk and Schneider (2003) longitudinal study of family engagement in Chicago schools revealed concerning barriers to trust in urban schools. They concluded that class and race differences between educators and parents in urban areas can create conditions ripe for misunderstanding and distrust. They note that minoritized parents and parents experiencing poverty are especially vulnerable, and thus, educators have an increased responsibility to show personal integrity in their interactions with students and families. "Effective urban schools need teachers who not only know their students well

but also have an empathetic understanding of their parents' situations and the interpersonal skills needed to engage adults effectively" (Bryk & Schneider, 2003, p. 44).

Adams et al. (2009) explored the organizational conditions contributing to trust formation between parents and schools. They found that attending to parents' affective needs reduces their perceived vulnerabilities and risks within the parent-school relationship. When parents perceive their own influence on school decisions and when they identify with (feel a sense of belonging to) the school community, trust significantly grows. This study highlights the importance of the role of vulnerability in the formation or erosion of trust.

Trust Between Families of Color and White Educators. Several researchers have explored how educators' biases hinder trust between families and schools irrespective of socio-economic status (Beard & Brown, 2008). Cooper (2007), in her study of the mothering practices of African American women, named these practices *motherwork* – an act of cultural resistance and empowerment in which Black mothers advocate for themselves and their children in the face of historical and current oppression. She notes that African American families pursue and prioritize education as a means of liberation and personal success. "Educators tend to view African-American mothers' resistance as negative and counterproductive to good schooling, rather than understanding that it represents their caring" (Cooper, 2007, p. 506). Here, the collision between White-centric family engagement expectations and the practices oriented towards advocacy expressed by Black families contributed to diminished trust between educators and Black parents.

Hill (2018) found a similar pattern in her study of Black parents' engagement

with schools. While parents were more likely to trust and value schools as institutions, they were less likely to trust the individuals who worked in them.

> Given the historical importance of public schooling as a route to upward mobility in the Black community, Black parents might place a lot of confidence in public education to provide for social mobility in the abstract. However, they may place less trust in teachers and school officials to always act fairly or in a caring manner toward their children due to a history of discrimination in their day-to-day concrete experiences with schools. As the objects that are being trusted and entrusted become more concrete, perhaps parents are more able to monitor what is happening, prompting them to be vigilant against the chance of betrayal. (p. 26)

Troubling, here, is the immediate harm to relationships caused by interpersonal racism and bias. One of parents' primary responsibilities is to provide protection for their children. If the individuals who work in schools cannot be trusted to "do no harm," what reason is there for families to entrust children into their care?

Finally, Young et al. (2015) found other complexity in Latino families' relationships with schools. In their study, they found that Latino families tend to demonstrate respect to the authority of the school by deferring, a cultural practice they refer to as *respeto*. This respect, however, is often not perceived by families as being returned mutually from the school, according to their cultural expectations for how it should be. Young et al. (2015) also found that Latino parents may also trust (defer) too much because some may be in a particularly vulnerable situation in society, if they lack U.S. citizenship status. Inherent to a trusting relationship is the concept of both parties entering the contract freely and equally. But, for families with uncertain legal status, they may not have the same degree of agency in the family-school relationship as families with full legal citizenship. Finally, like other minoritized families, Young et al. (2015) found that Latino families must remain vigilant against bias and prejudice from specific

school personnel, which can create conditions for distrust.

Benefits to Trust in the Context of Family Engagement. Successful family engagement efforts may be an enabling condition of an academically optimistic school. Academic optimism is a latent construct consisting of efficacy, trust, and academic emphasis. Controlling for school-level factors, academic optimism is a significant predictor of student outcomes (Beard, 2008; Beard & Hoy, 2010). "Trust plays a key role in building social capital" (Adler & Seligman, 2016, p. 12) and thus is a keystone of effective partnerships (Turnbull et al., 2014). An individual teacher's sense of academic optimism is their belief that they are effective at teaching (sense of efficacy), and that they trust in their students' parents' support. Thus, they can emphasize rigorous expectations for learning in their curriculum and instruction (Beard et al., 2010). Establishing trusting relationships with families enables teachers to experiment, be resilient, seek and use feedback, and raise standards for students (Hoy et al., 2006). Therefore, a strong partnership with families – one based on mutual trust – may be an enabling factor for promoting a teacher's sense of academic optimism, a powerful construct for student achievement.

Measurement of Trust in Family Engagement Research. Two scales are used primarily in the measurement of trust in family engagement research. Beyond these, most studies utilize qualitative research methods to gather family perspectives of trust in the context of the school community.

Family-School Relationship Survey, Trust Scale (FSRS). The *Family-School Relationship Survey, Trust Scale* was developed by Adams & Christenson (2000, 1998).

The short form of the scale includes 11 items measured on a 4-point Likert-type scale (*1* = Strongly disagree, *4* = Strongly agree). In an initial study (1998) with teachers at an urban district, $n = 152$, reliability was determined to be $\alpha = .92$. At a follow-up study (2000) in a suburban district, a long form of 19 items was used, $n = 209$, and reliability was determined to be $\alpha = .90$. For their scale, trust in the family-school relationship was defined as "confidence that another person will act in a way to benefit or sustain the relationship, or the implicit or explicit goals of the relationship, to achieve positive outcomes for students" (Adams & Christenson, 2000, p. 480). A sample item is "I am confident that parents/guardians are doing a good job in participating in their child's education." They do not provide internal validity analysis within their studies; however, their quantitative findings were bolstered by qualitative interviews. The parent version of the FSRS was validated through predictive validity argumentation related to parent engagement behaviors.

Omnibus T-Scale. The Omnibus T-Scale (Hoy & Tschannen-Moran, 2003) is a measure of collective faculty trust in the principal, colleagues, and clients (parents and students). The most recent version of the scale contains 26 items, of which 10 relate to clients. Reliability values for the subscales range from .90-.98. Goddard et al. (2001) used an early 15-item version of the scale in their study and found a reliability of .97. While the Omnibus T-Scale has been used occasionally as a measure of individual trust by rewording the questions, the scale has not been validated for this use.

Hypothesis 2. Family engagement efficacy beliefs of educators will positively correlate with educators' trust in families. Numerous studies have indicated that trust

and efficacy beliefs are two components of a larger construct (also including academic emphasis) known as academic optimism (Beard et al., 2010; Hoy et al., 2006; Woolfolk Hoy et al., 2008). Woolfolk Hoy et al. (2008) described the relationship with the frame of social-cognitive theory: a teacher's sense of efficacy as the cognition, trust as the affective state, and academic emphasis as the behaviors. Thus, it is expected that the higher an individual's efficacy beliefs for engaging with families, the higher an individual's trust in families, and vice versa.

Validity

Finally, as the purpose of the study was to develop a family engagement efficacy belief measure, consistent with Bandura's social cognitive theory, demonstrating evidence of reliably and accurately measuring what it claims to measure, a discussion of validity is warranted. A brief review of the types of validity evidence is provided before a explanation of Kane's argument-based approach to validity. Finally, the chapter closes with the inferences and claims guiding the methods of the study.

Types of Validity Evidence. According to Bollen (1989), researchers do not prove validity; validity is supported with evidence. To support validity, one must consider several different aspects of validation evidence.

Content Validity. Content validity is subjective. "Content validity is a qualitative type of validity where the domain of a concept is made clear, and the analyst judges whether the measures fully represent the domain" (Bollen, 1989, p. 185). There is no empirical substitution for content validity: the "substantive and logical arguments that help define a concept, its dimensions, and the indictors needed to capture it, so this

remains an important component of validity assessment" (Bollen, 1989, p. 194). In this study, content validity is argued based on the prior NAFSCE (2022) study, the literature review provided, and the advice of subject-matter experts and users.

Structural Validity. Using confirmatory factor analysis to "estimate the correlation between a latent variable and its measure" (Bollen, 1989, p. 195) explores structural validity. Structural validity is the strength of the magnitude of the direct structural relationship between the measured variable and the latent variable. Confirmatory factor analysis allows a researcher to estimate the strength of this relationship. In this study, structural validity is argued through exploratory and confirmatory factor analyses.

Construct Validity. Another type of validity to consider is construct validity, an empirical exercise. "Construct validity assesses whether a measure relates to other observed variables in a way that is consistent with theoretically derived predictions" (Bollen, 1989, p. 188). Convergent and divergent validity are types of construct validity relating other constructs to the construct under study. In this study, while exploratory in nature, the two hypotheses linking the construct of interest with related constructs provides evidence supporting convergent validity.

Reliability. Internal reliability is most commonly assessed using Cronbach's alpha. Cronbach's alpha is "a function of the extent to which items in a test have high commonalities and thus low uniqueness. It is also a function of interrelatedness, although one must remember that this does not imply unidimensionality or homogeneity" (Cortina, 1993, p. 100). Alpha increases as item number increases (Bandura, 2006). In early stages

of research, reliability values of .70 or higher are sufficient (Nunally, 1978). In this study, Cronbach's alpha is used to assess reliability.

Kane's Argument-Based Approach to Validity. Kane (2013) proposed that the interpretation and use of test scores must be detailed in an argument clarifying the inferences and supportive claims backed by evidence. He called this the *interpretation use argument (IUA)*:

> A proposed interpretation or use can be considered valid to the extent that the IUA is coherent and complete (in the sense that it fully represents the proposed interpretation or use) and its assumptions are either highly plausible a priori or are adequately supported by evidence (Kane, 2013, p. 2-3).

He goes on to propose eight maxims for the IUA: (1) The uses and interpretations of scores are validated, not the test or its scores. (2) Validity depends on how well the evidence supports the claims being made. (3) More ambitious claims require more support. (4) More ambitious claims are more useful but harder to validate. (5) Interpretations and uses depend on the need of the context. (6) Evaluation of score uses depends on the consequences of how you will use those scores. (7) Rejecting a particular score use does not necessarily invalidate a prior score interpretation. (8) Validating a particular score interpretation does not validate a score use based on that interpretation.

In an IUA, all inferences are broad assumptions detailed by more specific claims. These claims are based on pieces of evidence (datum), which are linked to the claims by warrants or backing. The warrants can be limited by qualifiers or exceptions. Different kinds of inferences require different kinds of support. For example, generalization inferences require evidence of a representative sample and the sample being large enough to control sampling errors. Theory-based inferences rely on evidence for the theory and

for the appropriateness of test scores as indicators of constructs in the theory.

Surprisingly, Kane (2013) does not recommend using convergent validity evidence as part of the IUA. “The validity of an indictor does not depend on the construct indicators' relationships with other variables that are attached to the defining theory” (p. 40) because it is part of “the nomothetic span” which “goes beyond the interpretation of scores in terms of a theoretical construct” (p. 41). This “describes additional implications associated with the construct label that may or may not be relevant to validation” (p. 41). “Claims about relationships to other variables that are not relevant to the proposed interpretation do not have to be examined as part of validation” (p. 41). In other words, unless the relationship between two constructs is strictly necessary to interpret the scores from the scale, relationships between constructs should not be used in the validity argument. The relationships between family engagement efficacy beliefs of educators and general efficacy beliefs for teaching and family engagement efficacy beliefs of educators and teachers’ individual trust in families are not strictly necessary to interpret the scores on the FEEB-E. Thus, exploratory hypotheses are included examining the relationship between family engagement efficacy beliefs and general teaching efficacy beliefs and family engagement efficacy beliefs and trust in families separate from the IUA.

A final component of the IUA is to build inference(s) based on the use of the scores of the measure. Kane (2013) offers four suggestions for use arguments: (1) They require an evaluation of the overall consequences (adverse impact, systemic effects) of the use for the population with positive outweighing negative. (2) Consider only consequences for the population of interest, not individuals. (3) Arguments based on

analysis of consequences are based on values that must be accepted by the stakeholders. (4) Negative consequences count against a prior underlying interpretation only if they show the interpretation is not plausible.

Criticisms of Kane. Two scholars published criticisms of Kane's argument-based approach to validation. First, Markus (2016) believed Kane's approach was too relative and not concerned enough with an ultimate "truth," which he described as being too focused on the "ladder" – or the epistemic part of validation – and not focused enough on the "star" – or the alethic side. He also criticized Kane for focusing too much on "routine test-development work" (p. 262).

Cizek (2016) was equally critical but for a different reason. He believed validity should not include both validation of test score inferences and justification of test use. These are "incompatible concerns" (Cizek, 2016, p. 212). He noted that some things are agreed upon about validity: validation centers on intended inferences of test scores, not the tests themselves, there are not multiple types of validity but multiple types of evidence to support interpretations, judgements about validity are on a continuum not dichotomous, validation is not a one-time activity, and validation requires the application of values. However, Cizek believed that interpretation and use questions are fundamentally different and require totally different work: "Any evidence gathered on one of the questions is non-compensatory with respect to the other" (p. 215). Interpretation is a necessary but not sufficient condition for use. "The meaning, interpretation, or inference based on the test result - that is, the validity of the test scores - is typically unaffected by actions based on the test scores, the uses of the test results or

the consequences of those uses" (p. 215).

Kane's Response. Kane (2016) published a detailed response to both scholars. To Markus, he pointed out that there is no extra concept of truth to add to the validity discussion or it would already be included as evidence. He advocated for a degree of humility in that IUAs can be fallible. To Cizek, he responded the score meanings cannot be detached from their uses in many cases, and the danger in avoiding a justification of uses is that the interpretation justification would be applied to uses without further review of the implication of those uses. He also noted that his approach reflects the consensus view advocated by the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education (Kane, 2016).

Inferences of the Study

Following are the inferences and underlying claims guiding the methodology of the current study, with the purpose of providing a validity argument for the interpretation and use of the scores from the Family Engagement Efficacy Beliefs of Educators (FEEB-E) scale. In Chapter 3, the methods used to gather evidence to support each claim will be explained.

Inference 1. Survey items are representative of the target domains.

Claim 1. *Items on the FEEB-E accurately capture self-efficacy beliefs, congruent with social-cognitive theory.*

Claim 2. *Items on the FEEB-E fully capture the domain of educators' core competencies for engaging families.*

Inference 2. There are no extraneous sources of variability.

Claim 3. *The wording of items and directions are clear.*

Claim 4*. The order of items promotes comprehension.*

Claim 5. *The scoring scale is intuitive.*

Inference 3. The survey items measure the intended population adequately and reliability.

Claim 6. *Scores from an administration of the FEEB-E to a sample of school staff reflect a range of educators' efficacy beliefs for family engagement.*

Claim 7. *The FEEB-E measures multiple dimensions of family engagement.*

Claim 8. *Scores from an administration of the FEEB-E to a sample of school staff will reliably reflect educators' efficacy beliefs for family engagement.*

Inference 4. The survey is appropriate for use as a research instrument.

Claim 9. *The benefits of using the FEEB-E outweigh potential consequences.*

Claim 10. *The FEEB-E is a low-cost research tool.*

Claim 11. *The FEEB-E is superior to other research instruments for assessing family engagement efficacy beliefs of educators.*

Hypothesis 1: Family engagement efficacy beliefs of educators will positively correlate with general teaching efficacy beliefs.

Hypothesis 2: Family engagement efficacy beliefs of educators will positively correlate with educators' trust in families.

Summary

This chapter reviewed the literature on the major conceptual frameworks guiding

the study including family engagement, self-efficacy, trust, and validity. Influential theories, frameworks, and concepts were reviewed, and the interplay between the constructs were explored. In the final section of the chapter, the inferences and supporting claims of the study were detailed that drive the interpretation/use argument for the scale developed. In future chapters, these inferences and supporting claims provide a roadmap for the presentation of the study's methods and results. In Chapter 3 the methods are explained that were used to gather evidence for each of the claims and hypotheses above. In Chapter 4, the results are described either supporting or refuting each of the claims/hypotheses. Warrants and backing are provided to explain how the evidence does/does not support each claim. In Chapter 5, implications of the study and future uses of the FEEB-E in family engagement research are discussed.

Chapter 3. Methods

This chapter describes the methods used to explore the research questions presented in Chapter 1. The research study was conducted in five phases (see Table 2). During Phase I, the research instrument was developed based on a review of literature and prior efficacy measures in education. It was then refined based on feedback from subject-matter experts and initial users. Phase II explored the use of the instrument in a pilot study with a national sample of family-facing educators for the purpose of collecting data to conduct exploratory factor analysis, parallel analysis, and reliability analysis. Phase III involved revisions to the instrument based on the Phase II pilot study. Phase IV was the implementation of a follow-up study in two Ohio school districts to collect evidence to confirm the factor structure of the instrument and its reliability as well as explore how the construct correlates with related constructs. In Phase V, the evidence from Phases I-IV was analyzed to prepare the validity argument for the interpretation and uses of the FEEB-E.

Table 2 - Timeline of the Development of the FEEB-E

Phase	Description	Timing
I	Review of literature and existing instruments. Generate items for FEEB-E based on content domain. Share with SMEs and users for feedback. Select response scale and write respondent directions. Submit IRB application for Phase II.	Dec. – April, 2022
II	Recruit sample. Administer FEEB-E. Collect response data. Conduct data analysis for EFA, PA, and reliability.	April – June, 2022
III	Revise FEEB-E based on Phase II analysis. Add items where domain insufficiently captured. Reword confusing items. Omit redundant or nonloading items. Reorder items blocking by factor in ascending complexity. Submit IRB application for Phase IV.	June – July, 2022
IV	Recruit school districts. Recruit sample. Administer FEEB-E. Collect response data. Conduct data analysis for CFA, correlation, and reliability.	Aug. – Oct., 2022
V	Construct IUA based on evidence gathered from Phases I-IV.	Oct. – Nov., 2022

Note. FEEB-E = Family Engagement Efficacy Beliefs of Educators survey instrument. SMEs = Subject-matter experts. IRB = Institutional Review Board. EFA = exploratory factor analysis. PA = parallel analysis. CFA = confirmatory factor analysis. IUA = interpretation/use argument.

Phase I – Instrument Development

Phase I of the study centered on the development of the Family Engagement Efficacy Beliefs of Educators (FEEB-E) instrument. Here, the process of instrument development is detailed, including the review of the literature and existing instruments, item generation, feedback, selecting of the response scale, and drafting of the directions. Phase I concluded with the submission of an IRB application for Phase II – Pilot Study.

Review of Literature

For the partial fulfillment the requirements of my Ph.D. Candidacy General Examination, an extensive review of the literature was conducted in the topics of family engagement, efficacy, instrument development, and validation (among other topics). The results of this literature review are presented in Chapter 2. For each content area of interest, relevant keywords were searched, research articles were gathered (seminal, often cited, and otherwise influential works in particular), notes taken, and themes synthesized across works. The review of the literature formed the basis for understanding the contours of the content domain of family engagement as well as building a foundation in social cognitive theory and self-efficacy. The *Family Engagement Core Competencies* (NAFSCE, 2022) provided a definitive framework for the domain of family engagement work of family-facing professionals.

Review of Existing Instruments

Next, as a second step in my Ph.D. Candidacy General Examination, existing instruments were reviewed to measure individual teacher efficacy, collective teacher efficacy, principal efficacy, and teacher efficacy for engaging families. For each, the theoretical basis (congruence with social-cognitive theory and family engagement theory), psychometric properties, history of interpretations and uses, and extent to which it had seen broad acceptance in the field were analyzed. As described in Chapter 2, it was concluded no instrument to measure educator efficacy for engaging families has been broadly accepted, perhaps due to gaps in the content domain or theoretical flaws in the instrument's application of self-efficacy.

Item Generation

To design the measure, first, the previous items and inventories measuring efficacy for engaging with families were crosswalked with the NAFSCE (2022) *Family Engagement Core Competencies* (see Table 3 for sources of potential items). Where existing items from prior survey measures adequately captured the domain of family engagement efficacy beliefs of educators, they were reworded to ensure a consistent structure. Redundant items were eliminated where there were duplicates from two prior inventories. Notably, very few prior items were found matching a NAFSCE (2022) competency. Therefore, two of the NAFSCE (2022) competencies seeming similar were combined, and one more domain initially called "Efficacy for Engaging with Families in their Children's Learning" was added. These three items were drawn from prior scales (Tschannen-Moran and Hoy, 2001; Bandura, 2006; Stuckey, 2010).

Where there were competencies for which there were no existing items, the PEBIL phrasing structure was initially used as a guide (i.e., I am now capable of…) as it adheres most closely to Bandura's (2006) instructions. At least one of the three items under each domain was included to require respondents to consider the complexity of the task by providing a challenging context.

Table 3 - Sources for Potential Items

Instrument	Structure	Example Items
Teachers' Sense of Efficacy Scale (TSES) (Tschannen-Moran & Hoy, 2001)	24 items on a 9-point Likert scale from "Nothing" to "A Great Deal." Only 1 item specific to family engagement.	How much can you assist families in helping their children do well in school?
Teacher Self-Efficacy Scale (Bandura, 2006)	28 items representing things teachers do, for which respondents rate degree of confidence from 0-100. Only 3 items specific to family engagement.	Get parents to become involved in school activities Assist parents in helping their children do well Make parents feel comfortable coming to school
Assessment of Parent Involvement Efficacy (Stuckey, 2010)	11 items on a 6-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree."	I will be able to effectively engage parents in fostering good studying and learning habits in children.
Principal Efficacy Beliefs for Instructional Leadership (PEBIL) (Goddard et al., 2021)	5 items measuring principal efficacy for expressing proxy agency.	I am now capable of working with teachers in ways that improve their instruction.
Family Engagement Core Competencies (NAFSCE, 2022)	8 competencies, each with 2-4 subskills.	Build trusting reciprocal relationships with families. • Cultivate mutual trust. • Communicate effectively. • Create welcoming environments. • Reach out actively to families, especially those who might be most underserved.

SME Feedback for the Instrument

During Phase I – Instrument Development, the feedback of four subject-matter experts (SMEs) helped to refine survey items for the FEEB-E. All SMEs work at major universities and are considered experts in their fields. Each SME met with the researcher via videoconference for a short interview. During the interview, screen-sharing showed the survey draft. The items were previewed, and the goal of the instrument and the rationale behind item generation were explained. Then, formative feedback item-by-item was requested, focusing on which items to keep as written, which items to retain with revisions, and which items to remove.

SME 1 is a senior research consultant for the National Association of Family, School, and Community Engagement and former director of research and professional learning at the Global Family Research Project at Harvard University. SME 1 focused on providing feedback on the representativeness of items based on the domain of family engagement as it is expressed by the *Family Engagement Core Competencies*.

SME 2 is a research administrator and director of family engagement at the Center on Education and Training for Employment at The Ohio State University. SME 2 focused on providing feedback on whether items represented content congruent with family engagement theory and research.

SME 3 is an associate professor of educational administration in the College of Education and Human Ecology at The Ohio State University. SME 3's research applies a critical race lens to explore parent, teacher, principal, and superintendent perspectives in education. SME 3 provided feedback regarding whether items fully captured competency

with engaging nondominant populations, as well as the avoidance of bias in item wording such that items would be equally answerable regardless of racial or cultural identity of respondents or the populations they serve.

SME 4 is a research development specialist at The Ohio State University and an expert in survey development and validation. SME 4 focused on providing feedback regarding item wording congruent with test development theory (e.g., the avoidance of double-barreled items).

Based on the series of interviews and resulting feedback from SMEs, several items were revised and six more items generated, to bring the total number of items to thirty.

Selecting the Response Scale

To pick the response scale for the FEEB-E, a variety of options used by prior scales in efficacy research were reviewed. A chart of scale options was also referenced, found in *Instrument development in the affective domain: School and corporate applications* (McCoach et al., 2013). A "reflect me" scale was selected for best assessing fit of a statement to oneself (McCoach et al., 2013, p. 50). Sample responses from this scale include "very true of me," "untrue of me," etc. A 7-point version of this scale was chosen to provide adequate nuance (Bandura, 2006) and allow for a neutral option.

