A TRANSCENDENTAL PHENOMENOLOGICAL STUDY OF ELEMENTARY AND MIDDLE SCHOOL MATH TEACHERS EXPERIENCES WITH SOCIAL AND EMOTIONAL LEARNING AND MATH ACHIEVEMENT:

by

Farina M. Sami

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Philosophy

Liberty University

2024

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Abstract

The purpose of this transcendental phenomenological study was to understand the lived experience of elementary math and middle school teachers' with social-emotional learning and math achievement for Midwestern and Western schools within urban and suburban areas. The theory guiding this study was based on Maslow's (1943) theory of the hierarchy of needs, which was grounded in the belief that learning could not occur until basic and fundamental psychological needs were met for people. The central research question focused on the lived experiences of elementary and middle school math teachers with social-emotional learning increasing math achievement. The type of study was based on a transcendental phenomenology study using Moustaka's approach for design and analysis. Moustakas' approach emphasized a deep, reflective engagement with participants' experiences, seeking to uncover the fundamental meanings and essences that underlie those experiences. The study took place in an urban and suburban setting, and data were collected using interviews, focus groups, and writing prompts. Data was analyzed by coding the collected data and creating themes based on emerging patterns. The two primary findings of this study revealed that educators feel that they have not received sufficient training and resources to effectively implement Social and Emotional Learning (SEL) programs in schools and that the success of the Social and Emotional Learning (SEL) program relied heavily on effective leadership within schools.

Keywords: social and emotional learning, emotional intelligence, math, academic achievement, collaborative classroom

Copyright Page (Optional)

Dedication

I dedicate this dissertation to God for guiding me, giving me strength, protection, and perseverance to begin and finish my journey. All blessings come from You, and I am grateful.

To my children, Adam and Faris, may whatever you do in life be pleasing to and blessed by God. May you pursue knowledge throughout your lives.

I dedicate this to my husband, who supported and cheered me on as I studied nights and weekends. I appreciate your understanding and your encouragement.

To my parents, who gave me moral lessons on discipline from an earlier age and believed in me.

To sisters for always wanting the best for me and always wanting me to be my best.

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List of Abbreviations

Collaboration for Academic Social and Emotional Learning (CASEL)

Emotional Intelligence (EI)

Higher-Order Thinking Skills (HOTS)

Professional Development (PD)

Social and Emotional Learning (SEL)

CHAPTER ONE: INTRODUCTION

Overview

Studies conducted in several countries suggested that the pandemic and the measures taken to contain it, such as school closures, have adversely affected the well-being and behavior of children (Christner et al., 2021; Hanetz-Gamliel et al., 2021; Sun et al., 2022). Students' emotions and beliefs about how competent and valuable they perceived themselves in mathematics predicted their enjoyment, anxiety, and boredom in math class, which influenced their math achievement over time (Forsblom et al., 2022; Gkintoni et al., 2023). This study aimed to understand the lived experience of elementary math and middle school teachers for social-emotional learning and math achievement for Midwestern and Western schools within urban and suburban areas. Prolonged isolation over the last several years has contributed to a significant increase in negative behaviors in schools across the United States (Chaabane et al., 2021; Farrell et al., 2023). These negative behaviors made academic success difficult (Branje et al., 2021). The purpose of this transcendental phenomenological study was to explore the lived experiences of elementary and middle school math teachers with social and emotional learning as well as math achievement. This chapter has included background information, an explanation of the research problem, the purpose statement, the significance of the study, research questions, definitions, and a summary.

Background

Behavioral dynamics played a pivotal role in shaping the academic landscape, and this study endeavored to delve into the intricate interplay between student behaviors, particularly in the context of mathematics education, which aimed to uncover strategies for fostering positive conduct and improving overall academic performance as described by teachers. Within this

study, we sought to understand the historical importance and implementation of SEL initiatives in academic and school settings. Maslow's approach to the hierarchy of needs has been historically a foundation for understanding what students need to feel safe (Adib & Suyadi, 2021; Fisher & Crawford, 2020). In a social context, there was a need to support teachers in addressing the emotional distress students were feeling sincea stressful social environment was difficult for students to navigate (Domínguez-Álvarez et al., 2020; Karaaslan et al., 2023). Maslow's hierarchy of needs theoretically identified the three psychological needs that must be met before learning could commence (Maslow, 1943). This section has included the historical, social, and theoretical context needed to understand the background and foundation the study is built on.

Historical Context

Social-emotional learning (SEL) has emerged as a critical focus in education, addressing the multifaceted needs of students beyond academic achievement. Historically, the problem was rooted in an educational landscape that initially prioritized cognitive development over the holistic well-being of students (Demetriou et al., 2022; Govorova et al., 2020). The coming change was evident in Plato's writings in *The Republic* (375 BC*)*; Plato argued that society required the education of all citizens, and a part of that education was character education. Character education was stipulated or given by specific guardians, who, in one's life, showed the greatest eagerness to do what was best for the country (Plato, 375). Abraham Maslow built upon this theory and created a positive theory of human motivation in 1943 (Maslow, 1943). Maslow explained that individuals have distinct needs that must be fulfilled for personal growth; this was the starting point for learning in education.

After Maslow, the focus on education seemed to shift to relying more on academic subjects and less on the aspect of human emotions, and this was where the problem began (Demetriou et al., 2022; Govorova et al., 2020). The trajectory of this problem could be traced back to traditional educational paradigms that predominantly emphasized academic outcomes, which often neglecting the emotional and social aspects of learning (Ye & Shih, 2021; Tyler, 1919). John Dewey (1897) higlighted in his work *The Pedagogical Creed* that emphasized a traditional focus on academic content (Cordero et al., 2004; Ye & Shih, 2021). Additionally, Ralph Tyler developed the *Tyler Rationale*, in 1949 (Tyler, 2019) which emphasized the importance of academic outcomes (Cordero et al., 2004). The oversight of looking at academic progress, and not emotional development, contributed to a lack of character education for students. However, emotional development also helped with socialization within the classroom (Hasanah & Deiniatur, 2020; Saputro & Murdiono, 2020). The aftereffects of COVID-19 showed an increase in child mental distress, including elevated stress, diminished mental health, and increased negative behaviors among students (Hanetz-Gamliel et al., 2021; Phelps & Sperry, 2020). The causes of the problem were multifaceted, including societal pressures (Saputro & Murdiono, 2020), an educational psychology evolution(Schonert-Reichl, 2019), and emotional and social factors recognition, which all significantly impact academic success (Jagers et al., 2019; You et al., 2023). The historical trajectory reveaeds a gradual shift in educational philosophy toward recognizing the importance of SEL while acknowledging its role in shaping well-rounded individuals capable of navigating not just academic challenges but also the complexities of life.

Solutions proposed to address this issue have evolved. Initially, there was limited awareness of the problem, but as research on the importance of SEL gained traction, educators,

psychologists, and policymakers began advocating for the integration of SEL into the curriculum (Edgar & Elias, 2021; Govorova et al., 2020). By implementing SEL programs, training educators in SEL practices have developed supportive school environments that have been suggested as remedies, but there was still insufficient research on this ever-evolving field (Edgar & Elias, 2021; Govorova et al., 2020).

According to a recent study, educators who implemented social-emotional learning (SEL) interventions in classrooms helped to mitigate the negative impact of reduced well-being during teacher-student interactions (Sandilos et al., 2020; Sandilos et al., 2023). Students who lacked adequate support in managing their emotions and navigating social relationships often faced heightened stress levels, decreased motivation, and elevated disruptive behaviors (Barroso et al., 2021; Lau et al., 2022). Beyond the classroom, the enduring effects affected individuals' mental well-being, interpersonal connections, and overall life satisfaction (Ivey-Stephenson et al., 2020; L. Sun et al., 2022). In the early 1960s, James Comer embarked on a groundbreaking exploration by delving into the intricate interplay between students' academic performance and the dynamics of their home and school environments. His pioneering research laid the foundation for a paradigm shift in educational psychology, which emphasized the critical role of social-emotional learning in scholastic success (Comer, 2020). SEL work was being carried out through the Collaborative to Advance Social and Emotional Learning (CASEL) within schools and campuses nationwide (Alexander & Vermette, 2019).

Social Context

Schools today were experiencing many disruptions and interruptions due to emotional unrest within the classroom (Hanetz-Gamliel et al., 2021; Phelps & Sperry, 2020). Teachers were having difficulty controlling student behaviors, and the classroom seemed chaotic. Research

showed that a skill-and-drill approach to telling students how a classroom should be was less practical than creating a strong classroom culture and focusing on the mindset of students and teachers (Main & Ellerbrock, 2023). Math was also an academic area students struggled with and have a large amount of frustration. By offering educators a way to embed SEL within their math lessons, there was a way to alleviate the stress students have and the frustration that adds to the classroom climate. In designing this transcendental phenomenological study, it was essential to note the importance of classroom teacher descriptions of classroom climate and the possible change in climate once SEL was introduced (Moustakas, 1994).