Writing Directions

The directions were crafted intentionally to refrain from naming "efficacy" or using other technical jargon, thus minimizing response bias (Bandura, 2006). The instructions advise the participant to respond based on the current time, as this is the most

accurate assessment of efficacy beliefs (Bandura, 2006). To minimize social evaluative concerns, the instructions were written to assure respondents that answers will be kept strictly confidential (Bandura, 2006).

User Tests of the Instrument

To ensure that the instrument was understandable and useable by users, the FEEB-E was beta tested by family-facing professionals who worked in schools. It was sent to a school counselor, several teachers, and other family-facing professionals to beta test. These users provided feedback regarding the clarity of terms used in scaling, the comprehensibility of the directions, the item flow, the survey's two-item eligibility display logic, and the tone of the end of survey messaging.

Phase II – Pilot Study

The second phase of the study centered on a pilot study of the FEEB-E survey instrument. The purpose of the pilot study was to collect response data to explore the factor structure. A primary goal was an exploration of how the observed variables (items) relate to the latent factor, family engagement efficacy beliefs. Another goal of the pilot study was to reduce the total number of items on the scale by identifying redundancies or outliers. The research questions guiding the pilot study were:

1. Can family engagement efficacy beliefs of educators be measured through a survey?
2. How many factors represent this latent construct? What is the factor structure?
3. Can any items be removed from the scale to reduce the overall length?

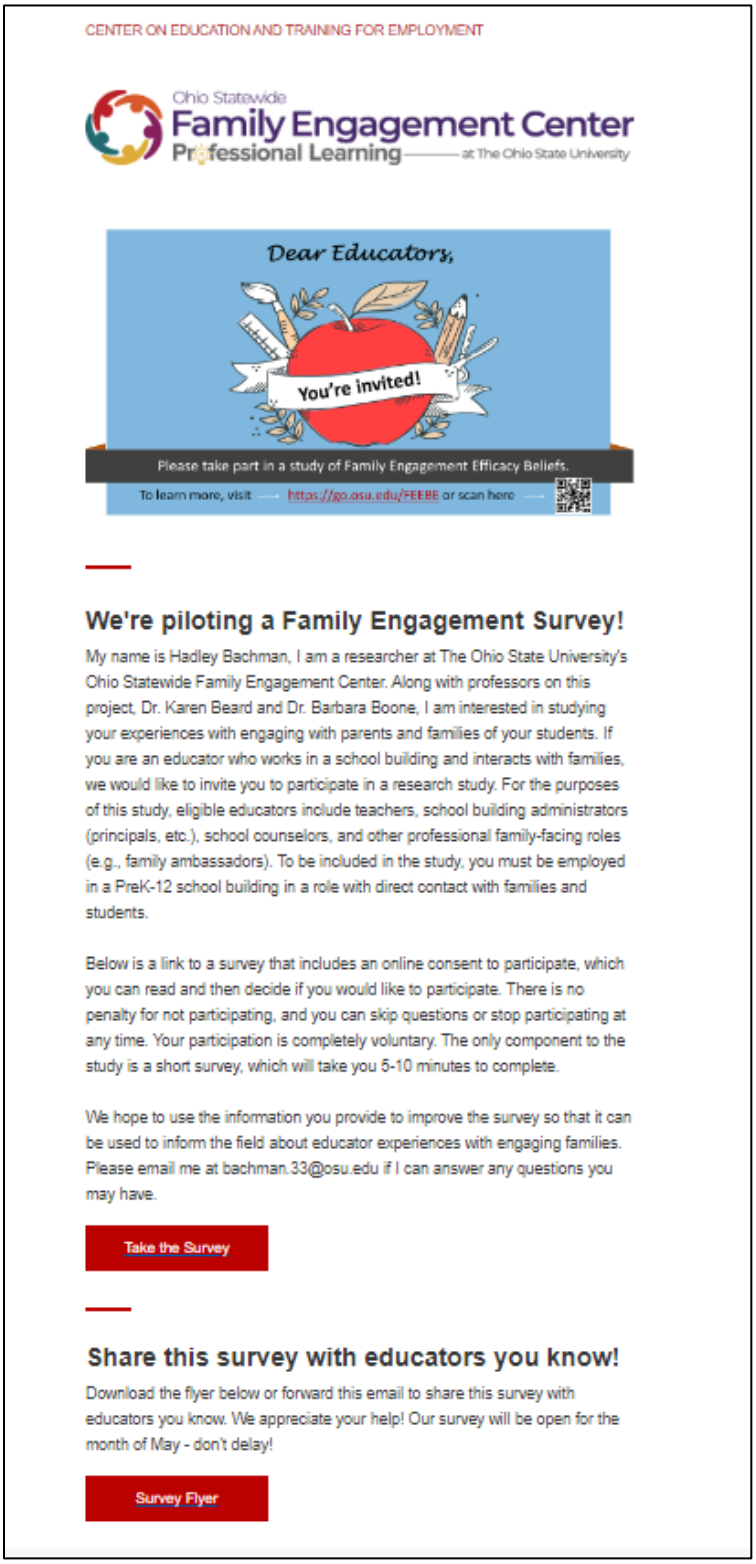
To answer these questions, survey research was conducted using a cross-sectional design.

Recruitment

To recruit the sample, an email (see Figure 5) was first sent to all Ohio school superintendents and other family engagement professionals who subscribe to the Ohio Statewide Family Engagement Center email list, consisting of 1,500+ recipients. This list was asked to forward the survey to their staff. In addition, participants were recruited at a synchronous virtual meeting of the Family Engagement Leaders of Ohio network group, which consisted of educators in Ohio and across the U.S. who work in family engagement. The typical attendance at this group's meeting ranges from 50-75. This group was also asked to share the survey within their circles. Next, an invitation to take the FEEB-E was posted on the message board of our partner organization, the National Association of Family, School, and Community Engagement (NAFSCE), who offered support with distribution. Attendees of a conference session at the Institute of Educational Leadership Community Schools and Family Engagment Conference in Los Angeles, CA in June were also recruited. Finally, the survey was shared with other partners to ask for the support with distribution (e.g., Ohio Department of Education, Ohio Federation of Teachers, Ohio Afterschool Network, State Support Teams, etc.).

The limitation to this method of recruitment is that the sample may be affected by volunteer bias. There may be certain patterns around who would be more likely to volunteer to take the FEEB-E when invited. However, the representativeness of the sample recruited indicates that the sample is appropriate for an exploratory factor analysis of the FEEB-E.

Figure 5 - Recruitment Email



Sample

The sample recruited consisted of 318 educators who worked in school buildings in the state of Ohio and other states in the United States. Educators, for the purposes of the pilot study, were defined as teachers, school building administrators, school counselors, and other professional family-facing roles. All educators must have been current employees in a PreK-12 school building in a role with direct contact with families and students at the time of the survey. University faculty/staff and non-school organizational staff were excluded from the study because the Core Competencies do not apply to those who teach adults. Non-paid school employees (e.g., parent volunteers) were also excluded. Figures 6-14 provide additional information about the demographic characteristics of the sample and the schools they represent.

Figure 6 - Educator Role

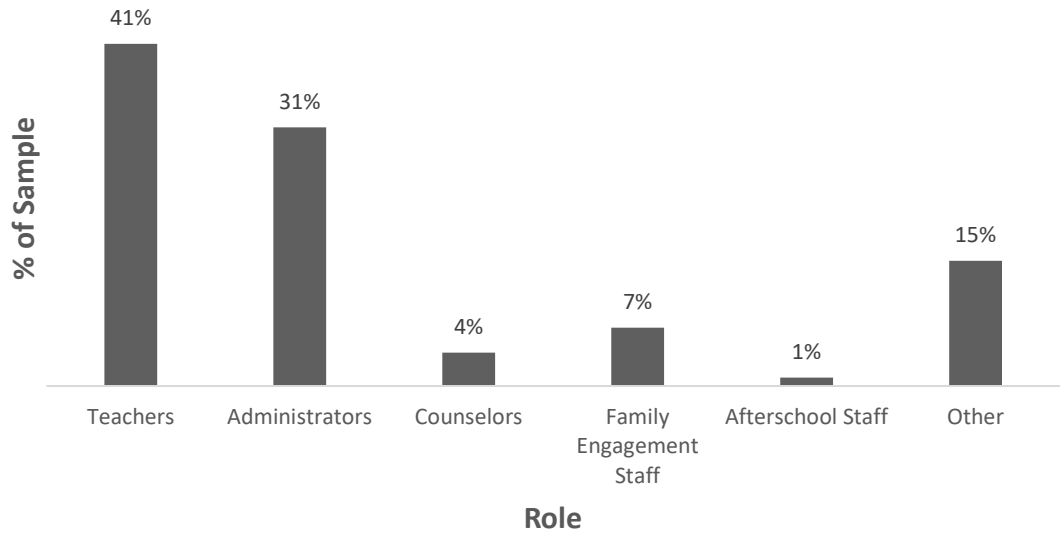


Figure 7 - Gender of Respondents

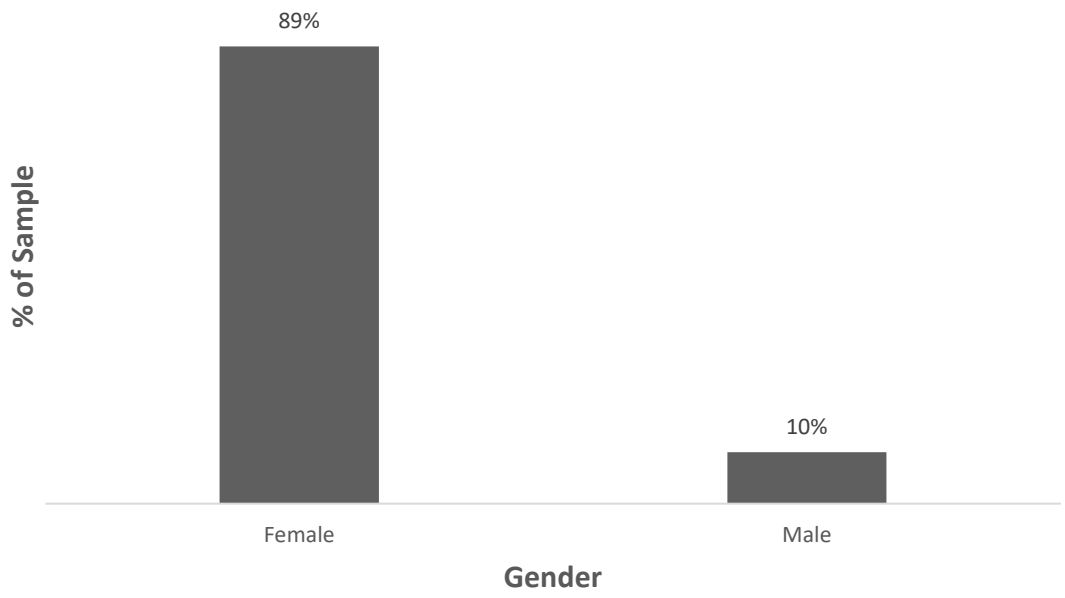


Figure 8 - Race/Ethnicity of Respondents

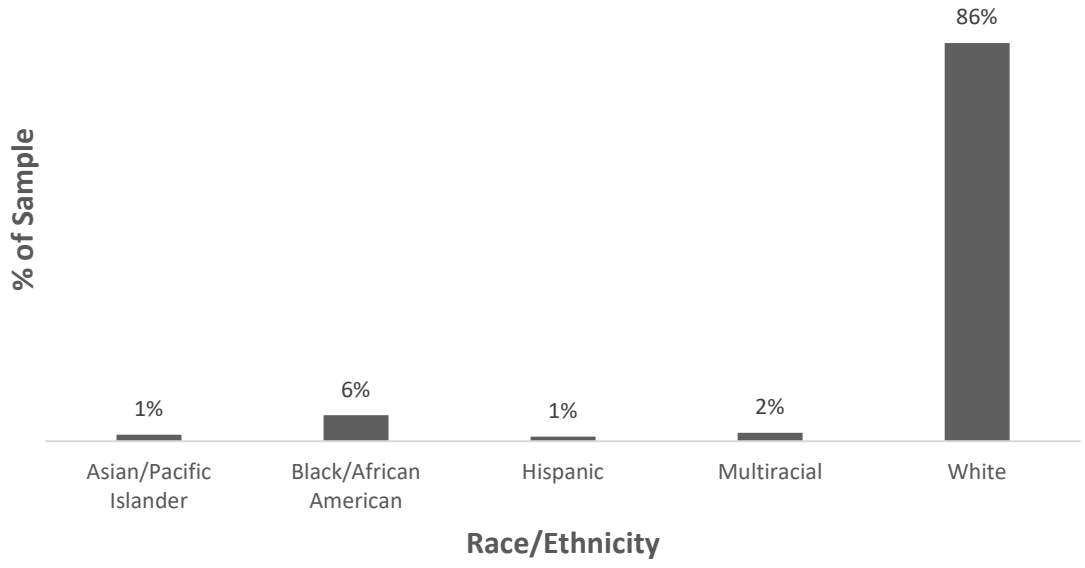


Figure 9 - Age of Respondents

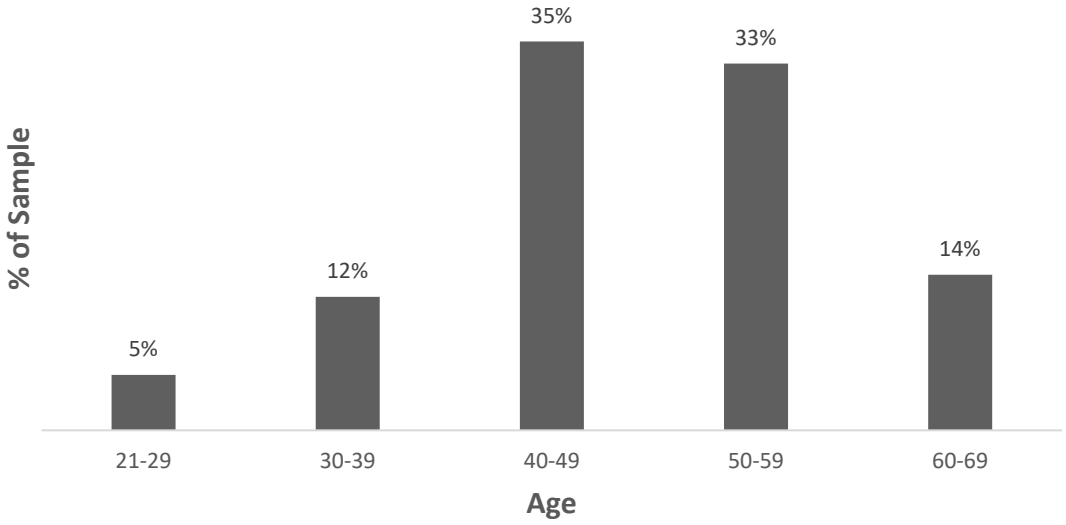


Figure 10 - Years of Teaching Experience of Respondents

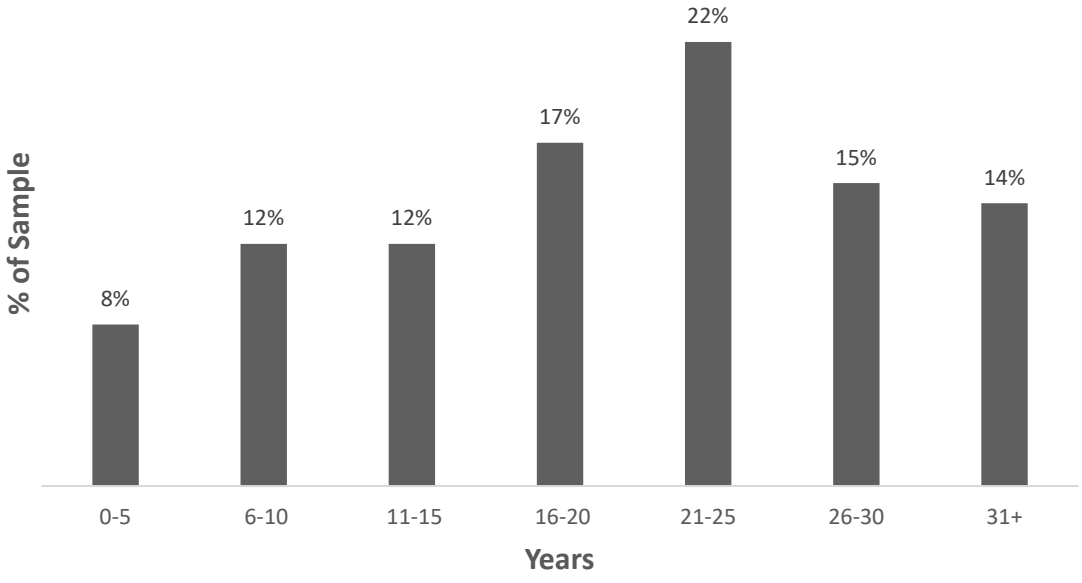


Figure 11 - Educational Background of Respondents

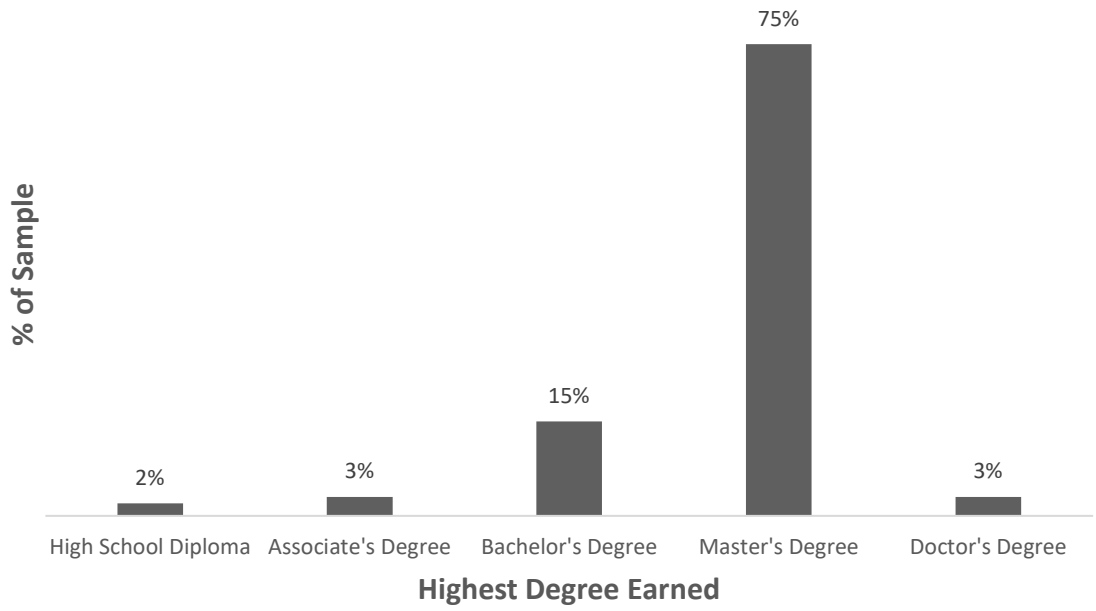


Figure 12 - School Level in Which Respondents Work

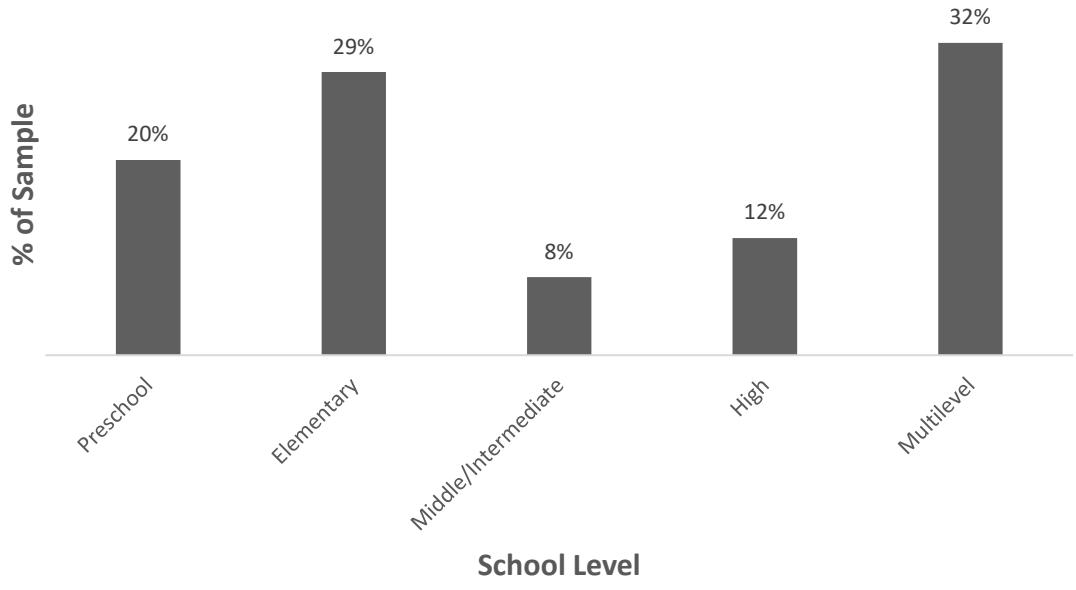


Figure 13 - Community Type Served by School in Which Respondents Work

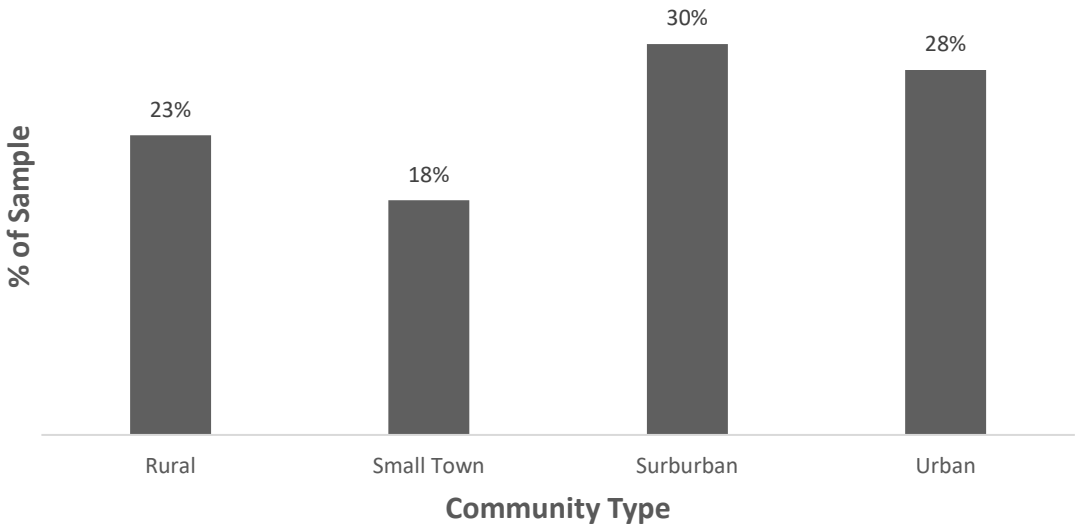
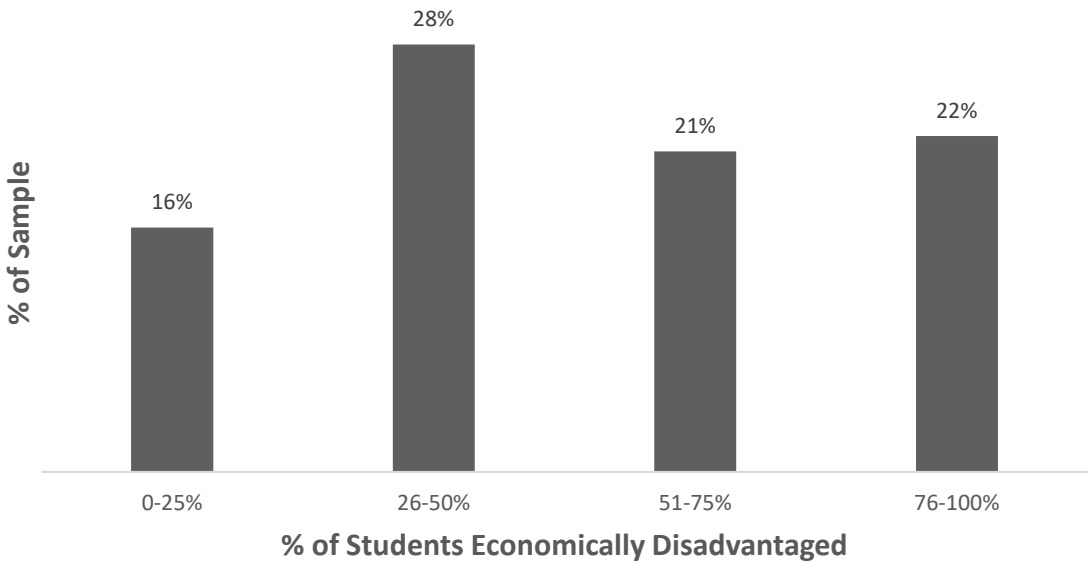


Figure 14 - Percent of Students Economically Disadvantaged in Schools Where Respondents Work



The typical respondent in this sample was a White, female teacher between the ages of 40-49 with 21-25 years' teaching experience and a Master's degree. The typical respondent may have worked in an elementary or multilevel school in a suburban or urban community with approximately 50% of students economically disadvantaged. This is similar to the national teacher profile in terms of age, race, gender, and education level and different in terms of more years of experience (Taie & Lewis, 2022). According to Figure 6, the sample is comprised of mostly teachers and administrators (72% of total sample), which may account for the additional professional experience. To examine the representativeness of the sample more carefully, the demographic data in Figures 6-14 was compared with data from the National Teacher and Principal Survey conducted by the U.S. Department of Education in 2017-2018. While firm conclusions cannot be drawn since the sample for the FEEB-E pilot includes more roles than teachers and principals, some trends can be noted.