Theoretical Context

Around the 1960s, James Comer studied the effect of home and school life on a student's academic achievement. Comer incorporated elements of social-emotional learning within his study, which resulted in positive outcomes. (Comer, 2020). Once research for Comer's study was released, the work for social-emotional learning continued to grow (Comer, 2020; Terrell, 2020). Researchers have shown that the chances of increasing success in and out of school depended on increasing the quality of SEL within the classroom (Green et al., 2021; Lee & Simmons Zuilkowski, 2022; Mahoney et al., 2021). The rise of social-emotional learning (SEL) in the classroom has forged a more profound sense of community among students. (Corcoran et al., 2018; Ibarra, 2022; Todd et al., 2022). The relationship to SEL within education has been meaningful since the beginning of education, and people were just beginning to understand the implications of how much growth students could have SEL intertwined within the curriculum if SEL practices were used correctly (Jagers et al., 2019). Through Researching the impact of SEL within the math curriculum, Jagers and his associates emphasized how SEL was essential to

supporting student growth. There was a dramatic difference in positive student outcomes with aligning to classrooms, where SEL principals were incorporated within academic lessons.

If SEL principals were absent, students would have started at a deficiency that must be filled first. Research by Edward Deci and Richard Ryan (2021) suggested that people have a desire to grow to gain fulfillment. Self-determination theory showed how social conditions help or hinder a person's motivation to succeed (Deci & Ryan, 2021; Koestner & Holding, 2021; Vallerand, 2021). Maslow started talking about motivation to succeed, and then Deci and Ryan took the research a step further to support students' intrinsic motivation. The theory also addressed the notion that three psychological needs must be met: (1) people feeling in control of their direction or goals, (2) people gaining mastery over a skill or a task one has learned, and (3) people needing to feel a sense of belonging to others. In addition, people needed to meet their needs of autonomy, competence, and relatedness (Koestner & Holding, 2021; Vallerand, 2021) to have intrinsic motivation. The issue of adverse behaviors within the classroom exerted a consequential impact on educators and students (Chang & Taxer, 2021; Glock & Pit-ten Cate, 2021; Granger et al., 2021). Students who felt that safety, food, and shelter needs have not been met would have difficulty accessing motivation for academic learning and processing (Ansorger, 2021; Feigenbaum, 2023; Frei-Landau & Levin, 2023). For higher-level thinking and analysis, students must have felt safe and have their physical and psychological needs met (Brunzell et al., 2021; Evans, 2023). Once students were secure, thinking could be shifted to setting goals and mastering a skill (Ansorger, 2021; Koestner & Holding, 2021). The way to have students turn their thinking was to include SEL practices within academic learning and exercises (Dong et al., 2022; Levine et al., 2023; Ramirez et al., 2021). By learning the levels of safety, educators could assess students’ needs and how to meet those needs in the classroom, which went a long way in

helping students achieve academic success (Koestner & Holding, 2021; Vallerand, 2021). Students must be switched from being dependent on others for motivation and persistence to wanting success and using intrinsic motivation to attain academic growth (Koestner & Holding, 2021; Wood et al., 2019).

Problem Statement

The problem was that educators cannot effectively manage student behavior causing classroom disruptions and halting learning (Keels et al., 2023; Osher et al., 2021; Thiel at al., 2023). Since the COVID-19 pandemic in 2020, children's behaviors have been negatively affected by the isolation from being quarantined, and this, in turn, has caused mental distress, which causednegative behaviors to increase (Christner et al., 2021; Gazmararian et al., 2021; Hanetz-Gamliel et al., 2021; Phelps & Sperry, 2020). A study conducted in Ohio aimed to investigate the behavioral dynamics among first and second-grade students, examining the periods before, during, and after the pandemic. The findings revealed a discernible increase in classroom adverse effects over these temporal phases (Gazmararian et al., 2021). Negative behaviors had a large number of ramifications from in and out of classroom suspensions or attrition and resulted in lost instructional time (Hogan & White, 2021; McCullough et al., 2022). They lowered achievement levels within class due to a disruptive student and the classmates distracted by unwanted behaviors (McCullough et al., 2022). Negative behaviors also decreased student engagement and motivation with constant disruptions (Jiang et al., 2022). These factors led to stress and more significant teacher turnover (Hogan & White, 2021; McCullough et al., 2022). What started as a steady increase in a few students with negative behaviors has risen to a level that was creating teacher burnout (Hogan & White, 2021; McCullough et al., 2022). Teacher turnover rates increased due to workload and student behaviors (Rajendran et al., 2020).

Teachers were not equipped to handle students' negative behaviors, and the ability to teach SEL may have been related to the level of EI (Mérida-López et al., 2023; Rodríguez-Donaire et al., 2020). Additionally, math education for students was not producing the expected results based on the changes to education reforms over time (National Council of Teachers of Mathematics [NCTM], 2020). Students understood that they were not performing to expectations, which strained mental health (Ivey-Stephenson et al., 2020; O'Shea et al., 2022). There was a gap in the literature about the impact of SEL embedded within the math curriculum and how to support teachers best.

Purpose Statement

This purpose of this transcendental phenomenological study was to understand the lived experience of elementary math and middle school teachers with social-emotional learning and math achievement for Midwestern and Western schools within urban and suburban areas. At this stage in the research, the inclusion of SEL within the math curriculum would be generally defined as how students regulated emotions when alone and when working with other students when within math instruction (You et al., 2023). The theory guiding this study was rooted in phenomenology, which sought to understand the essence of lived experiences. Phenomenological research explored how individuals perceive and make sense of their world by emphasizing subjective perspectives and context. Within this study, it was important to understand that what an adult or teacher believed about math, has an effect on students and has a probability of influencing student beliefs (Barroso et al., 2021; Szczygiel, 2020).

Significance of the Study

This study on teachers' experience with SEL in math was significant because it could provide insights into how teachers integrate SEL and mathematical practices in their instruction,

how they perceived the benefits and challenges of doing so, and how they supported their students' social and emotional development as well as their mathematical learning. Studies have shown that in 2019, children's behaviors were negatively affected by the isolation, and has led to mental distress (Christner et al., 2021; Gazmararian et al., 2021; Hanetz-Gamliel et al., 2021; Phelps & Sperry, 2020). Research has shown that embedding SEL into the curriculum allows students to enhance their social-emotional skills and enrich their academic and social outcomes (Yang et al., 2019), potentially reducing stress. Maslow has shown us that for people to reach self-actualization, where they can progress with learning, they must first have felt safe (Maslow, 1964). Maslow's theory, however, needed to expand on how to help math teachers who were helping students, which was why this study was essential. Math has often been a subject that has people feeling unease and stress (Shakmaeva, 2022; Zivkovic et al., 2022). While this was true, cultivating mathematical proficiency during childhood was pivotal for achieving academic and professional success in the later stages of life (Davis-Kean et al., 2022). Research was ongoing about the effects of COVID-19 when looking at things from a lens of student emotional support (Klosky et al., 2022; Lades et al., 2020), and yet little research has been conducted to show what support and training was given to math educators, which made this study vital to providing context for implementing improvements to teacher education in regards to SEL.

Theoretical

This study was grounded in the foundation of Abraham Maslow's (1943) theory of the hierarchy of needs, which provided a theoretical framework for understanding the fundamental human requirements that underpinned effective learning. The theoretical framework expanded on Maslow's theory by looking at the competencies of SEL within a math class. Though Maslow's theory of hierarchy of needs, we looked into how individuals strived to satisfy their needs

sequentially, starting with physiological needs, and only move on to the next level once the lower-level needs were adequately addressed.Maslow's theory did take into account that students might not be in a self-actualization phase of the hierarchy. However, they could still be guided to a place where students could learn and attain academic achievement. SEL added to Maslow's theory by helping students feel safe within their learning environment to achieve math progress. Maslow's theory did not consider that teachers have been placed in a position where they must find a way to deal with increased negative classroom behaviors (Hogan & White, 2021; McCullough et al., 2022) and need training and education in SEL to do so. Research has shown that integrating SEL competencies within academic curriculum significantly advanced educational achievement and increased positive classroom behaviors (J. Sun et al., 2022; Sutton et al., 2021). Using components of Maslow's hierarchy of needs theory and aligning this to an approach to integrate SEL competencies within math, it was firmly rooted in the seminal work of making sure feelings of safety could be created within the classroom because this must come before a student can work on self-actualization (Ansorger, 2021; Basford et al., 2021).

Empirical

The problem was that educators need help in effectively managing the escalating occurrences of negative behaviors exhibited by students. One possible solution was to look at the number of SEL teachers using it within the math curriculum and evaluated the effectiveness of implementation based on teacher responses. Extensive research had yet to explore the integration of social-emotional learning (SEL) into mathematics curricula, an area that holds empirical significance for educational practices. Studies indicated that a dedicated SEL curriculum enhanced students' emotional management (McDaniel et al., 2022). However, existing research primarily focused on the outcomes of introducing SEL concepts rather than on their seamless

integration into core subjects like math and English Language Arts (ELA) (J. Sun et al., 2022; Sutton et al., 2021). Beyond mathematics, studies underscored the benefits of incorporating SEL in ELA, particularly in promoting emotional awareness through narrative engagement and fostering empathy through literary analysis (Coleman, 2021; Fricke et al., 2021). Moreover, SEL practices extended into social studies, where investigations explored the more profound understanding of relationships and responsibilities through a historical lens (Jagers et al., 2019; Hendra, 2019), which underscored the multifaceted impact of SEL integration across diverse academic domains. More research on math and SEL integration was needed.