As can be expected, the sample is made up of more women than men, which follows the overall national norm for educators as a female-dominated profession. Similarly, the sample was made up of mostly White educators, matching national trends. However, Hispanic educators were underrepresented compared to the national average (U.S. Dept. of Education, 2017-2018), which may be due to much of the recruitment focusing on Ohio, where only 4% of the total population identified as Hispanic in the 2020 Census. The average age, years of experience, and highest degree earned by respondents (Figures 9-11) were slightly higher than national averages for teachers, which tracks with the sample size including administrators, who tend to be older and

more educated and experienced than teachers.

The school contexts (Figures 12-14) indicate a broad representation of school level, urbanicity, and wealth. Upper grades (middle and high school) may have been underrepresented, or these may have been captured in "multi-level" schools such as schools serving grades K-8 or 7-12, both common configurations in contemporary districts. Another possibility may have been that educators in older grades may have been less likely to recognize family engagement as an essential aspect of their work, and thus, less motivated to participate in the survey.

Data Collection

Respondents selected a link or scanned a QR code in the invitation to access the survey on Qualtrics. Respondents could take the survey in whatever location they prefered and on the device of their choosing during the window for data collection. After reading the consent information, respondents indicated their consent or non-consent. Non-consenters were taken to the end of the survey. Consenting participants were then given two items to determine their eligibility for the study: (1) Are you an educator currently employed at a public-school building serving students who are between PreK through 12th grade? (2) Do you have direct contact with students and their families through your work as an educator in your school? If either of these two questions received a "no" in response, the participant was taken to the end of the survey and alerted that they were not eligible for the study.

After determining eligibility, participants responded to 30 items on a 7-point Likert-like scale, ranging from 7, *very true of me*, to 1, *very untrue of me*, with a neutral

option. All the items were developed as described in Phase 1 of the study. After the items focusing on family engagement efficacy beliefs, nine items asked for demographic information. At the end of the survey, respondents were thanked for their time. No incentives were provided to participants for responding.

Analysis

To analyze the data, an exploratory factor analysis was performed using principal axis factoring. Additionally, a parallel analysis was conducted to compare the eigenvalues generated from a matrix from the original data to the mean and 95th percentile of eigenvalues generated from a Monte-Carlo simulated matrix from random data. Finally, a reliability analysis was performed. Results from *Phase II – Pilot Study* are provided in Chapter 4.

Phase III – Instrument Revision

The third phase of the study emphasized revisions to the instrument, primarily focusing on revisions to the items (retaining, revising, or removing) and to the item order. The goal of the third phase of the study was to refine and finalize the FEEB-E for use in a follow-up study in Phase IV.

Item Revisions

As is discussed in more detail in Chapter 4, the results of the *Phase II – Pilot Study* guided item revisions in the third phase of the study. Five factors were extracted, and, in keeping with the *Family Engagement Core Competencies* (NAFSCE, 2022), these were called Efficacy for Collaborating for Learning, Efficacy for Communicating, Efficacy for Partnering, Efficacy for Honoring All Families, and Efficacy for Embracing

Equity. Items were removed that failed to load or were redundant, resulting in the retention of 17 items. Three new items were written to capture missing aspects of the domains. Finally, a few items were reworded that seemed to cause confusion to respondents (e.g., negatively worded items were reworded in the positive, an item needing specificity was given more detail). The final FEEB-E instrument was comprised of 20 items on a 7-point scale.

Item Order

After determining which items to retain, revise, or remove, the next task was to determine the order of the items. Much debate exists over the advantages and disadvantages of randomizing or blocking items by factor. For example, Sahin (2021) conducted a study, published in *Frontiers in Psychology,* specifically to explore this question and concluded:

> It may specifically be stated that presenting respondents items under the same dimension together ensures empirical findings congruent with theoretical structure. As such, the findings provide the opportunity to propose significant recommendations for both theoretical and practical applications. It may be stated that since the proposed modifications differentiate based on item order rather than theoretical basis, the local independence assumption is overshadowed. In practice, however, it is believed that in order to prevent the factorial structure being influenced by items of the same dimension being presented together, this situation must be taken into consideration when ordering items of multidimensional measures and the highest possible randomization is considered to be beneficial. Specifically, a significant recommendation derived from the findings of this study would be that researchers avoid presenting items from the same dimension together in order to achieve the expected theoretical structure during scale development. (p. 8)

Therefore, Sahin advises that items should be ordered randomly to avoid unduly influencing respondents.

However, a better-known study is one by Sparfeldt et al. (2006), published in

Educational and Psychological Measurement, which found no significant differences when items were blocked as opposed to randomized: “Comparing a blocked with a more traditional randomized format of a reliable multi-item and multifaceted self-concept questionnaire, the findings of our experimental study revealed no marked differences regarding the factorial structure, the psychometric properties, and the scale means” (p. 971).

McCoach et al. (2013) included a discussion of this issue in their text on instrument development in the affective domain; the authors note several studies promoting both viewpoints (order and randomizing). On the side of randomizing, there is the concern for contamination and inflated estimates of alpha internal consistency reliabilities on ordered surveys. On the side of order, other scholars note that lower consistency on randomized surveys may be because respondents get confused when the survey jumps around to different topics.

From a practical perspective, blocking items together has definite benefits, as there is value in limiting extraneous confusion so that respondents can focus on the survey items. If items jump from topic-to-topic, the extraneous cognitive load of respondents may increase and reduce the likelihood of their responding with their “gut” response. From a historical perspective, a review of efficacy belief measures in education reveals a trend towards ordering scales by factor. For example, the TSES (Tschannen-Moran and Hoy, 2001) is ordered by factor, and the CTE (Goddard et al., 2000; Goddard, 2002) is somewhat but not entirely ordered by factor. In Goddard et al. (2021), the CTE scale appears to be ordered by factor, and the PEBIL loads on a single factor.

Balancing concern for bias with practical and historical considerations, it was decided to order items in the FEEB-E by blocking items by factor but without indicating the factor names in the survey. Doing so retains the benefit of reducing extraneous cognitive load while reducing undue bias by not indicating the name of each factor to the respondents. Furthermore, in keeping with advice from Bandura (2006), items and factors were ordered by less challenging ones to more challenging.

Phase IV – Follow-up Study

With the FEEB-E revised and finalized based on *Phase II – Pilot Study*, the fourth phase was to conduct a follow-up study to confirm the factor structure and build evidence for the interpretation and use of the measure. This phase aimed to better understand the interpretations and uses of the Family Engagement Efficacy Beliefs of Educators (FEEB-E) research instrument and to demonstrate that it reliably and accurately measures what it claims to measure. One goal was to confirm how the observed variables (items) relate to the five latent factors revealed by an exploratory factor analysis from the pilot study. A second goal was to explore how family engagement efficacy beliefs of educators correlate to teachers' individual trust in families and teachers' individual general efficacy for teaching. The specific research questions addressed were:

1. How many factors represent the latent construct, family engagement efficacy beliefs of educators? What is the factor structure?
2. How do family engagement efficacy beliefs of educators relate to other constructs, such as trust in families and general teaching efficacy?

Recruitment

In June and July of 2022, four Ohio school districts were invited to participate in the follow-up study, and two agreed to participate. One district declined because it was already collecting a large amount of survey data from teachers in the coming school year. The other district cited lack of union support for taking surveys. Districts were invited via email and had an additional virtual meeting to discuss the idea and ask questions. Each school district agreeing to participate in the survey was incentivized with free professional development on the topic of family engagement after the study's conclusion.

To recruit the sample of teachers, school building staff meetings were attended during September and early October to present information about the study and invite participation. Teachers received consent information in print and had the option to scan a QR code to consent digitally, access the survey via a link, or receive a paper copy of the consent form. If they digitally consented, they completed an online survey. Those who requested a paper consent form completed a paper survey. Ten respondents selected the paper survey option. This recruitment method allowed for the greatest degree of participant choice over the mode of completion. In addition, if the COVID-19 pandemic would have forced additional school closures, the primary method of online surveying would have allowed for a seamless transition to virtual staff meetings upon district request. One school did request a virtual meeting, which was accommodated. Teachers who were absent for in-person recruitment received a recruitment email.

Teachers who consented to be surveyed had the option to enter their names into a drawing for one of 20 $25 gift cards to Amazon. The odds of winning were

approximately 1:25. Teachers who wanted to enter the drawing were directed to a separate website not connected to their survey data. There, they entered their name and school email address so the gift card could be delivered if their name was chosen. Within one week of the end of surveying teachers, names entered in the drawing were downloaded into a spreadsheet, and a random number generator was used to draw 20 numbers corresponding to rows in the spreadsheet. Those names were designated as winners, and gift cards to Amazon for $25 were emailed to them.

Sample

The final sample included teachers who worked in two school districts in the state of Ohio. Both school districts are categorized as urban districts with high student poverty. Both communities have populations of just over 20,000. However, according to the U.S. Census Bureau (2020), the two communities have some important differences. One community is best described as a first-ring suburban community with a population identifying as 47% White, 38% Black, and 13% Hispanic or Latino. 85% of the population has at least graduated from high school, and 15% have a bachelor's degree or higher. 22% of the population is living in poverty, and the median household income is $42,951. The population per square mile is 3,813, and the land area is five square miles.

The second community is more rural than the first (to note, the Ohio Department of Education's designation of urbanicity for public schools includes the proportion of students of color as part of the formula). The population identifies as 29% White, 65% Black, and 1% Hispanic. 89% have at least a high school diploma, and 18% have at least a bachelor's degree. 25% of the population is living in poverty, and the median household

income is $39,000. The population per square mile is 757 and the land area is 30 square miles. Farmland surrounds each of the school buildings.

The districts were selected because their superintendents expressed willingness to allow access to survey their teachers. All certified teachers employed by each school district were eligible for the study. However, in most schools, only certified classroom teachers (not intervention specialists or teachers who work in more than one building) were present at meetings in which teachers were recruited. Thus, the available sample was smaller than the total number of teachers employed by the districts.

The two districts employ approximately 450 teachers combined. 96% hold at least a bachelor's degree, and 44% hold at least a master's degree (compared to 97% and 63%, respectively, for the state). The average teaching experience in these districts is 9.5 years, compared to the state average of 13.5 years. Both the districts' and state's percentages of properly credentialed teachers are 94%. These data indicate that teachers at the selected districts have met the requirements for teaching on par with the state of Ohio but are somewhat less experienced and hold advanced degrees at a lower rate. However, because teachers interact with their students' families from their first day as teachers, this should not have significantly skewed the study results. The final sample recruited were 308 teachers, which represented 93% of the 332 teachers present for recruiting at the two school districts. See Figures 15-20 for demographic details about the present sample.

Figure 15 - Gender of Respondents

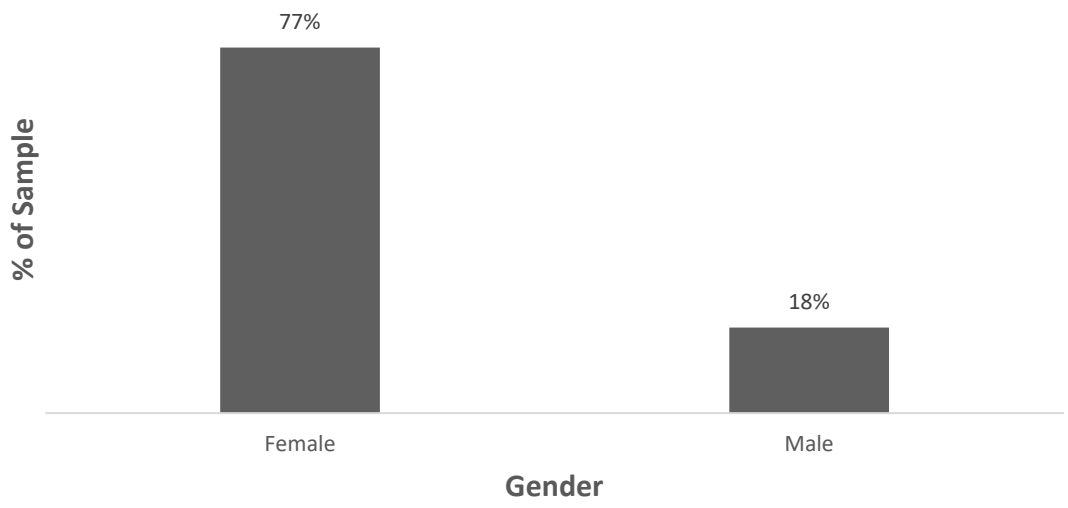


Figure 16 - Race/Ethnicity of Respondents

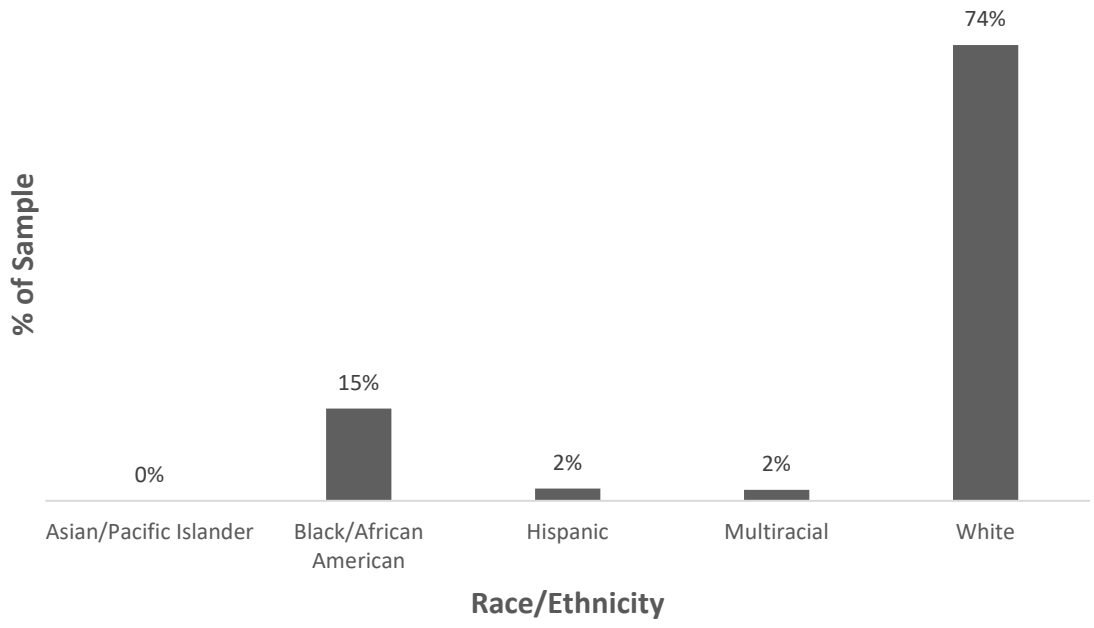


Figure 17 - Age of Respondents

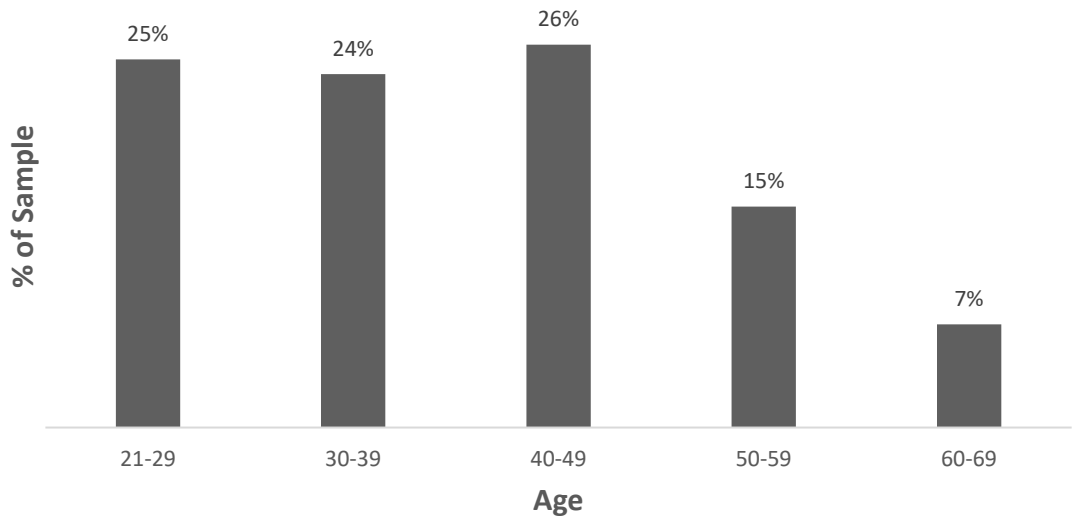


Figure 18 - Years of Teaching Experience of Respondents

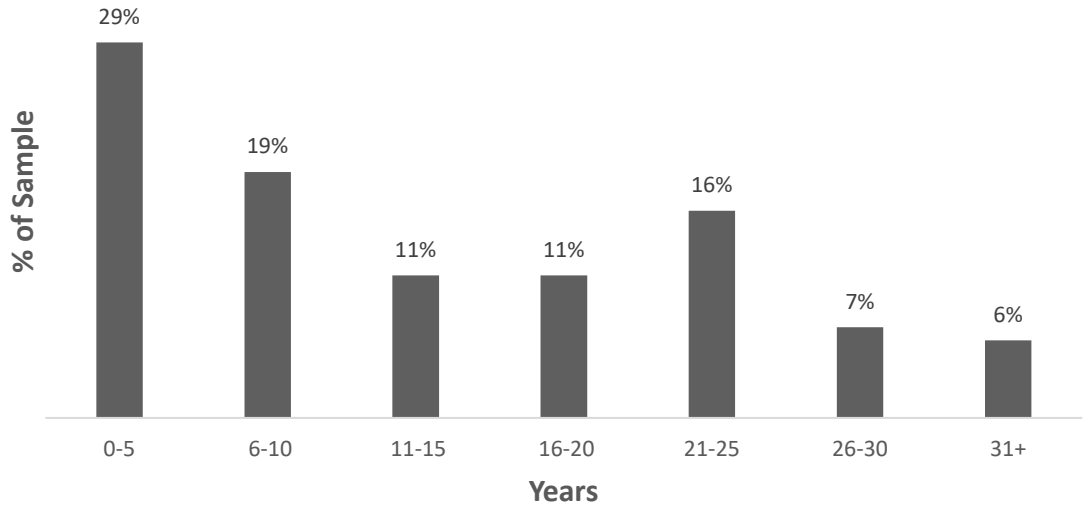


Figure 19 - Educational Background of Respondents

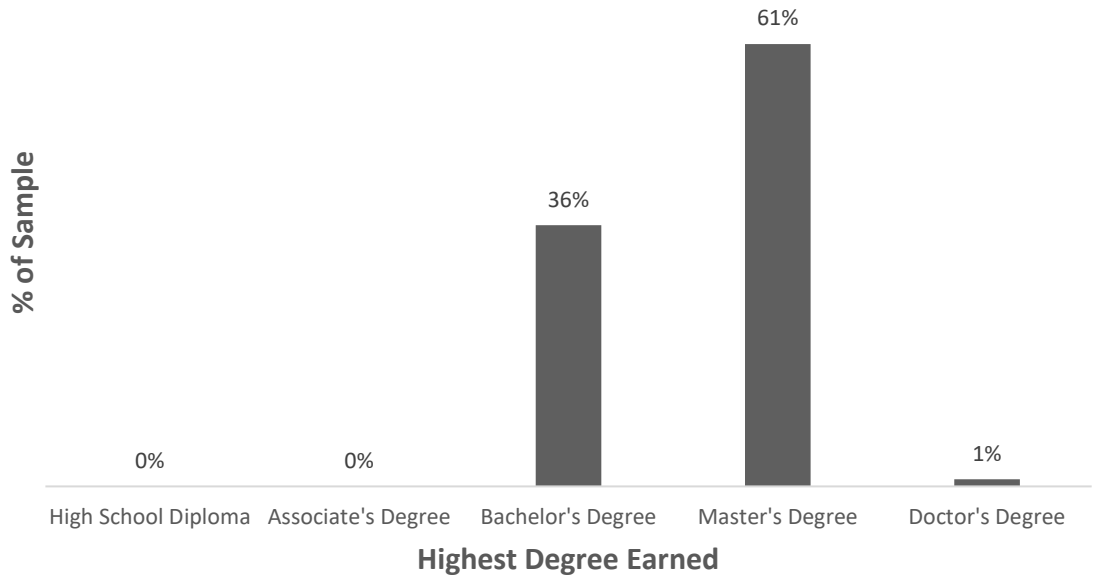
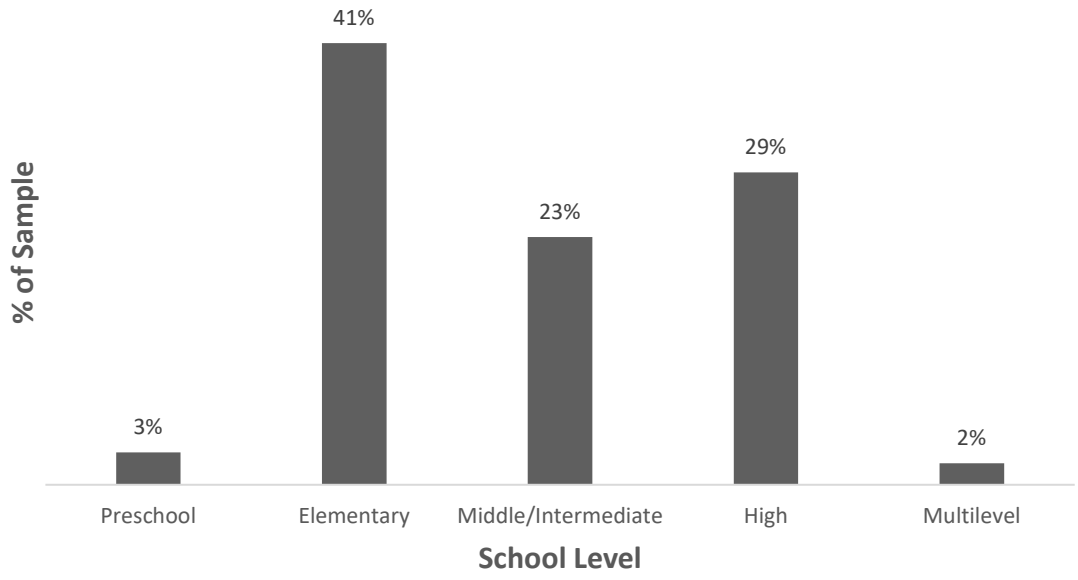


Figure 20 - School Level in Which Respondents Work



The typical respondent in this sample was a White, female teacher between the ages of 40-49 with 15 years' teaching experience and a Master's degree. This mirrors the national teacher profile in all regards: age, race, gender, education level, and years of experience (Taie & Lewis, 2022).