Practical

A study on the lived experiences of elementary and middle school math teachers with SEL was significant as it could positively influence teacher practices, student outcomes, and the overall educational environment. Behavior and classroom management have been consistent issues in schools across the nation; however, since COVID-19, these behaviors drastically increased (Lee et al., 2021; J. Sun et al., 2022), while at the same time, teachers were not given any additional training. The insights gained could inform targeted interventions and initiatives to create a more holistic and practical math education experience. By understanding math teachers' experiences with SEL, we could inform the development of targeted and intentional professional development programs (Egert et al., 2020; Gaines, 2019), enhance teachers' skills in integrating SEL practices into their math instruction, and ultimately, improve the learning experience for students. School districts that were charter schools often have a department that promoted different academic subjects. Through training math specialists to support SEL within math, we could relieve teachers and students.

Consequently, SEL alleviated the burden on leadership, who often intervened in behavior

issues. A study on math teachers' SEL experiences could facilitate educators' collaboration. Teachers could share successful approaches, strategies, and resources for integrating SEL into math instruction, which promoted a collaborative culture that benefits educators and students (Coban et al., 2023; Garza Schuster et al., 2021). Insights into teachers' experiences with SEL could contribute to creating a positive and supportive classroom climate (Blewitt et al., 2021; Stein & Russell, 2022). Teachers equipped with SEL strategies could foster a more inclusive, empathetic, and collaborative learning environment, which positively impacted students' emotional well-being and academic engagement (Alzahrani et al., 2019; Bierman et al., 2021). By understanding how math teachers incorporate SEL into their instructional practices, research allowed for identifying successful strategies and potential challenges. SEL practices have the potential to not only enhance students' emotional well-being but also contributed to improved academic performance (Panayiotou et al., 2019; Quílez-Robres et al., 2021) in mathematics. With knowing what SEL practices could best integrate with math, research could guide curriculum developers and educators in integrating SEL seamlessly into the math curriculum, which ensured that it aligned with academic and emotional learning goals. Findings from this study could inform educational policies and decision-making processes at the school and district levels. By recognizing the importance of SEL in mathematics education, research may have led to the development of supportive policies, resource allocation, and guidelines for effective implementation (Mahoney et al., 2021; Stefan et al., 2022).

Research Questions

As articulated in his seminal work *A Theory of Human Motivation* (1943), Maslow's theory declared that individuals undergo a hierarchical progression of needs, wherein the fulfillment of basic physiological and safety needs was foundational for activating higher-level

cognitive processes. According to Maslow's hierarchy, the essential prerequisites for individuals to ascend to more complex cognitive functions, such as learning, problem-solving, and self-actualization, involved satisfying fundamental requirements, like food, shelter, and security. This theory underscored the interconnected nature of human motivation and cognition to emphasize the necessity of addressing foundational needs to unlock the full spectrum of intellectual capacities and psychological well-being. The research's basis was how to support teachers and students academically and emotionally after the COVID-19 pandemic. The research questions to understand ways to support teachers and students better were as follows:

Central Research Question

What are the lived experiences of elementary and middle school math teachers' with social-emotional learning increasing math achievement?

Sub-Question One

How do math teachers' views change in student behavior after integrating SEL into the math curriculum?

Sub-Question Two

How do math teachers perceive that their SEL training has influenced their math teaching practices?

Sub-Question Three

How do math teachers perceive their personal experiences with SEL during their schooling, and how has it shaped their approach to teaching math?

Definitions

In delving into the intricate relationship between mathematics and SEL, it became imperative to elucidate specific terms that serve as foundational pillars for comprehending the

nuances of the research and study. The following definitions aimed to clarify key terminology, which facilitated a more nuanced understanding of the interplay between mathematical education and socio-emotional development. These definitions also helped clarify the nuances between words often used interchangeably.

1. *Academic achievement* - the progression or mastery of academic curriculum standards (Gupta & Lee, 2020; Hendra, 2019).
2. *Behavioral support* - a set of strategies, interventions, and systems designed to foster positive behavior and create an environment that supports students' social, emotional, and academic development (Lacoe & Steinberg., 2019).
3. *Cognitive Development* - In mathematical learning, cognitive development refers to the progression of mental processes and abilities related to acquiring, processing, and applying mathematical knowledge (Daniele, 2021; Silva-Laya et al., 2020).
4. *Educational Intervention* - using targeted strategies or programs to enhance student learning (Foreman & Bates, 2021).
5. *Emotional Intelligence* - the ability to recognize, understand, and manage one's own emotions, as well as being attuned to the emotions of others (Mérida-López et al., 2023; Rodríguez-Donaire et al., 2020).
6. *Equality* - the state of being equal, especially in status, rights, and opportunities (Gevrek et al., 2020).
7. *Equity* - fairness and justice in distributing resources, opportunities, and privileges (Gevrek et al., 2020).
8. *Inclusion in education* - incorporating diverse learners, irrespective of their abilities or backgrounds, into mainstream educational settings (You et al., 2023).

9. *Interdisciplinary approach* - integration of insights and methodologies from multiple disciplines. This research underscores mathematical education and SEL principles to enrich the learning experience (Jagers et al., 2019; Hendra, 2019).

10. *Educational Interventions* - involve targeted strategies or programs implemented to enhance mathematical learning and socio-emotional development in students, often serving as focal points for investigation within this study (Lacoe & Steinberg., 2019).

11. *Math Education* - pertains to the specialized field encompassing instructional strategies, curriculum design, and pedagogical approaches employed in the teaching and learning of mathematics (National Council of Teachers of Mathematics [NCTM], 2020).

12. *Maslow's theory of hierarchy or* needs is a psychological framework outlining fundamental human needs, emphasizing their relevance to the study by highlighting the importance of addressing foundational needs for optimal cognitive and emotional development (Maslow, 1954).

13. *Novice teachers* – teachers who have jusy begun teaching or have been teaching for less than 4 years (Bettini et al., 2022)

14. *Social and Emotional Learning* - a structured framework fostering the development of essential skills, including self-awareness, self-regulation, social awareness, relationship skills, and responsible decision-making (Alexander & Vermette, 2019). Social-emotional learning (SEL) is a basis for improving positive and meaningful social interactions with adults and peers.

15. *Student Outcomes* - the observable results of the educational process, including academic achievements in mathematics and socio-emotional outcomes such as self-esteem, motivation, and interpersonal skills (Gupta & Lee, 2020).

16. *Teacher Beliefs* - educators' convictions and attitudes towards teaching and learning mathematics (Barroso et al., 2021; Szczygiel, 2020).

17. *Teacher Practices* - the instructional methods and strategies employed in the classroom (Jagers et al., 2019).

Summary

The problem was that educators were encountering difficulties in effectively managing the escalating occurrences of negative behaviors exhibited by students. The issue of teachers struggling with students' negative behaviors has increased since the COVID-19 pandemic in 2020. SEL was needed to help students regulate emotions. Teachers were not equipped to handle students' negative behaviors, and the ability to teach SEL may have been related to their level of EI (Mérida-López et al., 2023; Rodríguez-Donaire et al., 2020). A transcendental phenomenological study that focused on understanding the lived experience of elementary math and middle school teachers and described their experiences with social-emotional learning and math achievement for Midwestern and Western schools within urban and suburban areas was beneficial in supporting teachers in creating safe classrooms. A study that focusedon an understanding the lived experiences of math teachers implementing SEL could benefit many schools and teachers based on the high teacher turnover rate and teacher burnout based on negative behaviors within the school.

CHAPTER TWO: LITERATURE REVIEW

Overview

This phenomenological study aimed to understand the lived experience of elementary math and middle school teachers' with social-emotional learning and math achievement for Midwestern and Western schools within urban and suburban areas. At this research stage, we defined the lived experience of elementary and middle school teachers as their experience in teaching and observing student behaviors in the classroom. The theory guiding this study was social constructivism, which was how researchers try to make sense of the world they live in and interact with (Cooney, 2021; Frye et al., 2022). As a longstanding goal, educators hoped to provide students with intellectual and practical guidance. (Maslow, 1943; Plato, 375). We could see the importance of providing practical educational guidance through Abraham Maslow's studies of the hierarchy of needs (Maslow, 1943). Upon the onset of the COVID-19 pandemic, with students being sent home from school for an indefinite period, the weaknesses within the education system became evident (Klosky et al., 2022; Wood et al., 2019). The decline in student behaviors, in turn, created more stress and uncertainty for teachers. Many teachers were not equipped with the tools to help and support students emotionally, even though they tried while battling their challenges (Twiner et al., 2023; Lampropoulos et al.,2023). Chapter Two explored literature that looks at understanding from a teacher's point of view within the lived experience of elementary math teachers and describe their beliefs about social-emotional learning and math achievement. Chapter Two also looked at the opportunities for Professional Development (PD). The current study addressd the gap in the literature regarding teacher experiences within their math classes based on behavior and teacher beliefs on integrating SEL within the classroom.

Theoretical Framework

My research was grounded in Maslow's theory of the hierarchy of needs, which stressed the importance of having a psychological framework outlining fundamental human needs met before students can learn (Maslow, 1943). By highlighting the relevance of Maslow's theory to the present, this study emphasized the importance of addressing foundational needs for optimal cognitive and emotional development. Current research has augmented Maslow's theory, with Richard Ryan and Edward Deci (2020) contributing to its development by proposing that individuals sought growth for fulfillment. This augmentation was evident in Ryan and Deci's self-determination theory, which elucidated how social conditions could either support or impede an individual's motivation for personal growth (Ha & Roehrig, 2022; Ryan et al., 2021). Although current research built upon Maslow's theory of the hierarchy of needs, it was Maslow's theory that was the basis for this study. The theory also addressed the notion that people must have three psychological needs met before they could begin to grow: (1) people feeling in control of the direction or goals, (2) people gaining mastery over a skill or a task that has been learned, and (3) people needing to feel a sense of belonging (Grabowski et al., 2021; Ryan et al., 2021).