Data Collection

Consent was obtained from educators electronically on the first screen preceding the survey for those who used the QR code or web link to access the survey. For those who preferred a paper survey, consent was obtained on a paper form. Educators taking the digital survey who did not consent were taken to the closing screen of the survey. Participating educators responded to surveys electronically or on paper, wherever they chose to complete them, but primarily during the staff meeting itself. Surveys were administered using OSU's Qualtrics survey system, following all university protocols. For those who requested paper surveys, paper copies were filed in a locked location until data could be entered digitally, following all university protocols.

Measures

Family Engagement Efficacy Beliefs of Educators (FEEB-E). Educators' individual family engagement efficacy beliefs were measured through the newly developed scale, Family Engagement Efficacy Beliefs of Educators (FEEB-E). The FEEB-E is a 20-item scale (sample item: I can involve families in the school community.). The construct is measured on a 7-point Likert-type scale (1 = *Very untrue of me*, 7 = *Very true of me*). Three items were modified from prior measures of educator efficacy (Bandura, 2006; Stuckey, 2010; Tschannen-Moran & Hoy, 2001). Items group

on five factors in keeping with the National Association of Family, School, and Community Engagement's *Family Engagement Core Competencies* (2022). These factors consist of: Efficacy for Collaborating for Learning, Efficacy for Communicating, Efficacy for Partnering, Efficacy for Honoring All Families, and Efficacy for Embracing Equity.

Teachers' Sense of Efficacy (TSES). Teachers' Sense of Efficacy was measured using the Teacher Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001). The short form was used, which includes 12 items measuring a teacher's perceived levels of efficacy in student engagement, instructional strategies, and classroom management. This construct is measured on a 9-point Likert-type scale (1 = *None at all*, 9 = *A Great Deal*). The item related to family engagement was omitted; it is already included on the FEEB-E. The measure yields an overall mean score, with higher scores indicating higher teacher efficacy. Sub-scores for the three specific areas of efficacy can also be obtained. In the study reported in Tschannen-Moran & Woolfolk Hoy (2001) in which the measure was repeatedly tested with similar populations (n_1 = 224, n_2 = 217, n_3 = 183) of teachers as the ones included in the current study, the reliability was determined to be α = .90. The measure was validated by assessing the correlation of the Teacher Sense of Efficacy Scale with other existing measures of teacher efficacy.

Family-School Relationship Survey, Trust Scale, Teacher Form (FSRS). Teachers' trust in families was measured using the Family-School Relationship Survey, Trust Scale, Teacher form (Adams & Christenson, 2000, 1998). The short form of the scale was used, which includes 11 items measured on a 4-point Likert-type scale (1 =

Strongly disagree, 4 = *Strongly agree*). In an initial study with teachers at an urban district, $n = 152$, reliability was determined to be $\alpha = .92$. At a follow-up study in a suburban district, $n = 209$, reliability was determined to be $\alpha = .90$. For their scale, trust in the family-school relationship was defined as "confidence that another person will act in a way to benefit or sustain the relationship, or the implicit or explicit goals of the relationship, to achieve positive outcomes for students" (Adams & Christenson, 2000, p. 480). They do not provide internal validity analysis within their studies. However, their quantitative findings were bolstered by qualitative interviews. The scores from the parent version of the Trust scale were validated through predictive validity argumentation related to parent engagement behaviors.

Demographics. Respondents were asked about the level of school in which they work (preschool, elementary, middle, high), years of service, race/ethnicity, age, gender identification, and education level.

Analysis

To prepare for the fifth phase of the study, several different analyses were performed. Descriptive statistics were analyzed to understand the nature of the data sample. A confirmatory factory analysis of the factor structure of the FEEB-E was performed using Mplus 8.7 (Muthen & Muthen, 1998-2021). Correlations between family engagement efficacy beliefs and (1) general teaching efficacy and (2) trust in families were assessed with Spearman's Rho. Statistical significance was set at $p < .05$.

Phase V – Validation of the Interpretation and Uses of the FEEB-E

The fifth and final phase of the dissertation study was to examine the evidence

from Phases I-IV to build an IUA. For each claim, the evidence was weighed as to the degree it supported each claim, and, as necessary, a warrant was provided connecting the evidence to the claim. Exceptions were then considered possibly limiting the strength of the evidence to support the claim. Finally, a conclusion was drawn about each claim. This process of building the IUA and its results are the focus of Chapter 4.

Summary

Chapter 3 detailed the five phases of the research study. Phase I was the initial instrument development phase in which the FEEB-E was written. Phase II was a pilot study with family-facing educators in the United States for the purpose of exploring the factor structure of the instrument. Phase III involved revisions to the FEEB-E's items and item order to refine and strengthen the instrument. Phase IV was a follow-up study with a sample of teachers in two school districts in Ohio for the purpose of confirming the factor structure and exploring correlations between the construct of family engagement efficacy beliefs and other related constructs. Phase V was the validation of the interpretation and uses of the FEEB-E. Chapter 4 presents the results of Phase V.

Chapter 4. Results

This chapter details the interpretation and use argument (IUA) for the Family Engagement Efficacy Beliefs of Educators survey measure (FEEB-E). First, all inferences and their supporting claims are summarized. Then, evidence are presented for each claim and the warrants linking the evidence to the claim are explained. Finally, the strength of each inference for the interpretation and use of the FEEB-E is determined. After the conclusion of the validity argument, the results of data analysis are presented to address the two hypotheses linking the FEEB-E with other survey instruments measuring related constructs.

The Validity Argument

Table 4 provides a summary of the inferences and their supporting claims and briefly introduces the evidence presented in further detail in this chapter. Kane (2013) described validity as a process of building an argument for the interpretation and uses of the scores of a survey instrument or test. Interpretations and uses can be considered valid when the inferences in the IUA are credible based on either the evidence provided or are highly plausible based on logic. Different types of inferences require different types of evidence, either procedural or empirical. Procedural evidence relates to how the FEEB-E was constructed, revised, and administered. Empirical evidence was gathered from administrations of the FEEB-E in the pilot study and follow-up study.

Table 4 - Summary of the Validity Argument

Inference	Claims	Evidence
Inference 1. Survey items are representative of the target domains.	Claim 1. Items on the FEEB-E accurately capture self-efficacy beliefs, congruent with social-cognitive theory.	• Literature review • Items from prior measures
	Claim 2. Items on the FEEB-E fully capture the domain of educators' core competencies for engaging families.	• NAFSCE (2021) Validity Study • Items from prior measures • Subject Matter Expert (SME) 1, 2, 3 feedback
Inference 2. There are no extraneous sources of variability.	Claim 3. The wording of items and directions are clear.	• SME 4 feedback • User feedback
	Claim 4. The order of items promotes comprehension.	• User feedback • Review of literature and prior scales
	Claim 5. The scoring scale is intuitive.	• User feedback

Table 4 Continued

Inference	Claims	Evidence
Inference 3. The survey items measure the intended population adequately and reliability.	Claim 6. Scores from an administration of the FEEB-E to a sample of school staff reflect a range of educators' efficacy beliefs for family engagement.	• Descriptive statistics • Item characteristic curves for each item
	Claim 7. The FEEB-E measures multiple dimensions of family engagement.	• Exploratory Factor Analysis • Parallel Analysis • Confirmatory Factor Analysis
	Claim 8. Scores from an administration of the FEEB-E to a sample of school staff will reliably reflect educators' efficacy beliefs for family engagement.	• Reliability analysis
Inference 4. The survey is appropriate for use as a research instrument.	Claim 9. The benefits of using the FEEB-E outweigh potential consequences.	• Confidentiality and privacy mechanisms built into the survey procedure • Benefits and consequences approved by Institutional Review Board
	Claim 10. The FEEB-E is a low-cost research tool.	• Survey cost • Necessary survey and data analysis software
	Claim 11. The FEEB-E is superior to other research instruments for assessing family engagement efficacy beliefs of educators.	• Comparison to other available survey instruments

Phases I & III Evidence

In the first section of the chapter, evidence from Phases I and III of the study is introduced to support the claims for Inferences 1 and 2. These phases provided procedural evidence to support the claims. For each piece of evidence, warrants are detailed to link the evidence to the claim. Any qualifiers or exceptions are noted.

Inference 1. Survey items are representative of the target domains.

Claim 1. *Items on the FEEB-E accurately capture self-efficacy beliefs, congruent with social-cognitive theory.*

The procedural evidence to support Claim 1 was described in Chapter 3 – Methods and is summarized here. First, a literature review of self-efficacy and social-cognitive theory was conducted to fully understand the domain. To construct items, existing measures developed for capturing self-efficacy beliefs of educators in a school setting were reviewed. The instrument development work was guided by the review of teacher efficacy belief instruments by Tschannen-Moran et al. (1998), which concluded that teacher efficacy consists of two facets, an assessment of personal capabilities and an analysis of the complexity of the task. For example, the item, "I am able to connect classroom learning to my students' home lives," directs respondents to consider their personal capabilities, whereas the item, "Even if a student is struggling, I am capable of helping a family engage in educational activities," leads respondents to analyze the complexity of the task.

Bandura (2006) further guided instrument development, by providing several

guidelines for researchers developing efficacy belief measures. For example, both items and directions indicated that respondents should assess their skills at the current time, not provide a future assessment, consistent with Bandura's advice for the design of self-efficacy measures. Initially, all items were worded "I am now capable of…" following the syntactic pattern of the PEBIL (Goddard et al., 2021). However, based on user feedback (see Inference 2, Claim 3), items were reworded in simple present tense with clear instructions that responses should most clearly represent how well the statement matches a respondent's abilities at the current time. Thus, based on a review of self-efficacy literature, items were worded to lead respondents to indicate their capabilities on tasks at the current time and to consider their abilities in relation to varying levels of complexity. Thus, items on the FEEB-E accurately capture self-efficacy beliefs, congruent with social-cognitive theory.

Claim 2. *Items on the FEEB-E fully capture the domain of educators' core competencies for engaging families.*

The procedural evidence to support Claim 2 was described in Chapter 3 – Methods and is summarized here. The items on the FEEB-E are based on the Family Engagement Core Competencies (NAFSCE, 2022). The Core Competencies are divided into eight competencies: (1) Respect, Honor, and Value Families; (2) Embrace Equity Throughout Family Engagement; (3) Build Trusting Reciprocal Relationships with Families; (4) Foster Community Partnerships for Learning and Family Wellbeing; (5) Co-Construct Learning Opportunities with Families; (6) Link Family and Community Engagement to Learning and Development; (7) Take Part in Lifelong Learning; (8)

Advocate for Systems Change. For each Core Competency, corresponding items on the FEEB-E were drafted to represent the subcompetencies. In total, twenty-four items were initially written.

Then, the review, previously described, of prior efficacy belief measures in education revealed three items related to family engagement. These were each reworded to follow the same syntactic pattern and incorporated into the measure.

The draft of the FEEB-E, with twenty-seven items, was shared with SME 1, 2, and 3 for feedback on whether the items fully captured the Core Competencies. SME 1, a senior research consultant for NAFSCE, provided feedback specifically on how items matched the domain of family engagement as represented by the *Family Engagement Core Competencies* (NAFSCE, 2022). For example, she noted an original item "I am able to build community partnerships to support my work with students," did not accurately reflect the intention of Core Competency 4. As many of the descriptors for this competency were not global to all educator roles, (e.g., "Establish systems to expand how families link to community resources" is not within the scope of a teacher's normal duties), with her advice, it was determined that focusing the items for this competency on the descriptor of "cultivating social support networks and connections among families" was preferable. This descriptor is more universally within the scope of all family-facing educator roles. A sample item is "I am capable of building connections among families."

SME 2, a research administrator and director of family engagement at the Center on Education and Training for Employment at The Ohio State University, provided feedback about how to incorporate some of the more technical competency descriptors.

For example, “Explore, understand, and honor with families how children, develop, grow, and change from birth through adulthood, across settings, and how these changes affect families” is highly complex, bundling together many ideas. SME 2 advised that the essential part of this descriptor related to the idea of collaborating with families as children grow up through the stages of childhood. Thus, an item was written to capture this descriptor: “At this time, I can successfully support families as children grow up.” This item was ultimately not retained in the final measure based on factor analysis.

SME 3, associate professor of educational administration in the College of Education and Human Ecology at The Ohio State University, provided feedback regarding how items captured issues of equity and power dynamics in family engagement. For example, the original twenty-seven item measure only included three items about the role of equity in family engagement (e.g., “I am able to recognize my biases when interacting with families). SME 3 noted that the survey was not fully capturing the intention of the competency descriptor “Reflect on how history and social context influence family engagement systems and practices.” Therefore, two additional items were drafted: “I can reflect on how community history influences my relationships with families,” and “I can reflect on how social context influences my relationships with families.”

After gathering SME feedback, revising the measure, and adding items, the thirty-item version of the FEEB-E was finalized for use in the pilot study. Exploratory factor analysis of pilot study results led to further refinements and reduction to the items on the measure, culminating in a final measure of twenty items. Each of the eight competencies

corresponds to at least two items on the final measure. Because the basis for items was the *Family Engagement Core Competencies* (NAFSCE, 2022), additional items were added from prior self-efficacy measures in education, and SME feedback was incorporated to strengthen the measure further, the items on the FEEB-E, therefore, fully capture the domain of educators' core competencies for engaging families

Inference 2. There are no extraneous sources of variability.

Claim 3. *The wording of items and directions are clear.*

Procedural evidence supports Claim 3. Items and directions were worded following methods used in prior efficacy belief scales reviewed for Chapter 2. Items were each written for specific family engagement competency descriptors. Items were all phrased in present tense, using some variation of "can do" statements. The directions avoided mentioning the terms "self-efficacy" or "efficacy beliefs" and instructed respondents to assess their abilities at the current time. Double-barreled items, vague items, negatively worded items, acronyms, and jargon were all avoided. When such items were inadvertently included, SME 4, a research development specialist at The Ohio State University specializing in survey development and validation, provided feedback on rewording.

As further procedural evidence, twelve users (family-facing professionals not included in either the pilot or follow-up study) beta-tested an early version of the FEEB-E and provided feedback about both items and directions. Aside from suggesting a simplified item stem, they found both items and directions to be clear, providing no barriers to their understanding of the assessment. Therefore, Claim 3 is supported.

Claim 4*. The order of items promotes comprehension.*

Procedural evidence described in detail in Chapter 3 provides support for Claim 4. Items on the final version of the FEEB-E are blocked by factor without indicating factor names on the survey. This method reduces extraneous cognitive load for respondents without introducing bias. Respondents can "flow" from one item to the next in logical progression without jumping around to starkly different topics. Items and factors were roughly ordered from less challenging tasks to more challenging tasks, based on the validation study conducted by Mickie Rops Consulting LLC (2021) of the *Family Engagement Core Competencies*. When tested by sample users, they reported no issues with the order of items affecting their comprehension. Therefore, Claim 4 is supported.

Claim 5. *The scoring scale is intuitive.*

Procedural evidence supports Claim 5. The scoring scale was selected because it fits the items. Items are worded as "can do" statements about specific family engagement tasks (e.g., I can use various communication methods to reach families.). The scoring scale selected was a 7-point scale indicating varying degrees of whether items "reflect me":

7. Very true of me
6. True of me
5. Somewhat true of me
4. Neutral
3. Somewhat untrue of me
2. Untrue of me
1. Very untrue of me

Users who tested the FEEB-E noted no difficulties with understanding the scoring scale. They noted using a "reflect me" scale matched the items, which were descriptive

statements in first person present tense describing ability to accomplish various family engagement activities. Therefore, the scoring scale was intuitive, supporting Claim 5.

Phase II & IV Evidence

In the second section of the chapter, evidence from Phases II and IV of the study is introduced to support the claims for Inference 3. These phases provided empirical evidence to support the claims. For each piece of evidence, warrants link the evidence to the claim. Qualifiers or exceptions, if present, are noted. FEEB-E items, as Likert-type data, are treated as ordinal, not continuous.

Inference 3. The survey items measure the intended population adequately and reliability.

Claim 6. *Scores from an administration of the FEEB-E to a sample of school staff reflect a range of educators' efficacy beliefs for family engagement.*

In Phase II, the initial version of the FEEB-E containing 30 items was administered to a sample of 318 educators. Descriptive statistics (see Table 5) were analyzed using IBM SPSS Statistics Version 28.0.1.0(142) and demonstrate appropriate distributions with median scores of 2 and 3.5 on the negatively worded items or median scores of 6 and 7 on positively worded items. All items are negatively skewed but fall within acceptable ranges between -2 and +2. Items varied in terms of kurtosis, but all fell within acceptable ranges between -7 and +7 except for the item "I can communicate effectively with families," which was revised in a subsequent version of the FEEB-E. The range on each item varied from only 3 on a few early items to 5 or 6 on most items.

Table 5 - Descriptive Statistics for Phase II FEEB-E Pilot Study

	N					
	Valid	Missing	Median	Range	Skewness	Kurtosis
I am capable of assisting families in helping their children do well in school.	318	0	7	4	-1.236	1.663
I can successfully encourage families to support their children's academics.	318	0	6	5	-1.193	2.217
Even if a student is struggling, I am capable of helping a family engage in educational activities.	318	0	6	5	-1.167	2.240
I can demonstrate respect for families that have a different culture than me.	317	1	7	3	-1.969	4.745
I am capable of valuing the perspectives of families of any background.	317	1	7	3	-1.282	1.220
At this time, I can successfully support families as children grow up.	317	1	6	5	-1.278	2.386
It's difficult to build a strong rapport with families who are different from me.	317	1	2	6	1.363	1.012
I am able to recognize my biases when interacting with families.	316	2	6	6	-1.528	4.744
I can reflect on how community history influences my relationships with families.	314	4	6	6	-1.402	3.202
I can reflect on how social context influences my relationships with families	314	4	6	6	-1.870	7.031
I am capable of reaching families who are most underserved.	299	19	6	6	-1.212	1.928
I am capable of creating welcoming environments for families.	299	19	7	4	-1.331	3.170

Table 5 Continued

	N					
	Valid	Missing	Median	Range	Skewness	Kurtosis
I can communicate effectively with families.	299	19	6	6	-1.897	9.215
I am able to build mutual trust with families.	299	19	6	4	-1.143	2.174
I can involve families in the school community.	298	20	6	5	-1.027	1.209
I am capable of building connections among families.	298	20	6	5	-.941	.837
It's hard for me to connect all families to the school community.	298	20	3.5	6	.067	-1.325
I am capable of building on family knowledge to inform my work.	298	20	6	6	-1.856	6.388
I am able to incorporate families' ideas in planning for my work.	299	19	6	6	-1.008	1.864
I am able to ask for family feedback to improve my work.	299	19	6	5	-1.386	1.924
I can communicate student progress to families in ways they understand.	285	33	6	5	-1.250	2.818
I can confidently communicate concerns for struggling students with families.	285	33	6	6	-1.675	6.122
I am capable of providing resources that expand on learning at home.	286	32	6	5	-1.029	1.466
I am able to use data systems in ways that are accessible to families.	286	32	6	6	-.840	.713
I am able to prioritize partnering with families, even when I have a lot to do.	286	32	6	6	-1.220	1.964
I am capable of growing my family engagement skills.	286	32	6	5	-1.581	3.667
I can use data to learn how well I am engaging families in my school.	287	31	6	6	-.977	.956

Table 5 Continued

	N					
	Valid	Missing	Median	Range	Skewness	Kurtosis
I can work together with families to advance common goals.	288	30	6	6	-1.430	6.475
When a family disagrees with the school's practices, I am able to listen to their concerns.	287	31	6	4	-1.422	3.932
I can work with families to advocate for change in my school.	286	32	6	5	-1.096	1.471

Note. $N = 318$.

Missing values increased as the survey went on, indicating that the length of the survey exceeded the capacity of participants to take it. Therefore, the length of the FEEB-E was reduced in the second version. Participants tended to drop off at the page breaks in the survey, which was given online.

In Phase IV, the revised version of the FEEB-E consisting of 20 items was administered to a sample of 308 teachers. No negatively worded items were retained in the revised version. Descriptive statistics (see Table 6) were analyzed using IBM SPSS Statistics Version 28.0.1.0(142) and demonstrate appropriate distributions with ranges of 4-6, with only one item showing a range of 3. Most median scores were at the high end of the scale (5-7). Again, all items negatively skewed but fell within acceptable ranges between -2 and +2, except for one item, "I can demonstrate respect for families who have a different culture from me," which falls .080 outside of that range. Items varied in terms of kurtosis, but all fell well within acceptable ranges between -7 and +7. Generally, the

revisions to the FEEB-E between the pilot and follow-up study resulted in less leptokurtosis in the data, indicating fewer outliers in the data. Notably, missingness was not associated with this dataset, compared to the pilot study in Phase II, perhaps because page breaks were eliminated.

Table 6 - Descriptive Statistics for Phase IV FEEB-E Follow-up Study

	N					
	Valid	Missing	Median	Range	Skewness	Kurtosis
I am capable of assisting families in helping their children do well in school.	308	0	6	4	-1.111	2.037
I can successfully encourage families to support their children's academics.	308	0	6	6	-1.186	3.099
Even if a student is struggling, I am capable of helping a family engage in educational activities.	308	0	6	6	-1.233	2.899
I am able to connect classroom learning to my students' home lives.	307	1	6	5	-.906	1.102
I can communicate student progress to families in ways they understand.	308	0	6	5	-1.499	3.751
I can confidently talk with families about concerns for struggling students.	308	0	6	5	-1.268	2.300
I can use various communication methods to reach families.	308	0	6	4	-1.044	1.459
I can involve families in the school community.	307	1	5	6	-.922	1.086
I am capable of building connections among families.	308	0	6	6	-1.160	1.396
I am able to incorporate families' ideas to improve my work.	307	1	6	5	-.708	.069
I am able to prioritize partnering with families, even when I have a lot to do.	308	0	5	6	-.809	.417
I can use data to learn how well I am engaging families in my school.	308	0	5	6	-.545	-.310
I can work together with families to advance common goals.	308	0	6	5	-1.293	2.153
I can work with families to advocate for change in my school.	307	1	5	6	-.850	.428

Table 6 Continued

	N					
	Valid	Missing	Median	Range	Skewness	Kurtosis
I can demonstrate respect for families who have a different culture from me.	307	1	7	4	-2.080	5.715
I am capable of valuing the perspectives of families of any background.	308	0	7	3	-1.249	1.469
I can build relationships with families who are different from me.	308	0	7	4	-1.488	3.085
I can reflect on how community history influences my relationships with families.	308	0	6	6	-1.159	1.830
I can reflect on how social context influences my relationships with families.	308	0	6	4	-.794	.774
I am able to recognize my biases when interacting with families.	308	0	6	5	-1.401	3.494

Note. $N = 308$.

Item characteristic curves were generated for each item in Phase IV; these demonstrated a fair range of distribution across all response options for most items. Again, while items were negatively skewed, all items reflect a range of educators' efficacy beliefs for engaging with families. The factor with the least distribution in its items was "Honoring All Families," which did not demonstrate distribution in the lower range of responses. Consistent with the literature about educators' perspectives of families (e.g., Pushor & Amendt, 2018), respondents may lack capacity for deep and honest reflection about their perceptions of families. All item characteristic curves are presented in Appendix A. Finally, five new variables were created, each of which reflected each individual respondent's overall mean response across all the individual items within the corresponding factor. For example, for the first factor, CollabLearn, a

score for each of the 308 individual educators was generated from an average of that educator's responses across items 1-4 on the FEEB-E. These means are now called FEEB-E Factor Mean Variables. Descriptive statistics for the FEEB-E Factor Mean Variables are displayed in Table 7. The data show a normal distribution based on skewness and kurtosis, though the data still demonstrate a minor negative skew.

Table 7 - Descriptive Statistics for FEEB-E Factor Mean Variables from Phase IV

	N	Minimum	Maximum	Mean	Skewness	Kurtosis
CollabLearn	308	2.00	7.00	5.8571	-1.175	3.354
Communicating	308	3.33	7.00	6.1255	-.795	.739
Partnering	308	1.57	7.00	5.2955	-.693	.465
Honoring	308	4.33	7.00	6.5768	-1.324	1.732
EmbraceEquity	308	2.67	7.00	6.0119	-.708	1.235

The distribution of data for the FEEB-E overall was examined using the newly created variables: CollabLearn, Communicating, Partnering, Honoring, and EmbraceEquity. Histograms of the data for the FEEBE-E Factor Mean Variable score distributions can be seen in Figures 21-25. The distributions are all negatively skewed. However, for most of the factors, the FEEBE-E Factor Mean Variable scores are broadly distributed around a normal curve, representing that the scale captures a range of educator efficacy beliefs for family engagement.

Figure 21 - Efficacy for Collaborating for Learning Mean Score Distribution

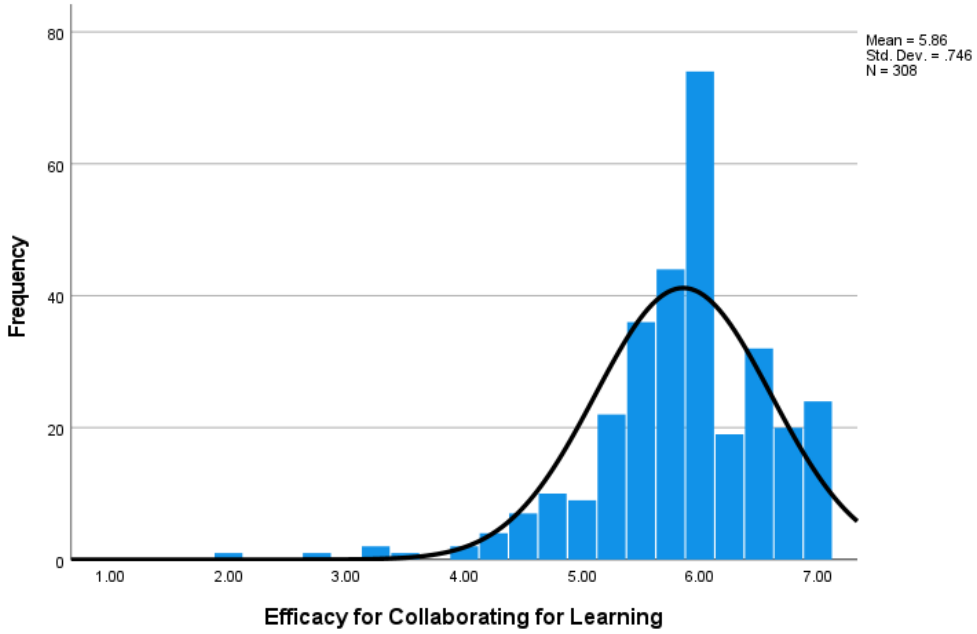


Figure 22 - Efficacy for Communicating Mean Score Distribution

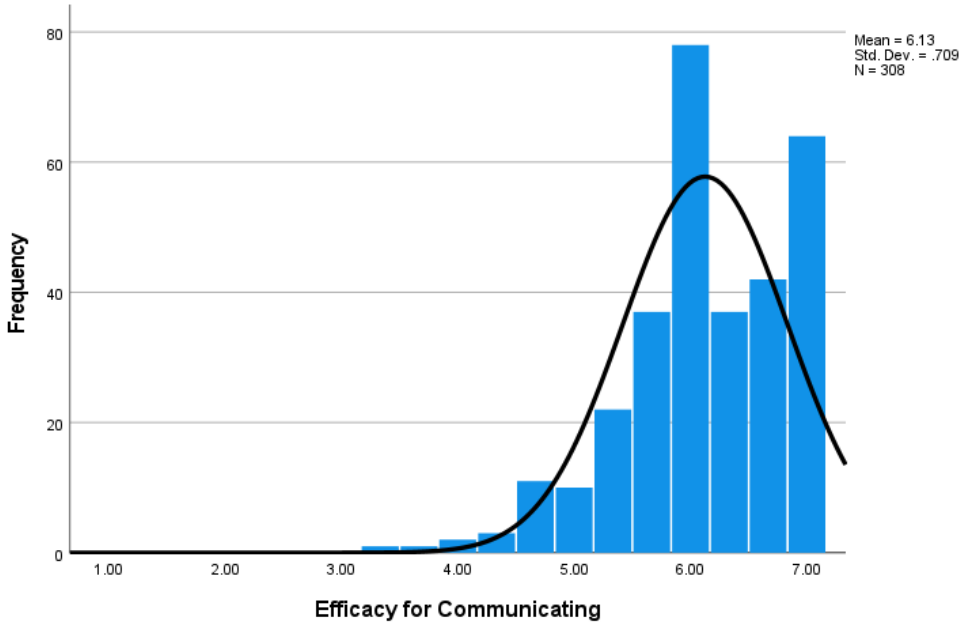


Figure 23 - Efficacy for Partnering Mean Score Distribution

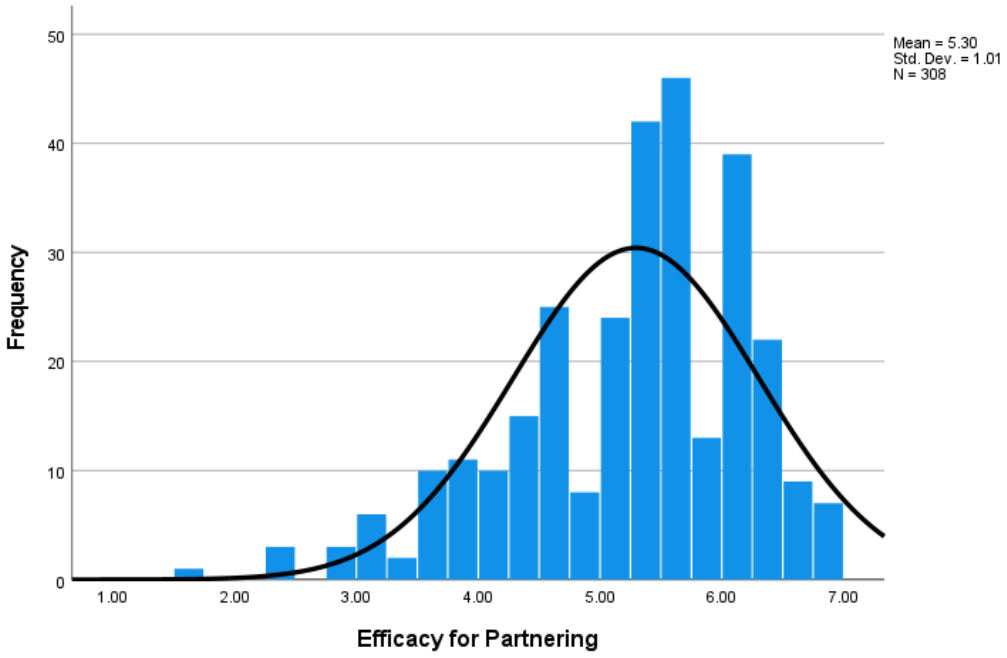


Figure 24 - Efficacy for Honoring All Families Mean Score Distribution

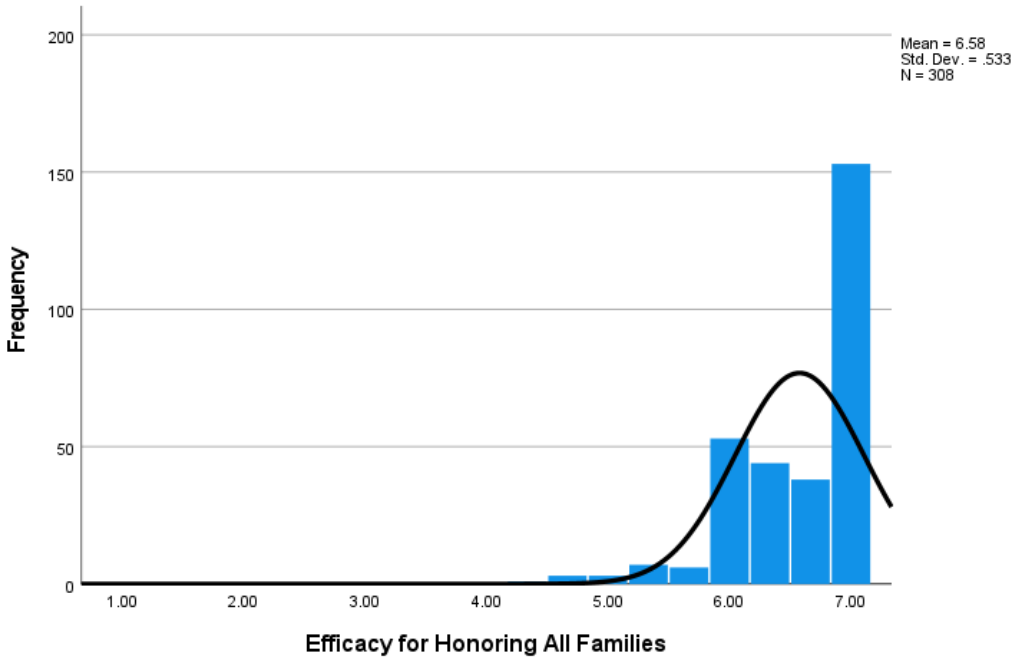
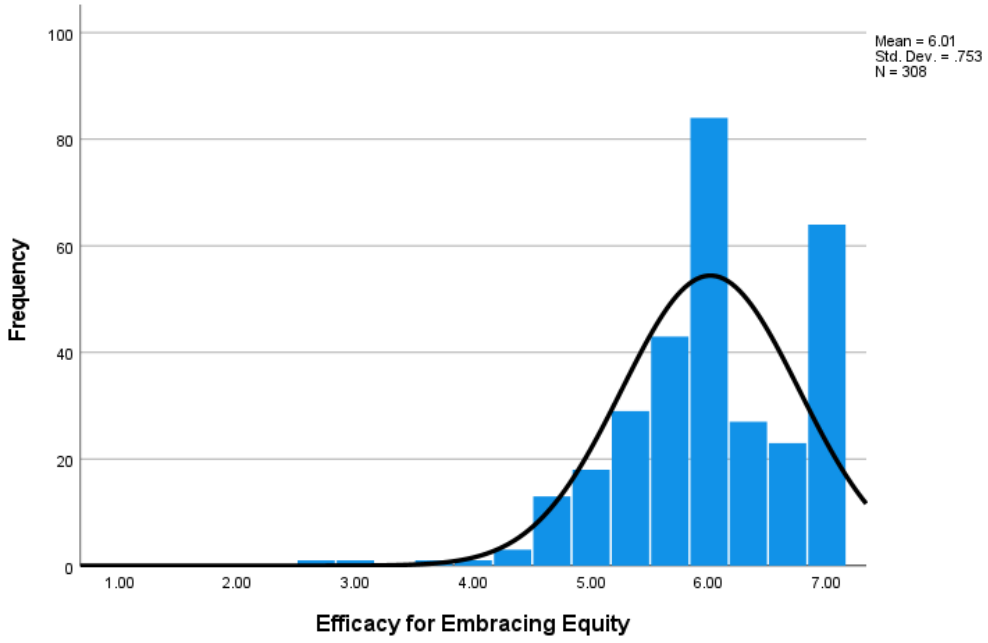


Figure 25 - Efficacy for Embracing Equity Mean Score Distribution



One notable exception is the factor Efficacy for Honoring All Families (See Figure 24), represented by items 15-17 on the FEEB-E. This factor is not only negatively skewed, but it also shows a lack of range in the data, with responses from 308 educators only ranging on average from 4.33 to 7.00 when scores for each individual were averaged across the three items. One plausible cause of the restricted range for this factor may be social desirability bias, which is particularly prevalent when individuals perceive certain values to be desirable within their community (Randall et al., 1993). As a major part of the teaching profession (e.g., "cultural competence" is assessed by the Ohio Teacher Evaluation System rubric 2.0), educators may be reluctant to admit that they have a low sense of efficacy in this area. In future studies, the items representing Efficacy for

Honoring All Families may benefit from wording revision to avoid triggering social desireability bias.

Therefore, with the qualifier that efficacy belief perceptions are skewed towards representing more confidence in one's own abilities and the caveat that Honoring All Families has a restricted range, the claim of scores from an administration of the FEEB-E to a sample of school staff reflecting a range of educators' efficacy beliefs for family engagement is tentatively supported.

Claim 7. *The FEEB-E measures multiple dimensions of family engagement.*

In Phase II, data were collected from an administration of the initial 30-item version of the FEEB-E with a sample of n = 318 to conduct an exploratory factor analysis using IBM SPSS Statistics Version 28.0.1.0(142) and Mplus 8.7 (Muthen & Muthen, 1998-2021). Thirty items were subjected to principal axis factoring to assess the dimensionality of the data. The Kaiser-Meyer-Olkin was .913, which is well above the recommended level of .6. The Bartlett's Test of Sphericity reached statistical significance indicating the correlations were sufficiently large for exploratory factor analysis.

Five factors were extracted, explaining 66% of the variance. This factor structure was decided based on eigenvalues, cumulative variance, an inspection of the scree plot, and a parallel analysis. Factors were obliquely rotated using Promax rotation, and interpretation of the five factors was in keeping with the *Family Engagement Core Competencies* (NAFSCE, 2022). These factors include Efficacy for Collaborating for Learning, Efficacy for Communicating, Efficacy for Partnering, Efficacy for Honoring All Families, and Efficacy for Embracing Equity.

Table 8 provides fit statistics for models extracting 1-8 factors. The five-factor model demonstrates a good overall fit. RMSEA is a test of parsimonious fit, determining if the model explains a good amount of (co)variance in the data for a model of such relative parsimony. This test is better for use with large samples under multivariate normality. The RMSEA value of .071 indicates a fair fit (Hu & Bentler, 1999), but it was likely impacted by the lack of data normality in the pilot study. In fact, no RMSEA scores fell below the threshold to indicate a good fit according to Hu and Bentler's recommendations. In contrast, both CFI and SRMR, which are less sensitive to data normality, showed a good fit. The CFI of .950 indicates that the model explains a good amount of (co)variance compared to what a null model would explain, and the SRMR of 0.48 demonstrates that not much (co)variance was left unexplained after the model did its explaining (Hu & Bentler, 1999).

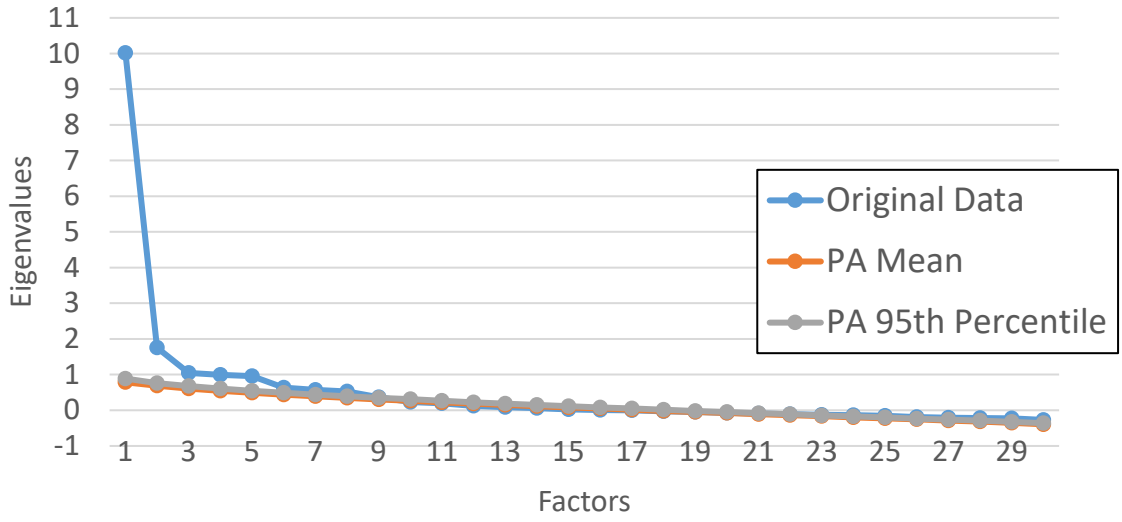
Table 8 - Fit Statistics from Mplus Output of EFA in Phase II - Pilot Study

	Factors							
Fit Statistic	1	2	3	4	5	6	7	8
RMSEA	.113	.097	.086	.078	.071	.064	.058	.052
CFI	.826	.882	.910	.934	.950	.963	.973	.980
SRMR	.098	.080	.068	.060	.048	.042	.035	.030

A parallel analysis was performed to compare the eigenvalues generated from a matrix from the original data to the mean and 95th percentile of eigenvalues generated from a Monte-Carlo simulated matrix from random data. As Figure 26 reveals, the pilot

study data shows a clear difference from the simulated data, with a final break in the scree plot occurring at the fifth factor.

Figure 26 - Parallel Analysis of Pilot Study Eigenvalues with Simulated Eigenvalues



To further confirm the multidimensionality of the factor structure of the FEEB-E, a follow-up study was conducted in Phase IV. Data were collected from an administration of the revised 20-item version of the FEEB-E with a sample of n = 308 to conduct a confirmatory factor analysis using Mplus 8.7 (Muthen & Muthen, 1998-2021). As was previously discussed, virtually no missing data was present in the sample: no greater than 0.3% missing data on any item, only five respondents skipping an item, and only five items showed any missing data at all, as can be seen in Figure 27. There are no evident patterns of missingness.

Figure 27 - Overall Summary of Missing Values

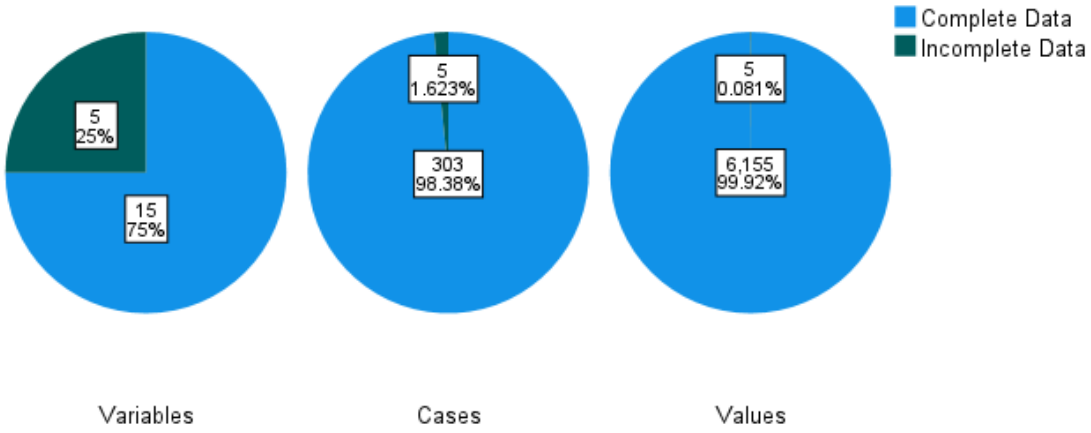


Table 9 shows the correlations between the items and reveals significant correlations with the exception of the items in Honoring All Families and some of the other items. The estimator used for CFA was robust weighted least squares (WLSMV), as a better choice for categorical indicators that demonstrate skew toward a ceiling (Brown, 2006; Muthen, 2012) and has been shown to be less biased and more accurate than other estimator options (DiStefano & Morgan, 2014; Li, 2016).

Table 9 - Correlation Coefficients Among the FEEB-E Items in Phase IV - Follow-up Study

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	-																			
2	.618**	-																		
3	.568**	.661**	-																	
4	.364**	.339**	.399**	-																
5	.463**	.456**	.445**	.387**	-															
6	.437**	.454**	.376**	.339**	.561**	-														
7	.369**	.384**	.345**	.303**	.411**	.426**	-													
8	.457**	.476**	.535**	.489**	.459**	.343**	.379**	-												
9	.396**	.431**	.434**	.396**	.406**	.347**	.447**	.532**	-											
10	.388**	.439**	.466**	.486**	.384**	.406**	.428**	.582**	.487**	-										
11	.380**	.420**	.477**	.439**	.407**	.411**	.379**	.531**	.487**	.579**	-									
12	.361**	.357**	.400**	.405**	.300**	.385**	.290**	.505**	.445**	.597**	.544**	-								
13	.477**	.520**	.470**	.397**	.498**	.499**	.448**	.535**	.471**	.679**	.550**	.538**	-							
14	.386**	.420**	.477**	.423**	.343**	.281**	.334**	.640**	.573**	.534**	.525**	.561**	.543**	-						
15	.156**	.113*	.151**	.176**	.130*	.160**	.177**	.129*	.159**	.171**	.074	.015	.135*	.163**	-					
16	.208**	.209**	.226**	.272**	.229**	.196**	.253**	.211**	.216**	.215**	.136*	.056	.233**	.215**	.617**	-				
17	.257**	.265**	.303**	.326**	.354**	.369**	.283**	.291**	.347**	.315**	.281**	.206**	.317**	.272**	.530**	.607**	-			
18	.215**	.298**	.293**	.350**	.296**	.285**	.337**	.336**	.432**	.371**	.309**	.355**	.362**	.320**	.279**	.394**	.392**	-		
19	.202**	.248**	.306**	.324**	.332**	.328**	.283**	.328**	.248**	.357**	.296**	.262**	.408**	.319**	.303**	.405**	.463**	.561**	-	
20	.192**	.139*	.135*	.302**	.318**	.272**	.220**	.297**	.247**	.289**	.247**	.276**	.291**	.287**	.219**	.264**	.302**	.427**	.531**	-

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Model A, specifying five factors, was estimated first. The factors represented the dimensions of family engagement efficacy beliefs identified in the exploratory factor analysis performed during Phase II – Pilot Study: Efficacy for Collaborating for Learning, Efficacy for Communicating, Efficacy for Partnering, Efficacy for Honoring All Families, and Efficacy for Embracing Equity. Each item was specified to load on only one factor, and no correlated measurement error was specified. The model was estimated using Mplus 8.7 (Muthen & Muthen, 1998-2021).

Model A provided a good fit to the data based on various fit indices. The RMSEA, gauging parsimonious fit, was estimated at 0.07, within the range of a fair fit (Hu & Bentler, 1999). However, more complex models are penalized by the RMSEA, which is better used under multivariate normality. CFI, indicating incremental fit, was estimated at 0.97, above recommended level of 0.95, indicating the model explains a good amount of (co)variance compared to what a null model would explain (Hu & Bentler, 1999). SRMR, measuring absolute fit, was estimated at 0.04, below the recommended threshold of 0.08 (or 0.05), indicating that the model does not leave much (co)variance left unexplained (Hu & Bentler, 1999). As can be seen in Tables 10 and 11, standardized factor loadings ranged from .669 to .953 and all factors intercorrelated.