Maslow's hierarchy of needs outlined a psychological theory that categorized human needs into a hierarchical structure by suggesting that individuals must fulfill lower-level needs before progressing to higher-order ones (Abbas, 2020; Maslow, 1943). Maslow's central claim was that fulfilling a particular need typically depends on the prior satisfaction of another (Maslow, 1943). In the context of SEL, Maslow's theory provided a framework for understanding and addressing individuals' emotional and social needs. The success of Social-Emotional Learning (SEL) was attributed to meeting genuine demands for its services and establishing modest and specific goals (Li et al., 2021; Duchesne & Ratelle, 2020). SEL goals

aligned necessary support, materials, and training with these objectives and steer clear of a one-size-fits-all approach (Qadan & Chaleila, 2022; Edgar & Elias, 2021). The most auspicious strategies involved the integration of academics and SEL on a schoolwide scale, which eschewed the relegation of SEL to a standalone program (Fricke et al., 2021; Hendra, 2019). The ways to align Maslow's theory and SEL began with the foundational needs, and maintaining basic physiological needs, such as food, water, and rest were fundamental for emotional well-being (Maslow, 1943). In an SEL context, teachers may have considered addressing students' physical well-being to create a conducive environment for emotional learning, such as adding a snack time to their schedule or a nap time for younger students. If students attended class hungry, it hurts their ability to learn (Wang & Fawzi, 2022; Wrottesley et al., 2023). For the level of belongingness according to Maslow's theory (Maslow, 1943), the teacher may began with building positive relationships and a sense of belonging was a core aspect of social-emotional learning focusing on developing interpersonal skills, enacting empathy, and fostering a sense of community to meet these social needs (Cai et al., 2023; Shapira et al., 2020). Maslow's pinnacle, self-actualization, represented the realization of one's potential (Maslow, 1943). In the context of SEL, this could be linked to personal development and growth, which encouraged individuals to explore their strengths, passions, and purpose (Reynolds et al., 2020; Uusiautti et al., 2022).

Related Literature

Teachers were the guides and instructors not just for students' academic education but also for students' emotional support. Math had historically been a source of stress and anxiety for students for various reasons (Demedts et al., 2022; Ningsih et al., 2023). Math anxiety created added stress that affected a student's academic success (Lichtenfeld et al., 2023; Tarkar et al., 2022). Recently, students have experienced the repercussions of a pandemic that necessitated the

closure of physical schools by leading to the isolation of many students and the disruption of conventional methods for teaching mathematics. This circumstance contributed to heightened or newly emerged stress levels, which manifested discernibly within the educational system. The COVID-19 pandemic exacerbated pre-existing weaknesses and highlighted areas in the educational system that needed additional support.

Upon the resumption of school after the isolation caused by protection measures against COVID-19, it became evident that although behaviors had declined, the primary focus was on academic progress and comprehension (Klosky et al., 2022; Wood et al.,2019). The need for students to close the educational gap while also dealing with trauma or the lack of understanding of emotions created an opportunity to understand better how to support teachers. The following literature looked at understanding students' relationships and attitudes toward math, the role of SEL within academics, and the teacher's experience teaching math in elementary classrooms.

Math Anxiety

Math was one of the most stressful subjects for elementary math students of all ages (Commodari & La Rosa, 2021; Orbach & Fritz, 2022). Math anxiety was something that affects adults and students alike and could affect learning outcomes in a negative way (Sanchez-Perez et al., 2021; Tarkar et al., 2022). Math anxiety damaged a student's chances of success at math by casting a shadow over the learning process and potentially hindering positive educational outcomes. Math anxiety could be best described as dread and raised physiological responses when people have to manage numbers, solve mathematical problems or are exposed to an evaluative circumstance related to math (Lichtenfeld et al., 2023; Samuel & Warner, 2021). Solid and reliable correlations have been established between math anxiety and math performance, which suggested that individuals experiencing heightened apprehension and

anxiety toward mathematics exhibited lower math achievement levels (Barroso et al., 2021; Lau et al., 2022). Math success and understanding were blocked by the anxieties and intrusive thoughts stemming from math anxiety.

These intrusive thoughts disrupted and vied for cognitive resources (Dowker & Sheridan, 2022). Memory, essential for proficient math problem-solving, significantly taxed cognitive resources (Pizzie & Kraemer, 2023). The pervasive nature of this anxiety underscored the need for proactive strategies and a supportive learning environment to alleviate its impact and fostered a more positive and confident approach to math education. Math anxiety may have arose from diverse influences. These influences included three domains: math learning environment, math activity type, and unintentional adult influences.

Working memory suffered from the impact of math anxiety (Dowker & Sheridan, 2022; Tarkar et al., 2022). Working memory helped individuals hold a certain amount of information in their short-term memory to process the information they were taking in (Pellizzoni et al., 2022; Miller-Cotto & Byrnes, 2020). The ability to retrieve information from one's working memory and apply it to the current mathematical concept hindered the cognitive process, which resulted in difficulties in comprehending and effectively processing mathematical problems. Consequently, students may have experienced a sense of disappointment by feeling that attaining proficiency in mathematics is beyond their grasp, which further intensified their mathematical apprehension (Cuder et al., 2023; Scheibe et al., 2023). By forgetting mathematical concepts due to the apprehension associated with math or math anxiety, it could lead to harmful consequences in significant assessments and impede sustained mathematical progress over the academic year. Unintentionally, educators who created a significant barrier hampered the development of a robust mathematical foundation by preventing students from building upon previously learned

concepts and achieving proficiency in the subject they were studying (Durlak et al., 2022; Sears et al., 2022; Szczygie, 2021).

Math Attitude Helps Students

Evidence showed that explicit positive math attitudes showed positive math outcomes and lower levels of student distress (Durlak et al., 2022; Clarke et al., 2021). Teachers could cultivate a supportive learning environment that fostered explicit positive math attitudes, which improved math proficiency. A teacher's perspective could significantly reduce student distress, which created a conducive atmosphere where individuals felt empowered to tackle mathematical challenges with confidence and resilience (Cai & Han, 2023; Cvencek et al., 2021). The correlation between teacher support and student underscored the importance of nurturing a positive mindset toward mathematics, ultimately, contributing to a more inclusive and practical educational experience for all students. The literature on math thinking and math attitudes was increasing.

A recent study delved into the connection between adolescents' mindsets—specifically, their convictions regarding the permanence of their abilities. The study also examined how student beliefs intersected with their self-perceived abilities and internal drive (Yeager et al., 2019; Heyder et al., 2021). Additionally, the research discovered that these associations demonstrated variances based on the gender of the students involved (Yeager et al., 2019). The research revealed that students adopting a growth mindset were inclined to experience more excellent academic progress. These results indicated that maintaining a fixed perception of mathematical aptitude placed an added challenge on female students striving for persistence and success in math (Copur-Genctur et al., 2021; Yeager et al., 2019). Students' self-perception about their math ability and their intrinsic motivation when it came to math were significant factors of

why there was an underrepresentation of females in the STEM field compared to males (Muradoglu et al., 2023).

Classroom relationship-building and management skills were crucial at any time; however, after the pandemic, the school year has been disrupted to bring forth new challenges for students educationally and emotionally. By looking at study results that focused on mental health and well-being resulted from countries, such as Japan, the UK, China, Italy, Turkey, Ireland, India, Canada, Brazil, and Bangladesh, a pattern emerged that showed an overall increase in anxiety and depression symptoms after COVID-19 when students returned to school (Viner et al., 2022). The change in student behaviors was noticeable. Studies found that limited social interactions between children, adolescents, and essential figures, like teachers, led to isolation among adolescents by diminishing their access to social support and impeding opportunities for cognitive and social growth (Lee, 2020; Orben et al., 2020). Younger students soon showed reluctance and disinterest in the learning process, which struggled to find meaningful engagement in the school (Gulmez & Ordu, 2022; Stamatis, 2021). They found engaging actively with the material presented in school increasingly challenging. The lack of meaningful engagement was evident in their diminishing participation in class activities, decreased motivation to complete assignments, and a general sense of disconnection from the educational experience. Specifically, there was a rise in issues concerning enforcing rules and undesirable behaviors among students (Williams et al, 2022). Instances of rule violations, such as disruptions in class, non-compliance with instructions, and conflicts between peers, became more frequent. The surge in behavioral issues posed a significant concern for the overall classroom environment as it hindered the learning experience for all students (Godwin et al., 2023; Kareem et al., 2023).

Math Education

The old standard of teaching was more of a lecture model where the teacher would tell students what to do, and students would mimic the teacher's moves to show competence (Darling-Hammond et al., 2020; Peck et al., 2022). The degree to which a student could accurately emulate the pattern style of the instructor's approach to solving a problem positively correlated with academic achievement within the classroom setting. With mimicking their actions , teachers could have provided cognitive rigor for students and allowed them to create their understanding. As students failed to mimic the teacher's actions because of their lack of knowledge, frustration and math anxiety built (Koichu et al., 2022; Liljedahl et al., 2022).