Table 10 - FEEB-E Standardized Factor Loadings

Factor Loadings	Estimate	S. E.
Collaborating for Learning by FEEB-E 1	0.772*	0.028
Collaborating for Learning by FEEB-E 2	0.806*	0.023
Collaborating for Learning by FEEB-E 3	0.813*	0.025
Collaborating for Learning by FEEB-E 4	0.668*	0.036
Communicating by FEEB-E 5	0.820*	0.025
Communicating by FEEB-E 6	0.793*	0.026
Communicating by FEEB-E 7	0.730*	0.036
Partnering by FEEB-E 8	0.770*	0.025
Partnering by FEEB-E 9	0.767*	0.026
Partnering by FEEB-E 10	0.822*	0.021
Partnering by FEEB-E 11	0.747*	0.025
Partnering by FEEB-E 12	0.717*	0.029
Partnering by FEEB-E 13	0.850*	0.018
Partnering by FEEB-E 14	0.758*	0.025
Honoring All Families by FEEB-E 15	0.774*	0.035
Honoring All Families by FEEB-E 16	0.860*	0.028
Honoring All Families by FEEB-E 17	0.953*	0.027
Embracing Equity by FEEB-E 18	0.817*	0.031
Embracing Equity by FEEB-E 19	0.838*	0.027
Embracing Equity by FEEB-E 20	0.703*	0.037

*Note. * significant at $p < .001$.*

Table 11 – FEEB-E Standardized Factor Correlations

Factor Correlations	Estimate	S. E.
Communicating with Collaborating for Learning	0.809*	0.029
Partnering with Collaborating for Learning	0.845*	0.020
Partnering with Communicating	0.792*	0.027
Honoring All Families with Collaborating for Learning	0.487*	0.049
Honoring All Families with Communicating	0.551*	0.049
Honoring All Families with Partnering	0.478*	0.048
Embracing Equity with Collaborating for Learning	0.529*	0.048
Embracing Equity with Communicating	0.600*	0.050
Embracing Equity with Partnering	0.647*	0.034
Embracing Equity with Honoring All Families	0.710*	0.040

*Note. * significant at $p < .001$.*

Then, several other models were estimated for comparison. Model B is a 4-factor model based purely on how each survey item maps conceptually to the NAFSCE Core Competency document's four main domains. Model C is a 3-factor model, which grouped Efficacy for Collaborating for Learning, Efficacy for Communicating, and Efficacy for Partnering based on the high factor correlations evidenced in Table 11. Model D is a 2-factor model in which the other two remaining factors, Honoring All Families and Embracing Equity, were grouped. Finally, Model E is a 1-factor model. Table 12 provides results for each nested model.

Table 12 - Fit Statistics for FEEB-E Nested Models in Phase IV - Follow-up Study

Fit Statistic	Model A 5-factor	Model B 4-factor	Model C 3-factor	Model D 2-factor	Model E 1-factor
RMSEA	.07 (.06, .08)	.12 (.11, .12)	.09 (.08, .10)	.10 (.09, .11)	.16 (.15, .16)
CFI	.97	.91	.95	.94	.84
TLI	.96	.90	.94	.93	.82
SRMR	.04	.07	.05	.06	.10

When fit statistics are compared, Model A (the original 5-factor model) appears to be the best-fitting model, based on Hu and Bentler's (1999) recommendations. However, because Model C (the 3-factor) still has some aspects of fit indicating promise (SRMR, CFI), a Chi-Sq difference test was also conducted in Mplus between Model A and Model C. The result of this test was significant at $p < .001$, indicating that Model A is a significantly better fit to the data and should be retained. This finding supports the previous results from the Phase II – Pilot Study, through the parallel analysis, which indicated that a 5-factor model was the best fitting compared to simulated data as well as when the scree plot was analyzed, which showed the last significant break at the 5th factor. These were two separate studies with different samples, adding to the confidence in a 5-factor model.

Therefore, based on an exploratory factor analysis and parallel analysis in Phase II – Pilot Study, which extracted five factors from the 30-item survey and which was confirmed by the confirmatory factor analysis in Phase IV – Follow-up Study, the claim that the FEEB-E measures multiple dimensions of family engagement is well-supported. The FEEB-E measures efficacy beliefs involving five dimensions of family engagement,

consistent with, but not identical to, the *Family Engagement Core Competencies* (NAFSCE, 2022). These have been called Efficacy for Collaborating for Learning, Efficacy for Communicating, Efficacy for Partnering, Efficacy for Honoring All Families, and Efficacy for Embracing Equity, to best mirror the items loading on each factor. Model B, which is most closely based on the current organization of the NAFSCE Core Competencies, is one of the worst-fitting to the data (see Table 12). In other words, while the items are constructed with alignment to the Core Competency domains, educators' responses follow other patterns than the current organization of the competencies. See Appendix B for the final version of the Family Engagement Efficacy Beliefs of Educators (FEEB-E) scale with items categorized by factor.

Claim 8. *Scores from an administration of the FEEB-E to a sample of school staff will reliably reflect educators' efficacy beliefs for family engagement.*

Empirical evidence to support this claim was gathered and analyzed in Phase IV – Follow-up Study. Reliability was calculated with Cronbach's alpha, $N = 303$, with five cases excluded based on listwise deletion. For the entire FEEB-E, $\alpha = .917$. Reliability was calculated similarly for each factor. For Efficacy for Collaborating for Learning, $\alpha = .787$. Efficacy for Communicating demonstrated $\alpha = .725$. The factor Efficacy for Partnering showed a reliability of $\alpha = .891$. Efficacy for Honoring All Families had a reliability of $\alpha = .806$, and Efficacy for Embracing Equity demonstrated $\alpha = .749$.

Only two items were indicated to raise reliability if deleted. Overall reliability would improve by .001 if the item "I can demonstrate respect for families who have a different culture than me," were removed. The factor reliability for Efficacy for

Collaborating for Learning would improve by 0.025 if the item "I am able to connect classroom learning to my students' home lives," were removed; however, the overall reliability of the FEEB-E would be 0.005 lower if this item were removed. Reliability should be further investigated for these two items in future studies to determine if these items show continued problems or if these were anomalies. Overall, however, the high alpha values for the overall survey as well as each factor indicate that the FEEB-E reliably reflects educators' efficacy beliefs for family engagement.

Evidence for Instrument Use

Inference 4 and its supporting claims present an argument for the use of the *Family Engagement Efficacy Beliefs of Educators (FEEB-E)*. According to Kane (2016), justification for the uses of any instrument must be provided along with any arguments about the interpretation of its scores, as uses are inseparable from interpretation of scores. Neglecting to justify an instrument's use risks it being then used without any consideration for the adverse consequences of such a use. Use justifications require two criteria to be met: (1) the instrument achieves the goals of the program for which it is used, and (2) the positive consequences outweigh the negative. For prior inferences, the evidence backing the claims has sufficiently demonstrated reliability and accuracy of the scores from the FEEB-E when interpreted as representations of an educator's efficacy beliefs for family engagement. This section argues that the instrument's benefits outweigh potential consequences of its use and the instrument achieves the objectives of a research program: cost efficiency and superiority to other alternatives for measuring the same construct. Satisfying these criteria provides evidence for the use of the FEEB-E as a

research instrument.

Inference 4. The survey is appropriate for use as a research instrument.

Claim 9. *The benefits of using the FEEB-E outweigh potential consequences.*

The evidence to support Claim 9 is procedural. First, in both Phase II – Pilot Study and Phase IV – Follow-up Study, The Ohio State University's Office of Responsible Research Practices reviewed the FEEB-E's content and survey procedures to determine if the benefits of the use of the survey for research outweigh the potential consequences. Because the survey is distributed requesting no directly identifying information reasonably useful for the purpose of identifying participants, there is no risk of harm to respondents of any identifiers being disclosed outside of research. On this basis, the study was determined to be exempt from full review.

During recruitment, survey procedures allow a great deal of choice over how and where respondents take the survey. They may use their personal devices, school-issued computers, or paper surveys. They may take the survey during designated staff meeting time or later. This allows for a greater degree of privacy. Other than the participants themselves, no one knows if they take the survey or not. Therefore, there is no risk of punitive outcomes based on their responses. Confidentiality procedures follow responsible research practices: paper surveys are stored in locked files without personally identifying information, and online surveys are stored in well-protected data collection software. While taking the survey, respondents may experience positive or negative emotions, but they are no more likely to experience one than the other.

Using the FEEB-E as a research instrument provides the field of family

engagement and educational administration the opportunity to understand better the efficacy beliefs of educators who work with students and families. The FEEB-E can provide valuable insights into specific family engagement competencies in which educators feel most and least skilled and confident. This will allow for improved alignment of resources and professional development. Furthermore, researchers can better understand the potential links between educator efficacy beliefs for family engagement, their efforts to collaborate with families, and resulting student outcomes. As described, potential negative consequences for individual respondents to the FEEB-E are minimal, whereas the positive outcomes of its use as a research instrument are significant. Therefore, the benefits of using the FEEB-E outweigh its potential consequences.

Claim 10. *The FEEB-E is a low-cost research tool.*

A major consideration of any research program is cost-efficiency. The FEEB-E is free to use. It can be administered entirely digitally, using common survey distribution and data analysis software available at any research institution. If a paper survey option is provided, the cost of copying is added, but at most research institutions, minimal. While respondents in Phase IV – Follow-up Study were provided a chance to enter a drawing for a $25 gift certificate with a 1:25 chance of winning, this is not a required aspect of using the FEEB-E. Therefore, the FEEB-E is a low-cost research tool, meeting a goal for research programs.

Claim 11. *The FEEB-E is superior to other alternatives for assessing family engagement efficacy beliefs of educators.*

Only two measures have been created previously as attempts to assess family engagement efficacy beliefs of educators. As described in Chapter 2, Garcia (2004) created a scale called the Family Involvement Teacher Efficacy Scale. The scale has several shortcomings compared to the FEEB-E. First, it is patterned off of the TES (Gibson & Dembo, 1984), which has both conceptual and statistical problems (Tschannen-Moran & Hoy, 2001). It also used the Epstein model for family engagement as the content basis, an organizational-level model not well-suited for the work of individual educators. Finally, the scale demonstrates lower reliability than the FEEB-E and has not been published as part of a peer-reviewed manuscript.

The second instrument attempting to measure family engagement efficacy beliefs of educators was created by Stuckey (2010). Stuckey defined family engagement efficacy beliefs too narrowly: only representing one factor (Collaborating for Learning), inconsistent with the *Family Engagement Core Competencies* (NAFSCE, 2022). The scale was piloted with a sample of N = 38. Items were worded "I will be able to," inconsistent with self-efficacy measurement development (Bandura, 2006). Finally, the scale demonstrates lower reliability than the FEEB-E and has only rarely been used for peer-reviewed research (Alaçam & Olgan, 2017).

In contrast, scores from the FEEB-E, as argued in Inferences 1-3, accurately and reliably represent the family engagement efficacy beliefs of educators. The instrument reflects the current best understanding of the domain of family engagement work of educators. It was created consistent with Bandura's (2006) recommendations for the design of efficacy belief measures. Data from administrations of the FEEB-E with

educators indicate a factor structure consistent with the domain. The instrument produces reliable scores. Therefore, the FEEB-E is superior to other alternatives for measuring family engagement efficacy beliefs, which meets the objectives of a research program: to use the best tool available to study the construct of interest.

Additional Results from Phase IV

In the final section of this chapter, the results of data analysis are presented to address the two hypotheses linking the FEEB-E with other survey instruments measuring related constructs. While these hypotheses are not essential to the validity argument (Kane, 2013), the relationship between the FEEB-E and other well-known survey instruments helps to place this new research tool into the context of prior research. Each hypothesis detailed in Chapter 2 – Literature Review is restated, and the results of analyses are provided. To gather data for this analysis, two additional survey instruments were distributed during Phase IV – Follow-up Study to the same sample of educators. Mean scores for each survey measure were first calculated. Then, correlations were assessed between the FEEB-E and each other instrument using Spearman's rho, which is an appropriate test for ordinal or nonnormal data (Schober et al., 2018).

Hypothesis 1. Family engagement efficacy beliefs of educators will positively correlate with general teaching efficacy beliefs.

To measure general teaching efficacy beliefs, the Teacher Sense of Efficacy Scale (TSES) (Tschannen-Moran & Hoy, 2001) was distributed at the same time as the FEEB-E. As expected, based on a review of the literature, scores from the TSES and the FEEB-E were significantly positively correlated, $\rho = .576$, $p < .001$, $N = 298$. Therefore, family

engagement efficacy beliefs are positively correlated with general efficacy beliefs a teacher may hold for teaching. A teacher who has a high sense of efficacy for teaching is also likely to hold a reasonably high sense of efficacy for engaging with students' families. However, because the value is not perfectly correlated (i.e., not 1.000), a clear differentiation can be made between these two constructs. The assessment of one's skills and knowledge for working with families is not synonymous with one's assessment of other teaching tasks such as instruction and classroom management. Again, this finding is consistent with prior literature. Thus, Hypothesis 1 is well-supported.

Hypothesis 2. Family engagement efficacy beliefs of educators will positively correlate with educators' trust in families.

To assess educators' trust in families, the Family-School Relationship Survey (FSRS) (Adams & Christenson, 2000, 1998) was distributed to the same sample of educators at the same time as the FEEB-E. As expected, based on prior literature, scores from the FSRS and the FEEB-E were significantly positively correlated, $\rho = .322$, $p < .001$, $N = 292$. Therefore, teachers' efficacy beliefs for engaging with families were correlated with teachers' trust in families, albeit to a lesser degree than with general teaching efficacy beliefs. Notably, educators trust families less than they feel confident with their own abilities to engage with families. Again, this remains consistent with prior studies exploring educators' trust in families, and the finding also underscores the distinction between educators' trust in families and their efficacy beliefs regarding their work with families.

Summary

This chapter provided evidence for each claim underlying the inferences from the interpretation and use argument (IUA) for the Family Engagement Efficacy Beliefs of Educators survey measure (FEEB-E). All inferences and their supporting claims were summarized in a table. Each claim was backed by procedural and/or empirical evidence from the phases of this validation study. For each inference for the interpretation and use of the FEEB-E, a determination was made about the degree to which it was supported. After the conclusion of the validity argument, the results of data analysis were presented regarding the two hypotheses providing correlations between the family engagement efficacy beliefs and other constructs. In the final chapter, implications of the validation study and future directions for the FEEB-E as a family engagement research instrument are discussed.

Chapter 5. Discussion

This chapter provides a discussion of the validation argument for the interpretation and use of the Family Engagement Efficacy Beliefs of Educators (FEEB-E) survey measure. The first section of the chapter reviews the overall purpose and primary objectives of the study and assesses the extent to which each objective was met. Then, each research question guiding the study is reviewed and answered. Next, the limitations of the study are discussed based on the scope presented in Chapter 1. Finally, the impact of the study on the fields of family engagement and efficacy research in education is discussed, along with further directions for research using the FEEB-E.

The purpose of this study was to develop a family engagement efficacy belief measure consistent with Bandura's social cognitive theory demonstrating evidence of reliably and accurately measuring what it claims to measure. The first objective of the study was to determine if different levels of educator efficacy beliefs for engaging families can be interpreted from different scores when the FEEB-E is administered to school educators. The second objective of the study was to assess the usefulness of the FEEB-E as a research instrument for studying family engagement efficacy beliefs. Three questions guided this study:

1. Can family engagement efficacy beliefs of educators be measured through a survey instrument?

2. How many factors represent the latent construct, family engagement efficacy beliefs of educators? What is the factor structure?
3. How do family engagement efficacy beliefs of educators relate to other constructs, such as trust in families and general teaching efficacy?

To explore these questions, Kane's argument-based approach to validation was employed (Kane, 2013). In Chapter 1, the study's purpose and main objectives were introduced, and the scope was defined. In Chapter 2, relevant literature and major conceptual frameworks guiding the study were reviewed. In Chapter 3, the methods were described that were used to explore the research questions guiding the study. In Chapter 4, procedural and empirical evidence were presented to support the claims underlying the four inferences of the validity argument. Each claim was backed by evidence, so, in turn, each inference was supported. Now, a discussion follows of the overall objectives and questions guiding the study.

Extent to Which Objectives Were Met

In this section, each overall objective of the study is reviewed. Then, the extent to which the objective was met in the study is discussed, based on research activities and data collected throughout the study.

Objective One

The first overall objective of the study was to determine if different levels of family engagement efficacy beliefs of educators could be interpreted from different scores when the FEEB-E is administered to school educators. This objective is essential – without certainty about how scores can be interpreted, the survey itself would be useless.

To meet this objective, the *interpretation* portion of the argument was constructed consisting of three inferences. The first was that survey items are representative of their target domains (self-efficacy beliefs and family engagement). The second was that there are no extraneous sources of variability in wording of items and direction, order of items, or the scoring scale. The third was that the survey items measure the intended population adequately (reflecting a range of efficacy beliefs around multiple dimensions of family engagement) and reliably.

As the IUA detailed in Chapter 4 makes clear, evidence collected from Phases I-IV provided backing for these inferences. The survey is representative of the target domains of self-efficacy beliefs and family engagement competencies, based on a literature review, items from prior measures, the NAFSCE (2022) Validity Study, and SME feedback. The survey has no extraneous sources of variability, based on SME and user feedback as well as a review of literature and prior scales. The survey items measure the intended population adequately. Descriptive statistics and item characteristic curves demonstrate a range of efficacy belief responses on most items. An exploratory analysis, a parallel analysis, and a confirmatory analysis demonstrate multiple dimensions of family engagement across five factors. The survey items measure the intended population reliably based on Cronbach's alpha from the reliability analysis conducted. Therefore, the study met the first objective by determining that different levels of educator efficacy beliefs for engaging families can be interpreted from different scores when the FEEB-E is administered to school educators.

Objective Two

The second overall objective of the study was to assess the usefulness of the FEEB-E as a research instrument for studying family engagement efficacy beliefs. This objective translates the idea of a survey measure with interpretable scores into reality and ensures its potential use in research can be justified. To meet this objective, the *use* part of the validity argument was constructed, consisting of a single inference: the survey is appropriate for use as a research instrument.

As described in Chapter 4, procedural evidence from Phases I & III provided evidence to support this inference. Two criteria must be met to determine if an instrument is suitable for research (Kane, 2013). First, a research instrument's benefits must outweigh the potential consequences of its use. Confidentiality and privacy mechanisms built into the survey procedure and a cost/benefit analysis approved by the Institutional Review Board at the Office of Responsible Research Practices at The Ohio State University indicate that the benefit of using the FEEB-E outweigh potential consequences. Second, for a survey to be a useful tool for research, it must be both cost-effective and better than other available alternatives. The minimal monetary and resource cost of producing, distributing, and analyzing the FEEB-E provide backing that the FEEB-E is a low-cost research tool. A comparison to other available survey instruments for measuring family engagement efficacy beliefs indicates that the FEEB-E is superior both because it captures the relevant domains better and because it is more reliable than the alternatives. Therefore, the study met the second objective by determining that the FEEB-E is appropriate to use as a research instrument for studying family engagement

efficacy beliefs

Answering the Research Questions

Three research questions guided this dissertation study. In this section, each research question is restated and discussed based on research activities and data collected throughout the study.

Question One

The first question posed by the study was: *Can family engagement efficacy beliefs of educators be measured through a survey instrument?* In this study, it was found that efficacy beliefs of educators for engaging families can be measured through a survey instrument. The process of conducting the five phases of the study to review literature and existing instruments, draft the initial version of the FEEB-E, collect response data, analyze them, revise, re-administer and analyze, and finally construct the IUA provided ample support for this determination. The result was a 20-item survey measuring efficacy beliefs for family engagement across five separate subdomains.

Question Two

Building on the foundation of Question One, the second question posed by the study was: *How many factors represent the latent construct, family engagement efficacy beliefs of educators? What is the factor structure?* It was expected that the answer to this question would match the *Family Engagement Core Competencies* (NAFSCE, 2020) quite closely. In other words, while factors were extracted from one to eight in the exploratory factor analysis (EFA), it would be logical to find one, four, or eight. Those numbers represent neat divisions of the *Family Engagement Core Competencies* into

various category groupings as designed. Surprisingly, an EFA conducted in Phase III extracted five factors. These were named: Efficacy for Collaborating for Learning, Efficacy for Communicating, Efficacy for Partnering, Efficacy for Honoring All Families, and Efficacy for Embracing Equity. At this phase, some items were dropped from the measure that failed to load on any of the factors. Some of these items corresponded with aspects of the *Family Engagement Core Competencies* not universal to all educator roles. For example, the Core Competency, "Explore, understand, and honor with families how children develop, grow and change from birth through adulthood across settings, and how these changes affect families," had a corresponding item on the original version of the FEEB-E: "At this time, I can successfully support families as children grow up." However, this item failed to load on any factor, perhaps because most educators do not interact with each student over enough time to capture the concept of "as children grow up." Therefore, while this Core Competency is well-supported by family engagement theory, in practice, many educators may not recognize it in their day-to-day work with families. The five-factor structure was confirmed through analyses in Phase IV – Follow-up Study.

In the final version of the survey (See Appendix B), three of the factors can be observed to contain groupings of three items each, one factor is represented by a group of four items, and one larger factor has seven items. Conceptually, these items in the large factor group together three competencies in the *Family Engagement Core Competencies* (NAFSCE, 2022). However, upon closer inspection, the items are more closely related than initially they appear. All items represent facets of Efficacy for Partnering. They

center on the concept of connecting families with each other and with educators, to work towards a common purpose of improving education.

The four-item factor, Efficacy for Collaborating for Learning, bundles together two competencies that also group together in the *Family Engagement Core Competencies* (NAFSCE, 2022) under the category "Collaborating for Learning." The three-item factors each represent one competency. However, two of them (Efficacy for Honoring All Families and Efficacy for Communicating) were named to best capture the gist from their items, rather than use the names of the competencies from the *Family Engagement Core Competencies,* which were not as clear a fit. For example, the competency "Build trusting reciprocal relationships with families," contained descriptors regarding communication, of which the corresponding items grouped strongly together. However, the other "building trusting reciprocal relationships" descriptors' corresponding items grouped with "Partnership" items, or they were otherwise removed for failing to load or redundancy.

Therefore, the exploration of this research question led to several valuable insights about how family-facing professionals envision the interrelationships of the competencies and descriptors within their domain of working with families. While conceptually, NAFSCE and its partners have made huge strides in understanding the full complexity of educators' work with families, they did not attempt to conduct empirical analysis regarding how descriptors under the competencies group by factors. My study is the first attempt to do so. Importantly, educators, when given items representing the tasks of the *Family Engagement Core Competencies*, group these tasks differently than the

categories from which they came. This should have implications for any future credentialing or professional development designed around the *Family Engagement Core Competencies*: the interrelationships must not be ignored, nor should they be taught in isolation.

Question Three

The third research question posed was: *How do family engagement efficacy beliefs of educators relate to other constructs, such as trust in families and general teaching efficacy?* This question serves a dual purpose. First, practically, based on prior research and theory, the scores on the FEEB-E should correlate with scores on instruments measuring related constructs in expected ways. This lends credibility to the FEEB-E as a measure that produces scores that represent beliefs that relate to other beliefs the way they should. Second, this question begins to situate the FEEB-E within the context of a larger conversation relating family-school collaboration and efficacy beliefs to student achievement outcomes. Student achievement outcomes have been linked to both general teaching efficacy and trust between teachers and families. Thus, if efficacy beliefs for family engagement also positively correlate with general teaching efficacy and trust between teachers and families, as expected, this may point to future research avenues.

Family Engagement Efficacy Beliefs and General Teaching Efficacy. A correlation analysis was conducted from data collected in the follow-up study with Ohio teachers. As expected based on the literature review described in Chapter 2, family engagement efficacy beliefs and general teaching efficacy beliefs as measured by the

TSES (Tschannen-Moran & Hoy, 2001) showed a positive correlation, yet not a perfect correlation. In other words, holding efficacy beliefs for teaching in general relate to holding efficacy beliefs for engaging with families. Logically, this makes sense: the more mastery and vicarious experiences a teacher has in one of those, the more experienced they are likely to be with the other as well. Perhaps a teacher's skills in each grow simultaneously with time and experience in the classroom. Just as a teacher gains confidence in how to plan and deliver a lesson or to maintain classroom order over time, so to a teacher will gain more confidence with interacting and collaborating with families over time and with experience.

What is not yet known is whether one has a direct effect on the other. When family engagement efficacy beliefs are strengthened (through professional development and coaching, for example), what effect might this have on a teacher's efficacy beliefs for instruction and classroom management? Similarly, as a teacher's efficacy beliefs for instruction and classroom management grow, does this impact a teacher's efficacy beliefs for engaging with families? Because they feel more confident in their abilities, are they more open to feedback from families? If they develop greater efficacy for teaching (by gaining further education or being promoted to a teacher-leadership role), how does this affect their efficacy for working with families? The relationship between efficacy in their teaching role and efficacy for engaging with families is one that needs further exploration.

Family Engagement Efficacy Beliefs and Trust in Families. A second correlation analysis was conducted to examine the relationship between family

engagement efficacy beliefs and individual teachers' trust in families. As expected based on the literature review described in Chapter 2, a moderate positive correlation was observed between family engagement efficacy beliefs and trust in families as measured by the FSRS (Adams & Christenson, 1998, 2000). Unsurprisingly, this correlation was not as strong as between the two efficacy constructs is unsurprising. Consistently in prior studies, trust and efficacy have been revealed to be correlated; however, teachers' individual trust in families tends to be lower than parent/caregivers' individual trust in teachers. Perhaps teachers rate their beliefs in their own efficacy higher as a form of self-trust; whereas, in a sometimes-contentious post-pandemic society, it may seem harder to rely on the efforts of others. Bias may also be a factor: both focal school districts serve predominantly students and families of color who are experiencing poverty. Thus, trusting as "confidence that another person will act in a way to benefit or sustain the relationship, or the implicit or explicit goals of the relationship to achieve positive outcomes for students" (Adams & Christenson, 1998, p. 6) may be harder won when the relationships are crossing socially constructed cultural barriers.

Like the efficacy construct correlations, an exploration of the causal relationship between family engagement efficacy beliefs and trust in families was beyond the scope of this current study. One potential research avenue moving forward would be to explore how strengthened efficacy beliefs for engaging families (through professional development, for example) might impact an educator's trust in families. Because trust between educators and families is a positive force for student achievement, the exploration of a causal relationship would be worthwhile.

Limitations to the Study

This research was focused on the nature of educators' efficacy beliefs for engaging with families of their students. The construct was examined at the individual level, not at the collective level. As such, no inferences can be made about the collective properties of the construct. Further, the pilot study was distributed nationally through family engagement professional networks, a teacher's union, and to a distribution list of school administrators and family engagement staff in Ohio. Data from the initial pilot study may have had potential for volunteer bias. The follow-up study collected data from teachers in mid-size urban schools in districts in Ohio. Therefore, the follow-up study may not represent all educator roles or all school settings. The purpose of the study was to explore the properties of the construct to develop a scale for which scores may be reasonably interpreted and used. Further refinement of the scale across more school settings and with a broad range of family-facing professional roles will only strengthen the measure.

Impact of the Study

This study to develop the FEEB-E survey measure will allow for several developments in the field of education. First, the FEEB-E will provide a valuable research instrument for the field of family engagement, which currently has few such instruments. Arguably, progress in the area family engagement has been stymied by a lack of understanding of the domain itself, of the role and importance of family engagement in the educational outcomes of children, and of educators' roles in promoting or hindering family engagement. The FEEB-E creates an opportunity to build a theory

and evidence basis of the individual educator's role in family engagement, which is currently a missing piece.

Second, the FEEB-E will be a useful tool for exploring methods contributing to developing educator efficacy for engaging families (e.g., preservice programs, professional development, in-service credentialing programs). NAFSCE is currently engaged in two such endeavors: funding a mini-grant to promote the development of preservice courses using the *Family Engagement Core Competencies* and developing their own credentialling program for family-facing professionals who work in school buildings (i.e., family liaisons). This dissertation study can help inform the development of such programs and be used as a tool for researching the effectiveness of learning programs for efficacy development.

Finally, the FEEB-E may help shed light on how the practices of educators with a high sense of efficacy for engaging families compare to the practices of educators with low efficacy, and whether these differences may result in different student experiences and outcomes. The more understood about educators' beliefs of their own skills and knowledge and how such beliefs connect to their actions (and inactions) in the classroom and in everyday interactions with their students' families, the more the field can understand about the extent to which family engagement is a critical component of educational improvement efforts. In contemporary society in which families are advocating for more access and involvement in instructional, curricular, and behavioral decisions, comprehending the practices of educators who believe they are adept at

collaborating for learning, communicating, partnering, honoring all families, and embracing equity will be critical.

Future Research

Several directions are indicated for future research. First, the FEEB-E will be strengthened through additional studies to examine its generalizability across roles within schools and across different types of school settings (i.e., urban, rural, suburban, small town; traditional, charter, private, online). The *Family Engagement Core Competencies* are purported to apply across all roles and settings; thus, one measure should generalize in a similar manner. Alternatively, slightly different versions of the FEEB-E could be created to tailor its use for different roles in a school setting (for example, a FEEB-C for use with school counselors).

As already mentioned, the exploration of any connection between educators' efficacy beliefs for engaging families and school achievement is a worthwhile research endeavor. As we continue to strive to regain ground after school closures from the COVID-19 pandemic, which highlighted the critical importance of family-school collaboration, we must better understand how educators understand their own abilities for working with families and how this may connect to students' abilities to acquire academic and social-emotional milestones. The FEEB-E will enable such research.

Finally, the FEEB-E should be used for research explorations of the various mechanisms for strengthening efficacy beliefs through professional development, credentialing or certification programs, coaching, and other adult learning. How can mastery experiences, vicarious experiences, and social persuasion be built into such

learning experiences through adequate time for application and reflection? Is it possible to develop efficacy beliefs as an intentional goal of adult learning experiences? If so, how long might these beliefs endure in real-world applications?

Summary

This research developed a new construct for the study of educators, efficacy beliefs for engaging families, and a corresponding measure for use in education, the Family Engagement Efficacy Beliefs of Educators (FEEB-E). The primary objectives of the study were to determine if different levels of educator efficacy beliefs for engaging families can be interpreted from different scores when the FEEB-E is administered to school educators and to assess the appropriateness of using the FEEB-E as a research instrument for studying family engagement efficacy beliefs. The guiding research questions asked if family engagement efficacy beliefs of educators could be measured by a survey instrument. If so, how many factors represent the latent construct, and what is their structure? Finally, how do family engagement efficacy beliefs of educators relate to other similar constructs?

To meet these objectives and answer the research questions, a study was conducted in five phases. Phase I generated background understanding of the construct to draft the FEEB-E. Phase II piloted the FEEB-E to collect data for exploratory factor analysis, parallel analysis, and reliability analysis. Five factors were extracted, and scores from the scale demonstrated excellent reliability. Phase III revised the FEEB-E based on Phase II findings. Phase IV was a follow-up study to collect data for confirmatory factor analysis, reliability analysis, and correlation analysis with related constructs.

Confirmatory factor analysis provided strong support for the five-factor model, and, again, scores from the scale demonstrated excellent reliability. Educator efficacy beliefs for engaging families showed a strong, significant, and positive correlation with educator efficacy beliefs for teaching in general and a moderate, significant, and positive correlation with educator trust in families, as expected. Phase V of the study involved constructing the IUA based on evidence gathered from Phases I-IV.

Different levels of educator efficacy beliefs for engaging families can be interpreted from different scores when the FEEB-E is administered to school educators, and the FEEB-E is justified for use as a research instrument for studying family engagement efficacy beliefs. Therefore, family engagement efficacy beliefs of educators can be measured by the FEEB-E. Further, the latent construct is represented by five factors: Efficacy for Collaborating for Learning, Efficacy for Communicating, Efficacy for Partnering, Efficacy for Honoring All Families, and Efficacy for Embracing Equity. Finally, family engagement efficacy beliefs of educators are positively and significantly related to general teacher efficacy beliefs and teachers' trust in families, opening the door to future research explorations. Thus, the objectives of the study were met, and the research questions were answered.

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Appendix A. FEEB-E Item Characteristic Curves