Research indicated that expecting students only to write down their answers to questions increased anxiety during testing and completing schoolwork (Szczygieł & Pieronkiewicz, 2022). When testing, students were often confused about concepts and have difficulty applying the rules they have learned to answer a question because students did not know why a particular rule was helpful for a specific math problem. A study on cooperative learning found that when teachers implement a problem-solving method, students learned mathematics through real-world issues, challenges, and models. (Silva et al., 2019). The study also found that using the procedure to teach something did not always align with a student's conceptual knowledge (Root & Cox, 2021; Silva et al., 2019). Students needed contexts and models to create meaning in a situation before being introduced to a system of procedures to help them find a solution.

Math anxiety was highest in two different situations or within two different activity types; one was within the classroom during math practice or math learning, and another was during test-taking times (Barroso et al., 2021; Szczygieł & Pieronkiewicz, 2022). During classroom activities, students struggled and felt apprehensive when engaging in activities that

use math skills such as adding, subtracting, multiplying, and dividing (Lau et al., 2022; Barroso et al., 2021). Another area of apprehension and anxiety was math story problems, where students have to figure out what the math question was asking and problem-solve the outcome (Lau et al., 2022; Caviola et al., 2021)

Specifically, scholars feared failing and receiving a bad grade when testing (Namkung et al., 2019; Zhang et al., 2019). Students also have increased anxiety when they feared how complex the task may be while also worried about the time constraints of completing the problem (Silva et al., 2020; Szczygieł & Pieronkiewicz, 2022). The unease about math created anxiety to the extent that students no longer felt motivated to learn math and, sometimes, even avoid completing a math problem (Namkung et al., 2019; Szczygieł & Pieronkiewicz, 2022). The lack of math motivation led students to think negatively about math and fail math tests.

Inequality

The available data underscored a concerning trend, which indicated that disparities in mathematics performance commenced as early as elementary school and, quite possibly, even earlier (Boda et al., 2022; Lavrijsen, 2022; Scammacca et al., 2020). The fact that math disparities started early prompts a critical examination of the factors influencing academic achievement and the potential role of gender perceptions in shaping students' experiences. Existing research has delved into the intricate landscape of gender perspectives concerning academic success (Ellison & Swanson, 2023; Marsh et al., 2021). By unraveling the complexities of achieving equality in learning mathematics, it has proven to be a persistent challenge. Moreover, a noteworthy body of literature suggested that the gender gap in mathematics was not only prevalent but was notably more pronounced in the way female students perceive their mathematical capabilities, particularly in countries with ostensibly greater gender equality (Guo

et al., 2019; Marsh et al., 2021; Stoet & Geary, 2019). This phenomenon added a layer of complexity to the pursuit of educational equity by shedding light on the nuanced interplay between societal factors, gender perceptions, and academic performance in mathematics.

Gender Disparity

Research also suggeste that males in countries that have more gender equality have more freedom to pursue other endeavors while females were at home studying (Eriksson & Strimling, 2023). The paradox of a country with more gender equality showing fewer females in math and science showed more disparity and disadvantage to females in countries that claimed to be closer to gender equality. Early studies indicated a bias in treating female students as if math was too complicated while boys were encouraged to pursue higher learning (Cvencek et al., 2021; Metsapelto et al., 2020; Ruef et al., 2022). Bias manifested in subtle ways, from adults offering more extensive explanations to girls while assuming boys grasp concepts effortlessly to the pervasive societal belief that mathematical aptitude was somehow innately tied to gender, which perpetuated a cycle of discouragement for female students (Heyder et al., 2021; Jaxon et al., 2019). In early studies, educators exhibited a bias by treating female students as if math was overly complicated while simultaneously encouraging boys to pursue higher learning. This bias perpetuated a harmful stereotype that unjustly hindered the potential of female students in the field of mathematics and deprived society of the diverse perspectives and contributions they could have brought to the critical discipline of education (Csapó, 2022; Lazarides & Lauermann, 2019).

Positive math attitudes toward boys versus girls showed why fewer women were in science, technology, engineering, and mathematics (STEM) for education and within the workforce (Cvencek et al., 2021; Dietrich & Lazarides, 2019). By challenging deeply ingrained

stereotypes and providing equal opportunities and encouragement for all students, irrespective of gender was necessary to excel in mathematics. Teachers often demonstrated their bias when attempting to convey equality through the language used with female students (Hofer et al., 2022; Jaxon et al., 2019). For example, saying girls were just as good as boys implied that boys were already known to be better. The comparison that assumed that boys were already good at math whereas girls were not was an example of the nuances of gender dynamics in a school setting. While educators thought they were conveying a sense of equity with their choice of wording with young female students, an underlying bias was evident in their word choices by implying unintentionally that girls were less proficient in math. Assuming girls were not as proficient in math created inadvertent thinking toward the belief that boys were more adept at math (Chen et al., 2022). Unintentional wording and bias affected how students see themselves, specifically, female students saw themselves as less than others.

Looking primarily at elementary school and beyond grade levels and explicitly examining the attitudes of math students about their math achievement, there was a noticeable bias in female attitudes toward math (Cvencek et al., 2021; Szczygiel, 2020). Based on a first-grade study, it has been observed that girls tended to exhibit a more negative attitude towards math. The phenomenon of negative math attitudes may have stemmed from various sources. One potential factor could have been the transmission of parental and adult anxiety regarding math, which may inadvertently have influenced a child's perception and confidence in the subject (Caviola et al., 2021; Szczygiel, 2020). Additionally, it was plausible that this negative mindset could be indicative of a broader societal gender bias favoring boys in the realm of mathematics (Levine & Pantoja, 2021). Educators addressing this issue was crucial for fostering a more inclusive and empowering learning environment and providing girls with positive math

experiences, role models, and supportive resources to help counteract any negative influences that may have contributed to their apprehension towards the subject (Geary et al., 2019; Lee et al., 2021). By promoting a growth mindset and emphasizing the importance of math for all students, we could work towards dismantling gender-related barriers and ensuring equal opportunities for success in this critical academic domain.

Race Disparity

Despite advancements in various aspects of education, the persistent gaps in academic outcomes and the disproportionate use of exclusionary discipline continued to be stark realities that demanded urgent attention (Ibrahim & Johnson, 2020; Shores et al., 2020). There was a correlation underscored by empirical research conducted on a national level, which consistently highlighted the vital link between the racial discipline gap and the racial achievement gap (Shores et al., 2019; Pearman et al., 2019). These studies have demonstrated that inequitable disciplinary practices disproportionately affected students from marginalized racial backgrounds, which was detrimental to their overall academic performance and long-term educational outcomes. The data indicated that addressing disparity in disciplinary actions was not only a matter of fairness and social justice but also a critical step toward narrowing the broader achievement gap and fostering a more inclusive, equitable educational system (Gopalan, 2018; Shores et al., 2019). The study about suspension rates for African American boys and girls went up in the 2015–2016 school year indicates achievement gaps related to discipline gaps, as evidenced through national data, found that districts with wider disparities in achievement between black and white students tended to exhibit similarly pronounced gaps in disciplinary actions. Conversely, communities with substantial gaps in disciplinary measures often demonstrated significant disparities in academic performance between black and white students,

on average (Chin et al., 2019). It was essential to address suspension disparities and implement more equitable disciplinary practices to ensure a fair and promising future for all students, regardless of student background (Bacher-Hicks et al., 2019; Davison et al., 2021; Lacoe & Steinberg, 2019).

Another study found that suspension rates for African American boys and girls went up in the 2015–2016 school year, which resulted in an increased achievement gap for those students (Ibrahim & Johnson, 2020; Shores et al., 2020). The suspensions also harmed students' math performance. The more a student was removed from school, the less the possibility of student academic success (Anyon et al., 2023; Fix et al., 2023) because it broke up the learning process by making it difficult for students to catch up on missed foundational skills as the class had started to move forward. Any time away from school, whether a suspension, skipping class, or being out of school for any reason, was attributed to learning loss (Craigie, 2022). The hiatus from the structured learning environment could lead to gaps in knowledge and skills, which could require additional effort to bridge upon returning to the classroom. Students must have made the most of their time in school to maximize their educational potential and minimize any potential setbacks caused by extended absences (Ibrahim et al., 2020; Shores et al., 2020).

Student suspensions led to reduced performance in both math and reading among the suspended students. These effects remained consistent even when utilizing a district-wide policy shift in suspension practices (Ibrahim et al., 2020; Lacoe & Steinberg, 2019). Individuals who directly underwent suspension find its impact more significant than their peers. When it came to severe misconduct leading to breaks, there was a minor adverse effect on peer achievement, but it did not appear to impact peer absenteeism significantly. While the immediate consequences of a suspension could result in a slight dip in collective academic performance among peers, it did

not necessarily lead to increased absenteeism rates among unaffected students (Ibrahim et al., 2020; Lacoe & Steinberg, 2019). However, schools must have implemented supportive measures and interventions to ensure suspended students and their peers could continue their educational journey with minimal disruption and optimal learning outcomes. (Jabbari & Johnson, 2023).

Studies showed that minority students are disciplined disproportionally than their peers (Anderson et al., 2019; Puckett et al., 2019). The overrepresentation of students of color in exclusionary disciplinary practices, such as suspensions, was a complicated issue, especially in urban areas where these students were already affected by structural inequities (Bal et al., 2019; Wegmann & Smith, 2019). Different studies have different outcomes of the reason for the disparity. Studies find that black students did not misbehave more than peers, and teachers could be biased toward students of color (Csapó, 2022; DeCuir-Gunby & Bindra, 2022). Therefore, understanding how racial bias could influence teachers was crucial for observational and experimental investigation. If there was an evident and unconscious bias within society, bias was likely happening in the classroom, whether people could see it or not. Students needed collaborative adults to find ways to work together and build trust with clear goals in mind (Worrell, 2022; Robinson, 2023). Some studies showed the influence of teachers' racial bias as a contributing factor to racial disparities in education (Strack et al., 2020).