Figure 28 - FEEB-E Item 1

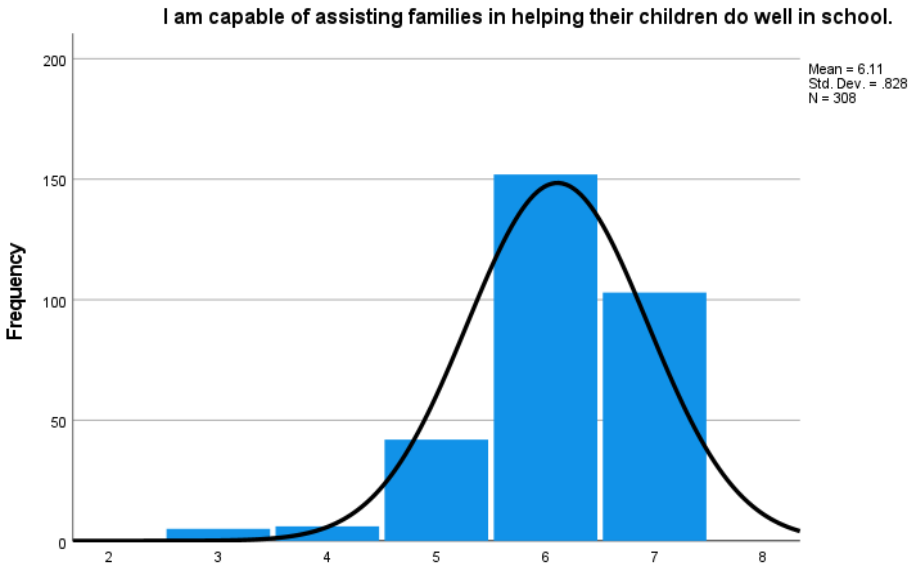


Figure 29 - FEEB-E Item 2

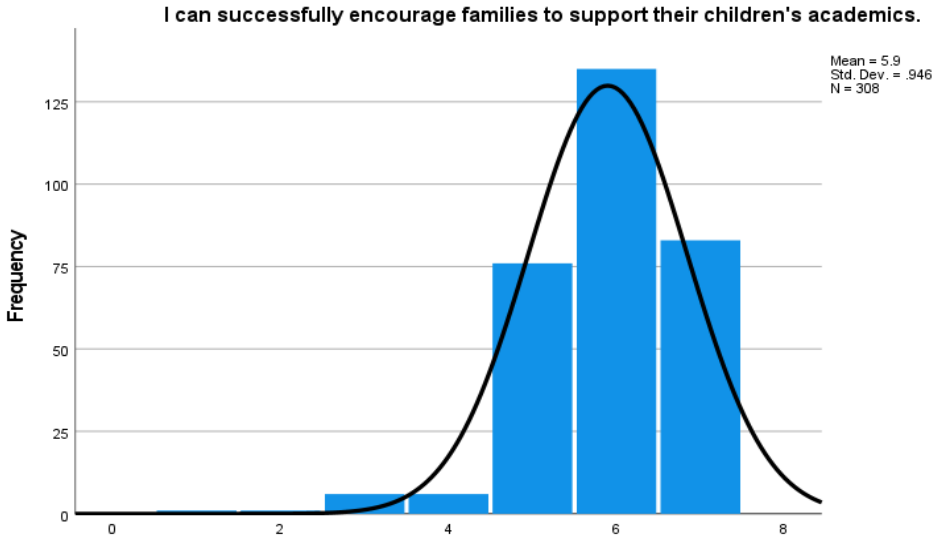


Figure 30 - FEEB-E Item 3

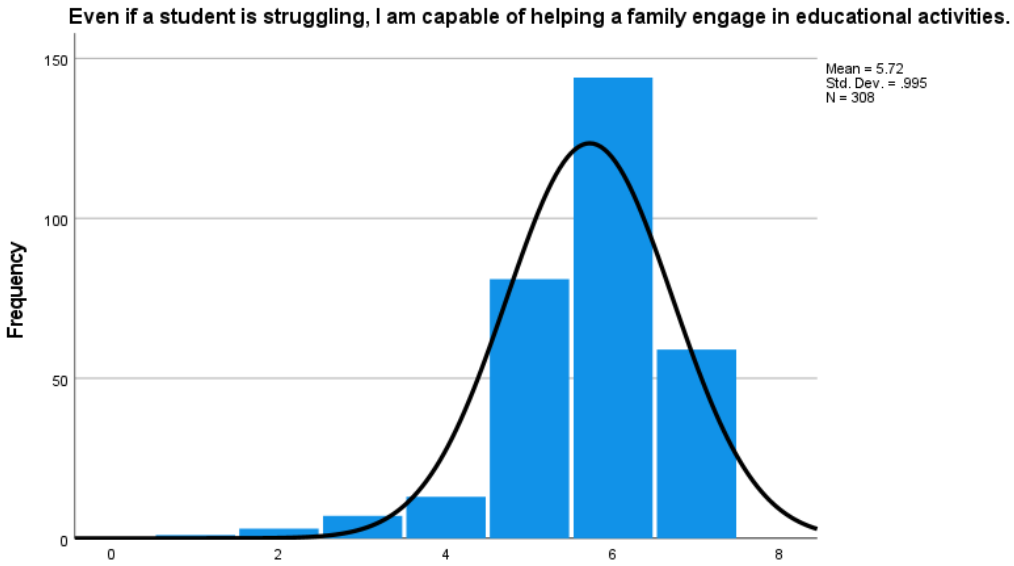


Figure 31 - FEEB-E Item 4

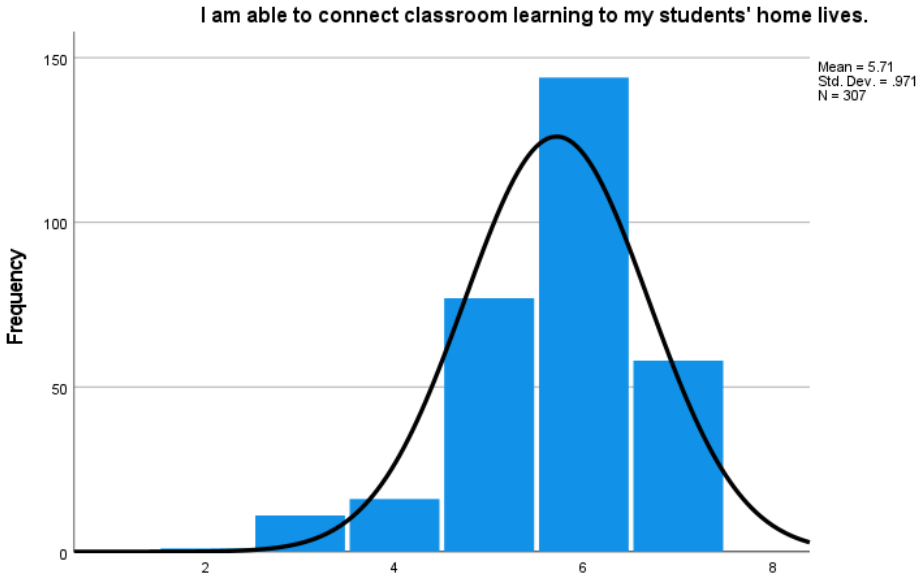


Figure 32 - FEEB-E Item 5

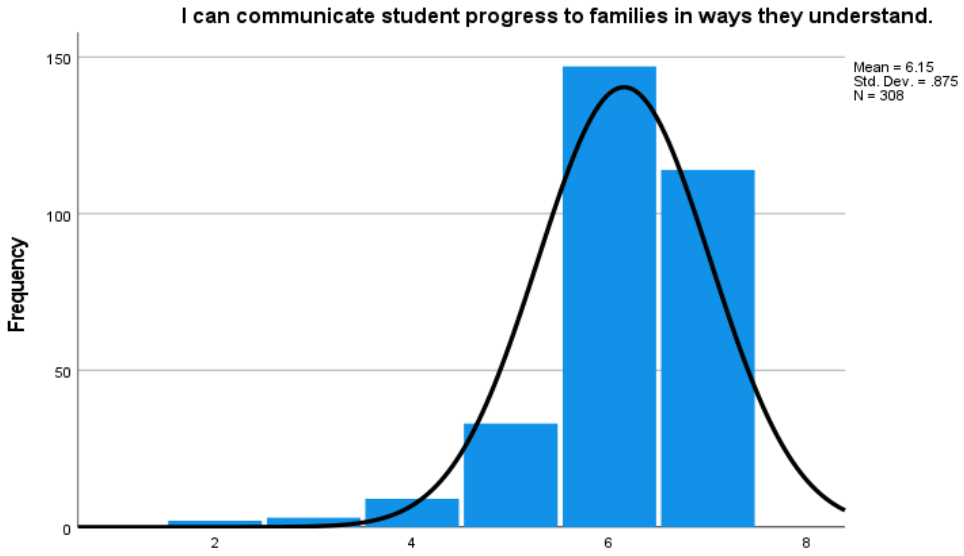


Figure 33 - FEEB-E Item 6

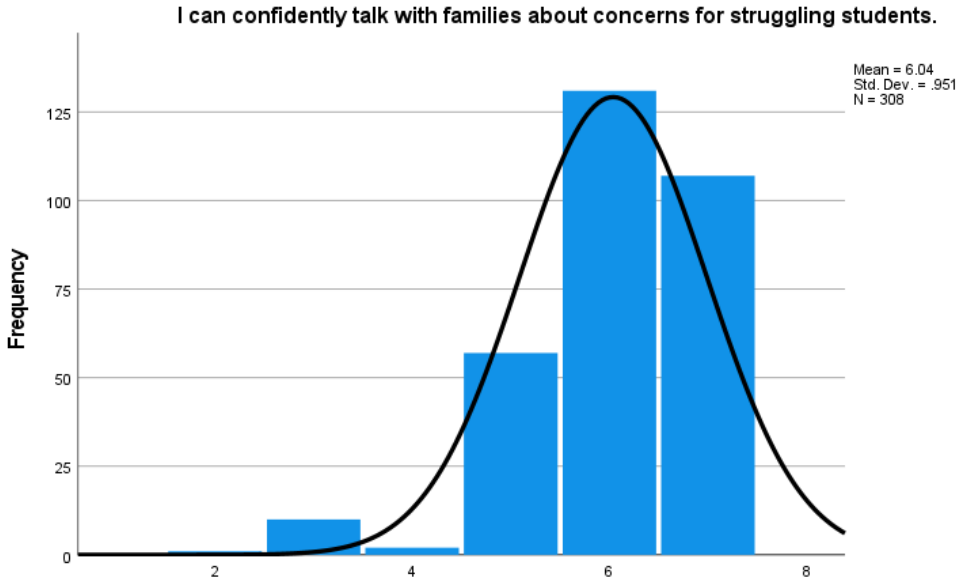


Figure 34 - FEEB-E Item 7

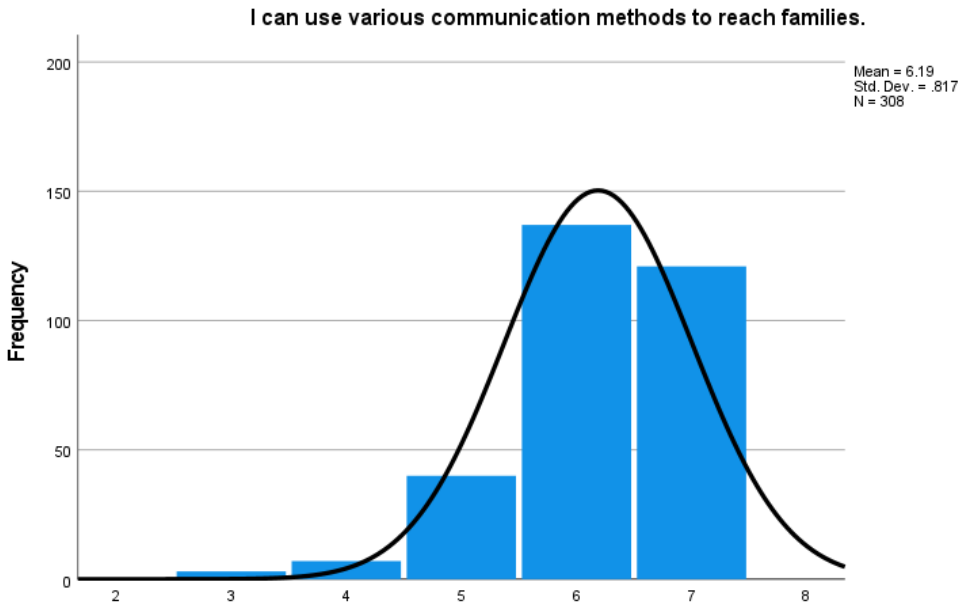


Figure 35 - FEEB-E Item 8

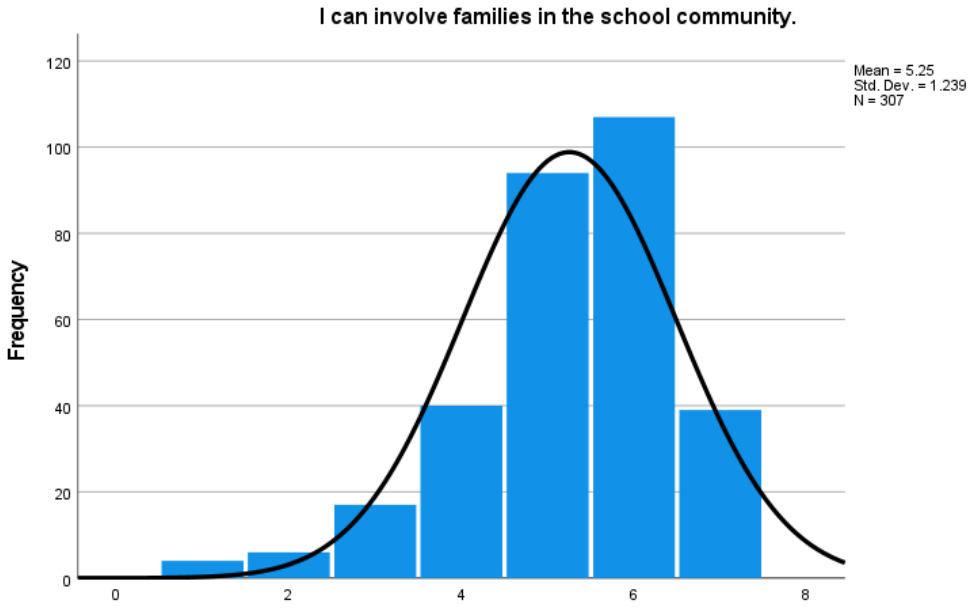


Figure 36 - FEEB-E Item 9

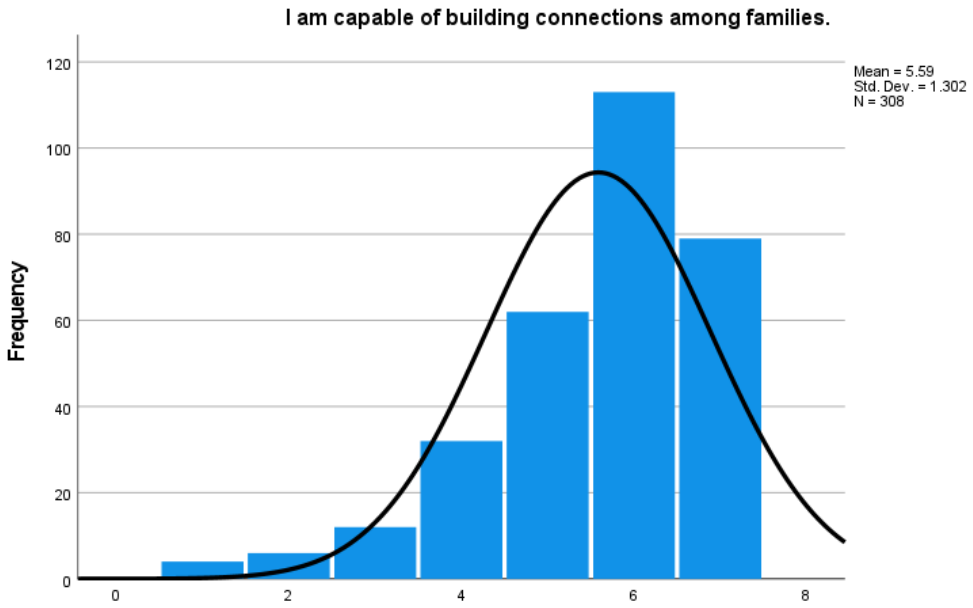


Figure 37 - FEEB-E Item 10

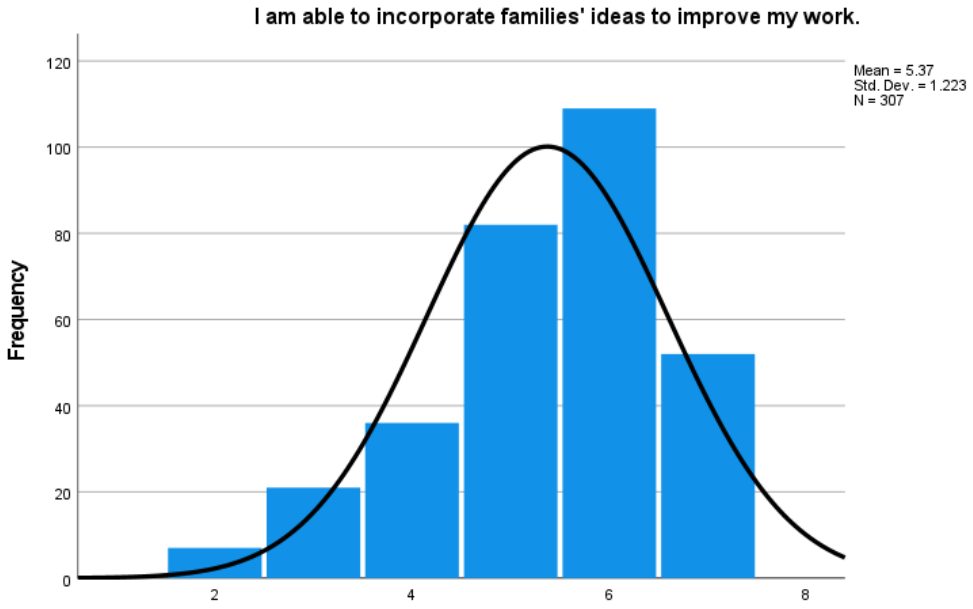


Figure 38 - FEEB-E Item 11

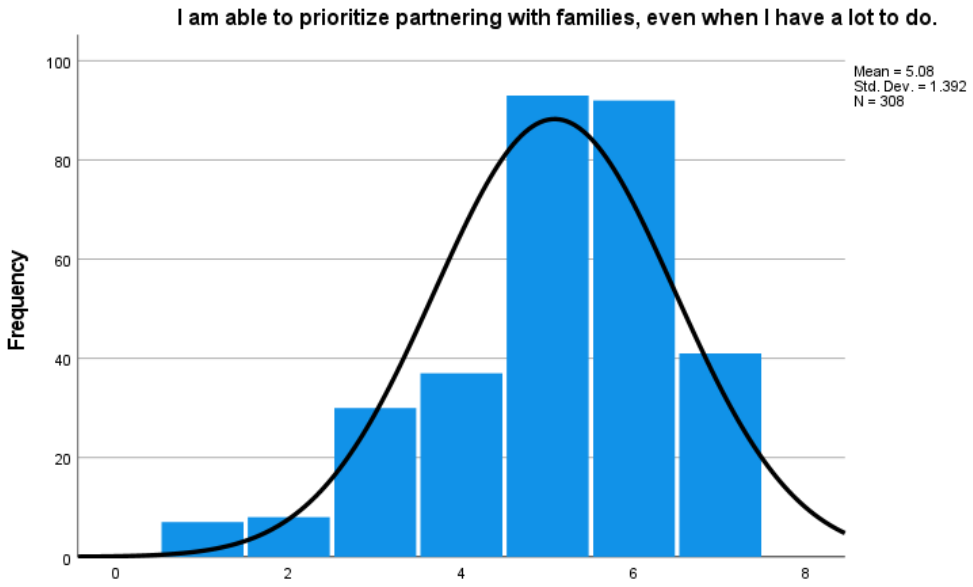


Figure 39 - FEEB-E Item 12

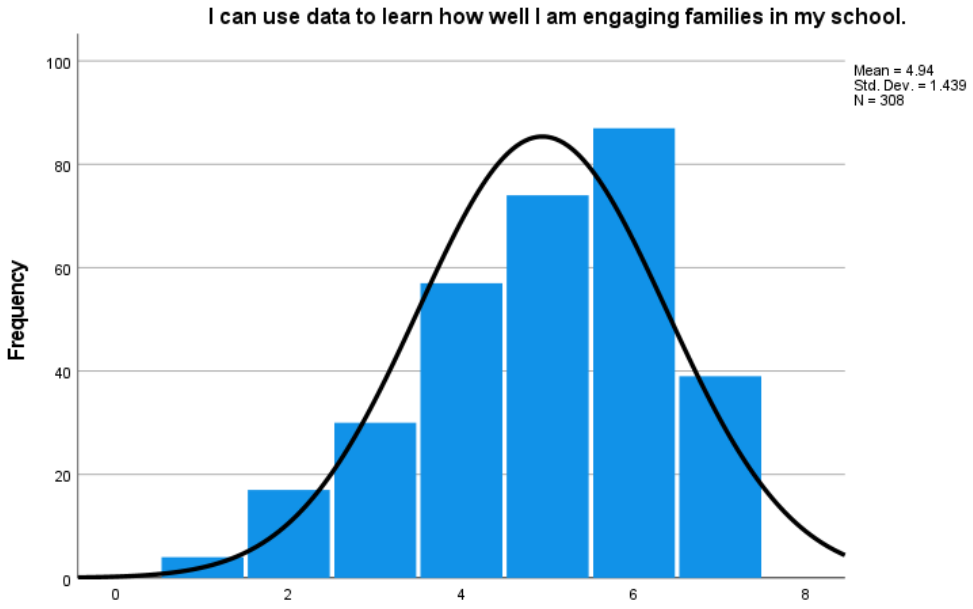


Figure 40 - FEEB-E Item 13

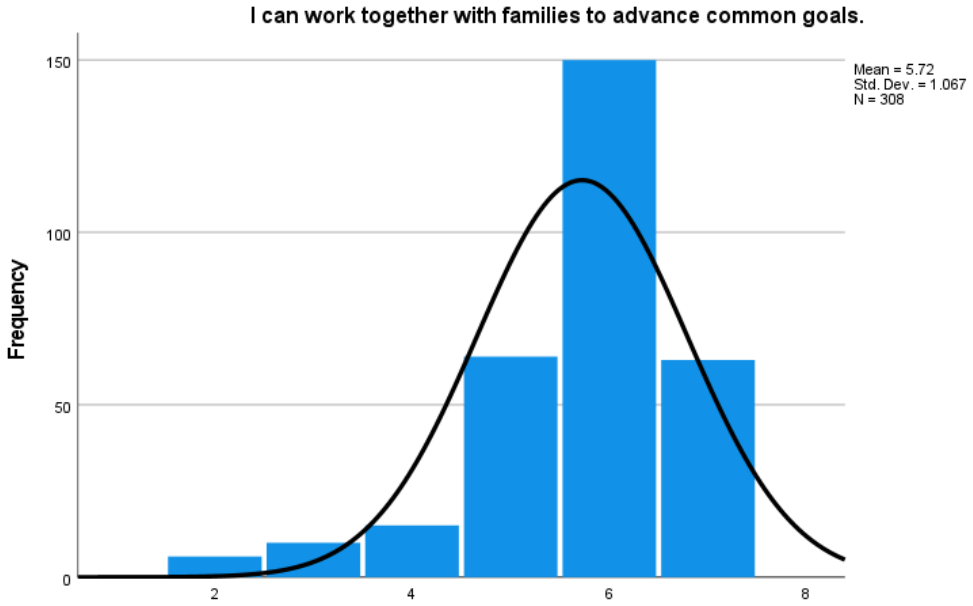


Figure 41 - FEEB-E Item 14

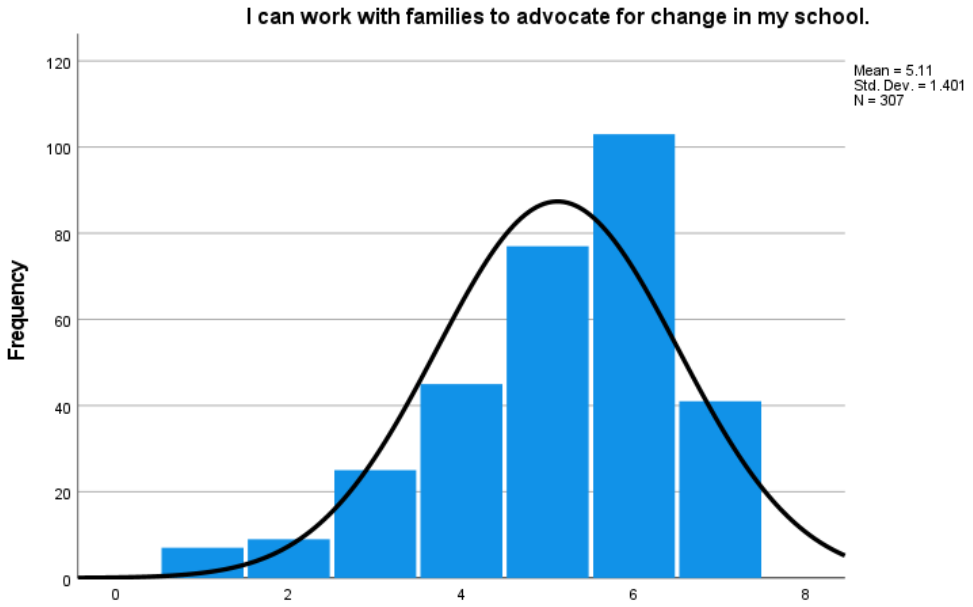


Figure 42 - FEEB-E Item 15

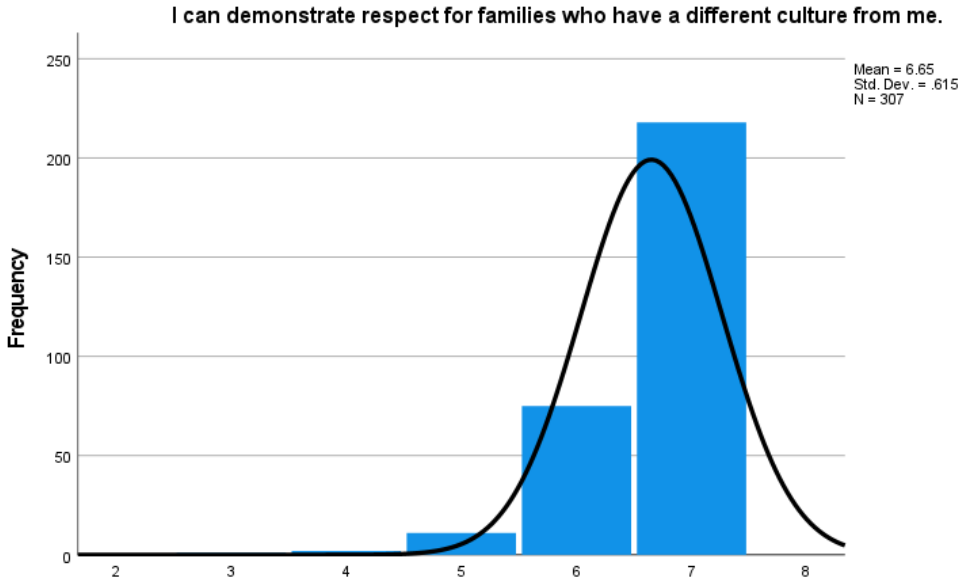


Figure 43 - FEEB-E Item 16

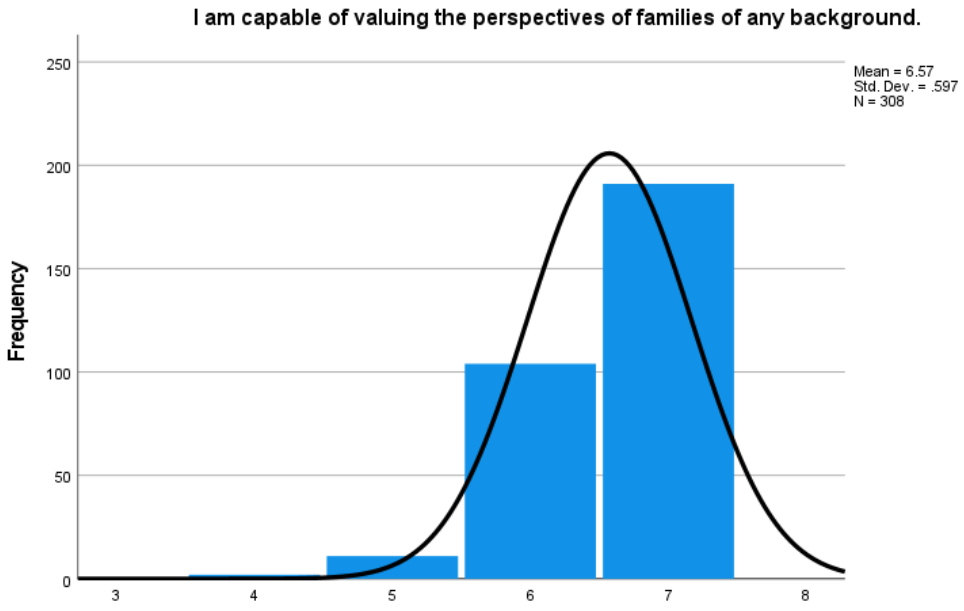


Figure 44 -FEEB-E Item 17

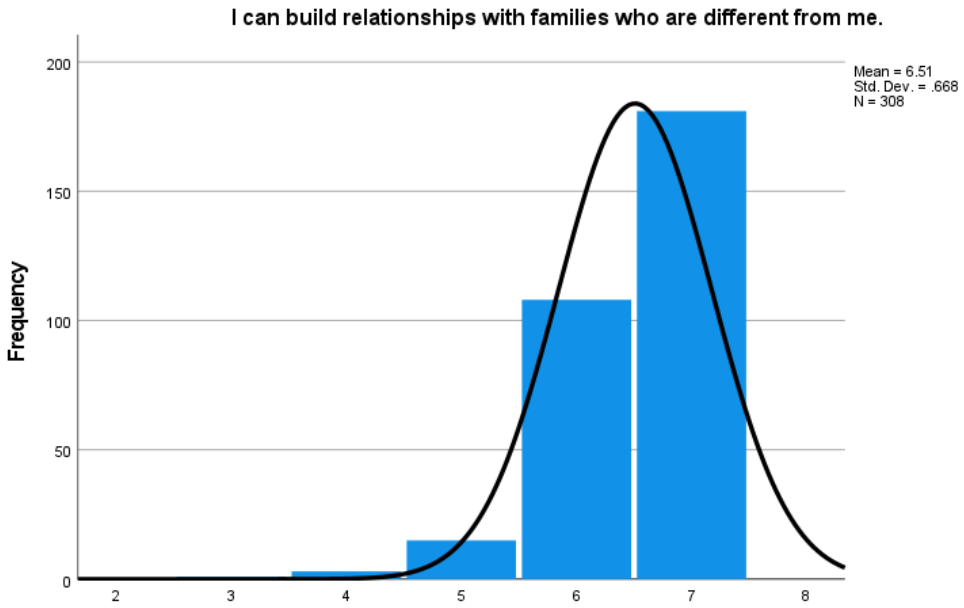


Figure 45 - FEEB-E Item 18

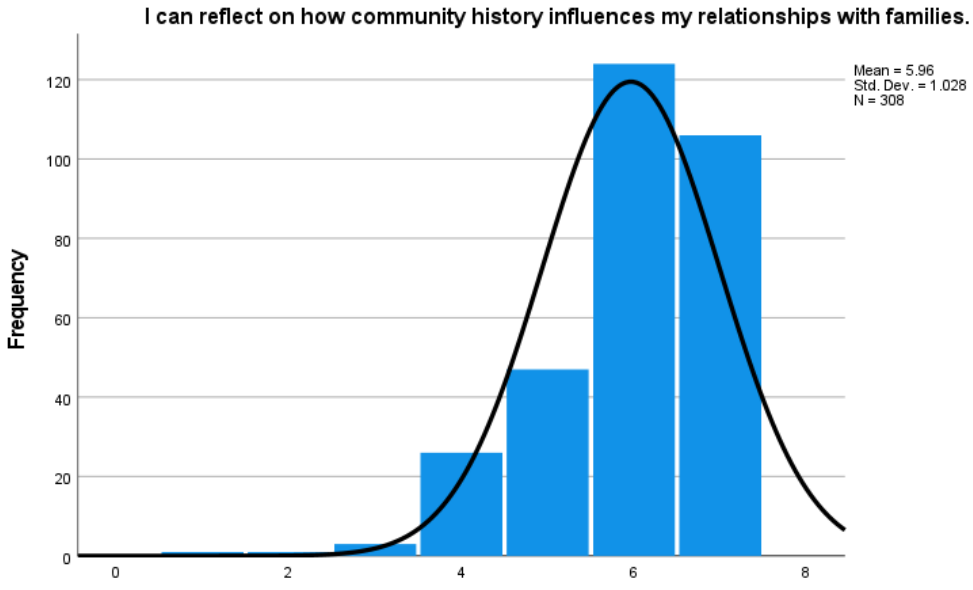


Figure 46 - FEEB-E Item 19

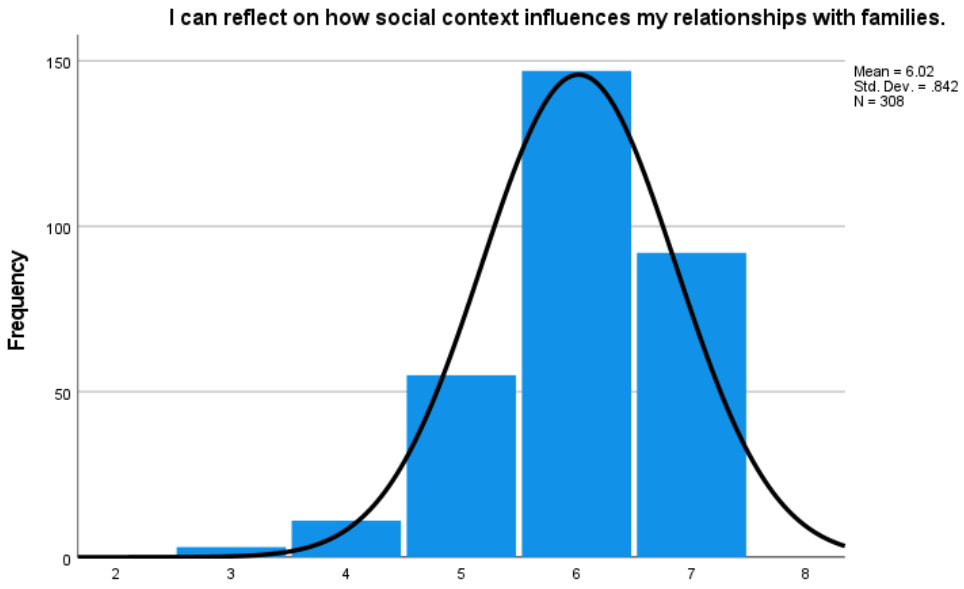
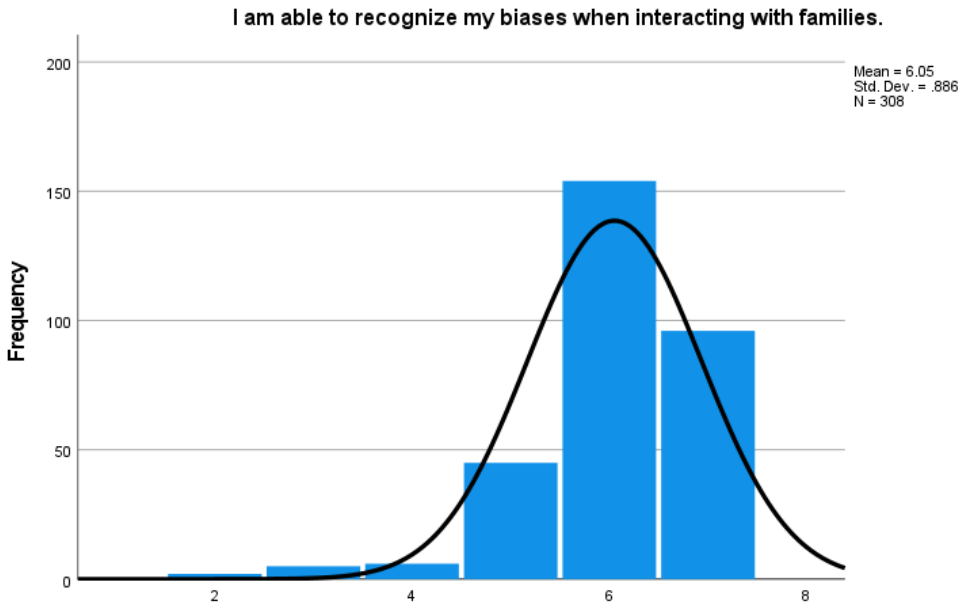


Figure 47 - FEEB-E Item 20



Appendix B. Family Engagement Efficacy Beliefs of Educators (FEEB-E) Survey

Note: Content in brackets did not appear to participants. There were no line breaks between items or section headings differentiating the factors.

Participant-Facing Title: Family Engagement Survey

Directions: Please answer the following questions about your work with families at your school. The responses range from 7 (very true of me) through 1 (very untrue of me). Read each statement and select the one response that most clearly represents how well the statement matches your abilities at the current time. Your answers will be kept strictly confidential.

[Efficacy for Collaborating for Learning]

1. I am capable of assisting families in helping their children do well in school.
2. I can successfully encourage families to support their children's academics.
3. Even if a student is struggling, I am capable of helping a family engage in educational activities.
4. I am able to connect classroom learning to my students' home lives.

[Efficacy for Communicating]

5. I can communicate student progress to families in ways they understand.
6. I can confidently talk with families about concerns for struggling students.
7. I can use various communication methods to reach families.

[Efficacy for Partnering]

8. I can involve families in the school community.
9. I am capable of building connections among families.
10. I am able to incorporate families' ideas to improve my work.
11. I am able to prioritize partnering with families, even when I have a lot to do.
12. I can use data to learn how well I am engaging families in my school.
13. I can work together with families to advance common goals.
14. I can work with families to advocate for change in my school.

[Efficacy for Honoring All Families]

15. I can demonstrate respect for families who have a different culture than mine.
16. I am capable of valuing the perspectives of families of any background.
17. I can build relationships with families who are different from me.

[Reflecting: Efficacy for Embracing Equity]

18. I can reflect on how community history influences my relationships with families.
19. I can reflect on how social context influences my relationships with families.
20. I am able to recognize my biases when interacting with families.

Scoring

7. Very true of me
6. True of me
5. Somewhat true of me
4. Neutral
3. Somewhat untrue of me
2. Untrue of me
1. Very untrue of me