Life Factors

COVID-19 brought to the forefront the variety of inequalities students have to deal with because of learning loss and the added stress and trauma students went through (Lake & Dusseault, 2020; Welsh, 2020). The result of the inequity and inequality were evident during the COVID-19 pandemic. The COVID-19 pandemic, caused by the novel coronavirus SARS-CoV-2, emerged in December 2019, the respiratory syndrome that affected many very quickly (Ciotti

et al., 2020; Wu et al., 2020). COVID-19 promptly spread globally, which led to widespread illness, significant loss of life, and profound societal and economic impacts. The global disruptions caused by the COVID-19 pandemic had far-reaching effects on education systems worldwide. The sudden shift to remote learning brought about a prolonged period of instability and required rapid adaptation from educators and students alike (Gilead & Dishon, 2022; Fischbacher-Smith & Adekola, 2022). Classrooms continued to grapple with the repercussions of these disruptions through facing ongoing challenges in maintaining consistent and effective learning environments. The effects COVID-19 left behind were something that had never happened before, and people were unsure how to deal with it. It had prompted educators to reevaluate and innovate teaching methodologies while harnessing technology and creative solutions to ensure that students received a quality education despite the disruptions (Sarid & Levanon, 2023; Schoeps et al., 2022; Viner et al., 2020). The enduring impact of the global upheaval in education underscored the need for continued research, reflection, and adaptation to best support students in the post-pandemic landscape. There needed to be more literature about how to help students after the pandemic; although, current research was beginning to emerge. Socio-economic disparities had a significant impact on education and learning achievement. Teachers did not anticipate a shift in student dynamics compared to the pre-pandemic period as many students had become accustomed to distance education and felt disconnected from traditional school settings and routines (Gulmez & Ordu, 2022; Kocabas et al., 2021; Kultas & Calıskan, 2021).

Inequality

Deu to being at home for a prolonged time, educators were concerned that students witnessed or experienced some violence at home (Schauss et al., 2019). Upon returning to the

classroom, it became evident that many students exhibited notable challenges. These included heightened impulsivity, reduced capacity for higher-order thinking, delayed cognitive processing, and significant setbacks in social interactions and academic performance (Howell et al., 2019). Heightened impulsivity or substantial upticks in children's levels of hyperactivity and inattention throughout the pandemic were noted based on research (Robinson et al., 2022; Rosenthal et al., 2022). Importantly, these observations were not attributable to heightened parental stress, affirming the robustness of the findings (Breaux et al., 2021; Wendel et al., 2020). Students who had symptoms of heightened impulsivity or even symptoms of ADHD seemed to increase during the pandemic due to uncertainty, stress, and erratic sleep patterns (Neudecker et al., 2019; Pickern et al., 2022).

Socio-Economic Factors

Once the pandemic was over and students returned to school, students displayed a reduced capacity for higher-order thinking skills (HOTS) in math class (Howell et al., 2019; Yurniwati et al., 2020). The diminished capacity of HOTS affected the development of students' cognitive abilities. Higher-order thinking questions in math were often called cognitive engagement questions. Students must have displayed problem-solving, critical thinking, reasoning, and judgment skills (Firmansyah et al., 2021; Megawati et al., 2020). These skills were essential to increase understanding of math because they allowed students to solve various math problems with many strategies they had learned over time. Studies also found that generally younger students were more affected than older students were due in part to the fact that older students had the opportunity to learn more ways to self-regulate their learning and younger students needed more of a scaffold (e.g., Hammerstein et al., 2021; Tomasik et al., 2020). The profound delay in younger students compared to older students was also why there

had been a delay in cognitive processing for students. Still, the effect was more profound in younger and older students.

These hurdles, particularly the delays in social interactions and cognitive processing, had an unfortunate consequence: an increase in the application of school disciplinary measures, with suspensions becoming a more frequent recourse (Davison et al., 2021; Lacoe & Steinberg, 2019). Suspensions posed additional obstacles for these students and underscored the pressing need for tailored support and interventions to help them reintegrate effectively into the educational environment. It highlighted the importance of implementing strategies that address academic and socio-emotional well-being to foster a positive learning experience for all returning students.

Socio-economic Disparities

Socio-economic disparity in education was a complex and multifaceted issue. Poverty was the top reason for the educational disparity, which caused long-term effects on children's cognitive development, academic growth, and future job opportunities (Daniele, 2021; Silva-Laya et al., 2020). Equity was not just influenced by forces outside the classroom, such as poverty, but also by an inside factor, such as a classroom teacher. Unintentionally, teacher inputs and teacher behaviors increased the inequity and inequality in a classroom (Tuononen et al., 2023; Juvonen & Toom, 2023). A trend of students of a lower socio-economic status having difficulty filling a more significant learning gap had been present, and the gap was increasing (Metsapelto et al., 2020; Seage & Turegun, 2020). The trend of students from lower socio-economic backgrounds facing challenges bridging substantial learning gaps had been a persistent concern. Unfortunately, the gap had only widening over time.

Widening disparity in educational attainment between students of lower socio-economic status and their peers with more advantageous socio-economic backgrounds underscored the

urgent need for targeted interventions and support mechanisms. It was crucial to address the widening disparity issue to ensure all students have equal access to quality education, regardless of economic circumstances. This fostered a more equitable educational landscape. While research on creating an equitable educational landscape was relevant, change must be faster. The disparities in access to resources and educational opportunities continued to exacerbate the issue of equality (Hartanto et al., 2022; Seage & Turegun, 2020). Resources that were lacking for students stem from lower economic status ranging from computers, software, internet access, and instructional materials (Daniele, 2021; Wang et al., 2023); this became evident during the COVID-19 pandemic. Educational opportunities ranged from attending higher education to having employment with higher income due to education (Vadivel et al., 2023; Perales et al., 2023).

These educational setbacks could also reverberate throughout students' lives as limited access to quality education often led to decreased future job opportunities. Securing well-paying and fulfilling employment became increasingly challenging when education levels were compromised. The consequences of limited quality education caused diminished access to opportunities. They could perpetuate a cycle of inequality or inequity and hinder the overall socio-economic advancement of African-American students. Despite concerted efforts, accessing and providing equitable education across numerous nations remained challenging (Gillani et al., 2021; Graetz et al., 2020). The evidence of disparity was often exacerbated by socio-economic factors, geographical location, and systemic barriers, which further highlighted the complex nature of the issue. The United States had grappled with racial disparities regarding academic performance and the implementation of school discipline that excluded students from participating in school (Henry et al., 2020; Pearman et al., 2019).

Trauma

A factor that also affects equity in learning in the classroom was the effects of trauma on a student's ability to learn. By experiencing trauma during childhood, trauma had the potential to affect students' cognitive development negatively as well as their mental and social development across their lifetime (Champine et al., 2022; Pignatiello, 2020). Trauma could best be described as a highly distressing event or set of experiences that have a lasting impact on someone's life (Fondren et al., 2023; Healy & Tuohy, 2022). Trauma seemed to be at higher rates in communities that have increased poverty, exposure to discrimination, community violence exposure, and lack of education (Fortuna et al., 2020; Pumariega et al., 2022). These communities also tended to have a minority-heavy population (Champine et al., 2022; Fortuna et al., 2020). Efforts to create more inclusive, equitable, and supportive environments within schools and the broader community were essential in mitigating the impacts of racism and poverty on students' well-being. (Kimber & Ferdossifard, 2020; Sanders, 2022). The effects of racism and poverty extended to the need for policies addressing systemic disparities, which offered resources for mental health assistance and cultivated an environment of inclusivity and security for every student. Moreover, embracing culturally sensitive and trauma-informed educational approaches could yield positive outcomes. In this context, trauma encompassed events or a series of deeply distressing circumstances that an individual undergoes by resulting in notable disruptions to their physical, social, emotional, and cognitive well-being. (Brown et al., 2022). Without proper support and the establishment of coping mechanisms for students dealing with trauma, they were likely to persist in their current behavioral patterns (Foreman & Bates, 2021; Miller et al., 2022).

The role of trauma and adversity in students' lives and how that affected student

academic performance within schools had not received extensive research attention (Avery et al., 2022; Maynard et al., 2019). The gap in research concerning the impact of trauma and adversity on students' lives and how it influenced their behavior and academic performance within educational settings signified a critical area that warrants further investigation. Understanding the complexities of these experiences was pivotal in developing effective strategies to support students in their learning journeys (Kimber & Ferdossifard, 2020; Sanders, 2022). The absence of adequate support systems and the implementation of effective coping mechanisms for students grappling with trauma could have inadvertently perpetuated their existing behavioral patterns. There was an urgent need for targeted interventions and resources to help students navigate and overcome the challenges of traumatic experiences (Foreman & Bates, 2021). Additionally, teachers could struggle to interpret these students' responses to trauma accurately while potentially mistaking signs of distress for lack of motivation to learn or even as acts of aggression (Brown et al., 2020; Miller et al., 2022).

Environmental factors, including conditions students are exposed to, could significantly impact their stress levels and overall well-being. Studies have shown that factors, like racism and poverty, could lead to what was referred to as trauma or toxic stress. Stress arose from prolonged exposure to adverse conditions or situations, which could seriously affect physical and mental health. (Morsy & Rothstein, 2019; Sanders, 2022). Chronic toxic stress could manifest in various ways, including behaviors that could be perceived as aggressive or out of control. Educators who acknowledge that these behaviors of aggression or lack of control in students frequently serve as coping mechanisms to navigate the immense stressors they encounter was essential. They were delving into the root causes within a student's environment and social context to support their growth and well-being. Educators making a connection and understanding with students was

imperative. The proactive approach ensured these students overcome challenges and flourish in their academic journey and personal development (Morsy & Rothstein, 2019; Vu et al., 2022).

By living under sustained pressure and chronic stress, stress could had significant repercussions on an individual's physical, mental, and emotional well-being. The human body and mind were not designed to endure prolonged periods of stress without experiencing adverse effects (Morsy & Rothstein, 2019; Sanders, 2022). People who had been around violence often struggled with various skills, such as regulating behaviors and problem-solving (Gomes, 2023; Matlin et al., 2019). To navigate these challenges, individuals often developed coping mechanisms. Coping mechanisms that people used were often problem-focused or emotion-focused to relieve the pain or suffering caused by trauma (Machado et al., 2020; Perry & Cuellar, 2022). These coping strategies served as a crucial lifeline, which allowed individuals to manage and alleviate their pressures, and ultimately, promoted resilience and well-being.

Students required teachers to be educated on how to help and support them in addition to their coping mechanisms. Resiliency education equipped children and adolescents with valuable tools to navigate their traumas, which fostered the development of healthy communication skills and enabling them to express their emotions and experiences effectively in different ways (Herrenkohl et al., 2019; Perry & Cuellar, 2022). To enable students to regulate emotions, educators must have taught them them, and part of that teaching would involve undoing what students already knew or were accustomed to seeing.

Adult influences

There was a common misconception that math skills were linked to intelligence levels or academic skills when there was also a strong link between students' attitudes towards math and the influence adults could have on student math attitudes (Cvencek et al., 2021; Ruef et al.,

2022). Adult students interacted within their living environment, especially their parents, significantly influencing how they perceive mathematics. As adult influences, educators also played a crucial role in shaping students' mathematics comprehension, anxiety, and attitude toward the subject (Cvencek et al., 2021; Dowker, 2021). How students view math and positivity toward engaging in math could also positively impact self-esteem (Cvencek et al., 2021; Metsapelto et al., 2020). The importance of adults close to children or in a position to teach and tutor children could not be discounted when creating a view of positive math attitudes or increased math achievement (Dowker, 2021; Szczygiel, 2020).

The perspectives and beliefs that educators or adults held regarding mathematics, including its significance or complexity, were swiftly transmitted to students, subsequently shaping or impacting their beliefs (Dowker, 2021; Szczygiel, 2020). There was a direct correlation between parent and student anxiety in math (Cheung et al., 2023; Dowker, 2021). When parents or adults in students' lives experience heightened anxiety about math, they inadvertently conveyed this feeling to the students. Parental or adult math anxiety induced unease and discomfort in students regarding math that they could not have experienced otherwise. While parental influence could contribute to math anxiety in students. A conclusive link between parental anxiety and decreased math achievement in students had not yet been established (Cheung et al., 2023; Szczygiel, 2020).

Based on one comprehensive study, it was observed that the influence exerted by mothers and teachers was notably more substantial compared to that of fathers in shaping a student's disposition towards mathematics (Szczygiel, 2020). Maternal and pedagogical influence significantly bolstered students' prevailing apprehension and anxiety toward mathematics, potentially influencing their academic performance and attitudes (Szczygiel, 2020). Active

parental involvement in education constitutes a pivotal element in enhancing academic achievements for children (Kiss & Vukovic, 2020; Szczygiel, 2020). Parental influence underscored the critical role that both mothers and teachers play in mitigating or exacerbating math-related anxieties in educational settings.

Benefits of Social-Emotional Learning

Math anxiety, a pervasive phenomenon, manifested as a profound sense of dread or apprehension when individuals were confronted with mathematical tasks, which often resulted in diminished performance and obstructed learning trajectories (Cheung et al., 2023; Szczygiel, 2020). This psychological barrier could significantly impede one's ability to engage with mathematical concepts while creating an environment where the fear of mathematical challenges overshadowed the potential for academic achievement. Nevertheless, it was imperative to underscore that math anxiety was not insurmountable. Research conducted by Aldrup et al. (2020) and Samuel & Warner (2021) illuminated effective strategies that could be employed to mitigate the adverse effects of math anxiety. One critical approach involved identifying and understanding the specific triggers that evoked anxiety in mathematical contexts. By pinpointing these triggers, individuals could proactively address and manage the underlying causes of their anxiety by fostering a more positive and constructive relationship with mathematical concepts.

Teachers Tools

Teachers must have had the knowledge and tools to create a nurturing and inclusive classroom environment where students felt valued, understood, and supported in their emotional growth and social interactions (Orgel, 2022; Sears et al., 2022). Teachers were empowered when they knew how to navigate the complex dynamic landscape of the modern classroom, which fostered a more conducive learning environment (Filderman et al., 2023; Von der Embse et al.,

2020). Furthermore, teachers who understood how to implement SEL competencies within a classroom ensured that they remain attuned to students' evolving needs and challenges while enabling them to adapt their teaching approaches accordingly. The advantages of this training extended beyond the immediate impact on students, which encompassed a transformative effect on educators themselves. By equipping teachers with the tools and strategies embedded in the training, they were empowered to deftly navigate the intricate and dynamic landscape of the modern classroom (Filderman et al., 2023; Von der Embse et al., 2020). This empowerment translated into a multifaceted enhancement of the teaching profession that influenced instructional methodologies and the overall classroom atmosphere. Thus, investing in robust SEL training for teachers was a fundamental step toward enhancing students' overall educational experience and well-being (Orgel, 2022; Sears et al., 2022).

Teacher Self Efficacy

Teachers' perception of their effectiveness was pivotal in enhancing student achievement in mathematics alongside their teaching methodologies (Huss-Keeler, 2022; Szczygiel, 2020). An emerging concern pertained to the increasing number of alternative certification teachers entering the educational sphere, a trend exacerbated by the post-COVID-19 teacher shortage. Regrettably, many of these teachers could be underqualified or needed more depth of content knowledge in mathematics. The situation inevitably led to heightened anxiety among educators (Grant & Brantlinger, 2022; Newton et al., 2020). The resulting implications on the quality of math instruction and student learning outcomes necessitated a focused effort on PD and supported for these educators to ensure optimal learning environments for all students.

Teacher shortages across the United States made it difficult for schools to hire or keep highly qualified teachers (Carver-Thomas & Darling-Hammond, 2019; Sutcher et al., 2019).

Schools were responding to the shortage by hiring underqualified and inexperienced individuals who were often taking an alternative school route to certification as they taught (Schmitt & deCourcy, 2022), which often left the field at higher rates than traditional teachers (Madigan & Kim, 2021; Redding & Henry, 2019). The necessity for educators to receive comprehensive training and augment their knowledge base to assist their students effectively was a critical requirement (Lim et al., 2019; Murano et al., 2019). However, the absence of such preparation could lead to frustration and a perceived deficiency in their ability to adequately support their student's educational needs. The gap in training and expertise not only posed challenges for educators but also diminished the overall quality of the educational experience for their students (Grant & Brantlinger, 2022; Newton et al., 2020).

Conceptual Math

In elementary schools, the focus of anxiety stemmed from a lack of conceptual understanding (Roesslein et al., 2019; Szczygieł & Pieronkiewicz, 2022). Students in elementary grades struggled with counting skills and mathematical reasoning (Orbach & Fritz, 2022; L. Sun et al., 2021). Conceptualizing what is happening in a math problem was a crucial step to problem-solving; it helped students understand what was happening in a math problem even if they could not solve it yet (Chesnais, 2021; DiNapoli & Miller, 2022). Students having difficulty grasping the underlying concepts and rationale behind mathematical principles could significantly impede a their comprehension. Thus, even the procedural knowledge for solving a math problem proved insufficient as it failed to address the fundamental issue of comprehending the underlying logic and purpose behind the chosen method. Students needed to understand why a procedure works. The lack of conceptual understanding ultimately hindered a student's mathematical proficiency and problem-solving skills (Chesnais, 2021; Roesslein, 2019). The

failure to conceptualize math could also show why, in the classroom, students were simply mimicking strategies taught with little knowledge of why (Koichu et al., 2022; Liljedahl et al., 2022).

Professional Development

Professional development was best described as learning development for teachers that could support their teaching practices in the classroom (Romjin et al., 2021; Siraj et al., 2019). PD took many forms in the teaching profession, from webinars to workshops to in-depth and sustainable support for teachers, at times even earning them credit to continue teaching (Clarke et al., 2021; Neilsen-Hewett, 2019; Siraj et al., 2019; Tang et al., 2020). Educational institutions encompassing schools and districts expressed a keen interest in ensuring that teachers derive substantial benefits from PD opportunities. However, the effectiveness of PD was intricately tied to its ability to resonate with teachers on a personal level (Bernay et al., 2020; Cochran-Smith et al., 2020). The recognition of this principle underscored a shift in perspective, emphasizing that the impact of PD extends beyond the institutional level and hinged significantly on the individual teacher's experiences, needs, and aspirations.

Student trauma was increasingly recognized (Furman, 2021; Opiola et al., 2020). Most teachers expressed a sense of inadequacy in their readiness to support students impacted by trauma (Opiola et al., 2020; Stipp, 2019; Thomas et al., 2019). An approach to alleviating feelings of teacher inadequacy in assisting students with trauma was to establish PD opportunities focused on enhancing teachers' proficiency in this specific area. Although teachers wanted to provide a safe and loving classroom, many educators still needed to gain the readiness to effectively engage with culturally and linguistically diverse children (Romjin et al., 2021; Slot et al., 2019). The necessity for enhanced PD that adequately equipped pre-service teachers

(student teachers) to navigate the complexities of diverse classrooms and provided ongoing support to in-service teachers in their interactions with these students and their families (Parkhouse et al., 2019; Romijn et al., 2021).

Social Emotional Learning

An area where teachers could have experienced significant advantages through professional development was within SEL instruction. SEL training could assist in the cultivation of a positive and inclusive classroom culture. The prolonged effects of the pandemic on students' emotional well-being have been profound, particularly for those belonging to marginalized or overlooked groups. These students, who could already face various challenges, have experienced an intensified impact on their mental health (Bouffard, 2021; Katzman & Stanton, 2020). The disruptions to routine, isolation, and uncertainty have affected their emotional resilience. As a result, their overall social well-being had significantly declined. The social decline included their sense of belonging, connection with peers, and feelings of inclusion within the broader social context. It is crucial to address the unique challenges these students face and support their emotional and social well-being during this period of recovery (Bouffard, 2021; Katzman & Stanton, 2020).

Teachers have felt the need for support and training on classroom management and positive behavior interventions even before the pandemic (Franks, 2020; Pignatiello, 2020). SEL covered many strategies needed to manage classrooms and create positive interventions for behaviors, such as increasing student self-awareness of emotions and building strong relationship skills within the school (CASEL, 2021; Evans, 2022). Many teachers, during remote teaching and after the pandemic, felt they needed more experience incorporating SEL into the daily curriculum (Dragisich, 2020; Walsh et al., 2021). There was a discernible gap in the scholarly

literature concerning the integration of Social-Emotional Learning (SEL) and its impact on mathematical education for students. Further research and literature addressing this intersection were warranted to enhance our understanding of its implications and potential benefits. Math curriculum either needed to include social-emotional competencies or, if included, needed to be called out to affect academic success intentionally and positively (Orgel, 2022; Sears et al., 2022). Other drawbacks to including SEL learning within the math curriculum were the need for teacher education on this subject and the teachers feeling emotionally overwhelmed and unable to help students regulate their emotions (Katz et al., 2020; Sandilos et al., 2020). Some school districts, though, were taking an interest in SEL learning and incorporating this into the math curriculum. Looking at a school district in Ontario, Canada, the Ford Government announced that it could look at the Social-Emotional Learning skills and the mathematical processes together (Billiau, 2020). As the district looks at the changes that need to happen due to the different behaviors that have surfaced during the pandemic, social-emotional learning has became a priority in math learning in Canada (Billiau, 2020). There was an opportunity to help students progress and reach their potential as a safe place was created emotionally in the classroom.

Addresses Social Challenges Proactively

Teachers generally agreed that schools must provide students with social and emotional skills and cognitive abilities (Ferreira et al., 2020); however, teachers needed more training. Acknowledging that teachers require additional, comprehensive training in SEL methodologies was imperative for teacher growth. The training could encompass various strategies and techniques that enable educators to effectively cultivate EI, interpersonal skills, and resilience among students. Schools and educational leaders could have concerns about whether SEL

crossed the line into psychological treatment. Social-emotional learning (SEL) training was typically designed to enhance social and emotional skills, such as self-awareness, self-regulation, interpersonal communication, and decision-making, within an educational context (Cvar, 2019; Jomaa et al., 2023). While SEL training addressed psychological aspects of development, it generally did not cross the line into psychological treatment in the clinical sense (Jagers et al., 2019; Schonert-Reichl, 2019). Studies have shown that for SEL implementation to be successful, and the outcome depended on teachers (Filderman et al., 2023; Paul von der Embse et al., 2020). A successful program relied on teachers accurately determining where students fell within social-emotional competencies (Filderman et al., 2023; Paul von der Embse et al., 2020). From these studies, it could be inferred that SEL implementation must began with teacher training and having teachers accurately assessed where students needed support and have the skills to provide that support (Filderman et al., 2023).

The Collaboration for Academic, Social, and Emotional Learning (CASEL) created a group of competencies to help support students' emotional regulation within the classroom. These combined competencies contributed to the development of the whole student, ultimately, fostered their academic achievements and prepared them for adulthood. The organization was recognized internationally for supporting and establishing SEL support within elementary, middle, and high schools (Frye et al., 2022). The CASEL framework included five interrelated competencies: (a) self-awareness, (b) self-management, (c) social awareness, (d) relationship skills, and (e) responsible decision-making (Frye et al., 2022). There were various tools to screen. Social awareness looked at a person's ability to be aware of emotions and behaviors based on those emotions (Crowder et al., 2019; Negru & Palos, 2023). All these tools have in common that they emphasized self-management, which examined a person's ability to manage

emotions, behaviors, and situations. Social awareness dealt with a person's ability to address social problems, be aware of specific social cues, and empathize with others. Relationship skills dealt with one's ability to develop and maintain healthy relationships. Responsible decision-making involved putting everything together and choosing based on caring and social constructs (Lew et al., 2020; Coelho et al., 2022). Each of the four domains also had subdomains identifying precisely what was needed to support each part. The benefits of having a social-emotional learning program within schools have been well-documented (Durlak et al., 2022; Ibarra, 2022; Mahoney et al., 2021).

Nevertheless, research exploring the advantages of incorporating SEL within academic domains had been notably scarce, particularly in conjunction with mathematics. Researchers must explore the success rate of a math program that integrates SEL.. The intersection of math education and SEL held immense potential for positively influencing students' academic performance and well-being. By incorporating SEL principles into math instruction, students gained not only essential mathematical skills, but also developed crucial socio-emotional competencies, such as self-awareness, emotional regulation, and effective communication (Durlak et al., 2022; Ibarra, 2022; Mahoney et al., 2021).

The benefits of such a program extended beyond the immediate academic realm. Research indicated that students exposed to SEL-infused education demonstrate improved problem-solving abilities, increased engagement with mathematical concepts, and heightened learning motivation (Durlak et al., 2022; Mahoney et al., 2021). With learning skills from SEL competencies, students were now better equipped to handle challenges in the math classroom and their broader educational journey. The compassionate approach to education addressed the comprehensive needs of students, which fostered a positive learning environment that promotes

academic achievement and emotional growth.

While initial studies suggested the promise of benefits from an SEL program, more research needed to be done on SEL-integrated math programs (Michalec & Wilson, 2022; Rosenberg et al., 2022). Further in-depth investigation was warranted to understand the full spectrum of impacts comprehensively. With further in-depth research, research could understand the long-term academic outcomes, the transferability of SEL skills to other areas of education, and the potential ripple effects on students' socio-emotional development.. By delving deeper into this intersection of academics and SEL, educators and policymakers could glean invaluable insights into how best to optimize math education for the holistic benefit of students.

Emotional Regulation

A study on the usefulness of a universal SEL curriculum integrated with Positive Behavior Intervention Support (PBIS) showed positive results, particularly with third grade based on teacher perceptions (McDaniel et al., 2022). The SEL program was carried out throughout different academic areas, from pre-planning what the lessons could look like to training teachers in what the program could look like to implementation (McDaniel et al., 2022). The many-tiered approach to implementing the program, including reminders to staff and aligned vocabulary, added to the consistency of the program. Students were also tested on SEL concepts and provided with self-evaluations of the program's progress (McDaniel et al., 2022). The commitment and thought-out plan to having an SEL program was comprehensive; although, the program was open to all kindergarten through fifth grade, third grade showed the most progress and growth. The implications were that the SEL program needed to be more specific in supporting or teaching skills based on a student's developmental stage or the general developmental stage a group of students may be in based on grade level (McDaniel et al., 2022).

The study was limited because the researchers could not create a control condition.

One frequently mentioned informal approach to implementing SEL, as discussed in the literature, involved teachers creating a positive, warm, respectful, and nurturing learning environment for students (Cvar, 2019; Jomaa et al., 2023). Teachers actively cultivated a space where students feel valued and supported in their emotional and social growth. The environment was characterized by open communication, trust-building, and a sense of belonging. Teachers established clear expectations for behavior and model empathy and kindness, which created a classroom atmosphere conducive to SEL development. Additionally, educators integrated activities and discussions that encourage self-awareness, self-regulation, and relationship-building while fostering a sense of community among students (Cvar, 2019; Jomaa et al., 2023).

A study conducted in northern Uganda over a two-year process showed that fifth and sixth graders who were part of a mindfulness program, MindUp, attended a 45-minute lesson once a week showed vast improvement in social and academic growth along with a decrease in depression (Matsuba et al., 2021). Uganda was involved in a civil war for over 20 years, which destroyed a country with people experiencing or witnessing extreme violence. Many male children were stolen and added to rebel fighting groups. When the violence ended, children lived in poverty, were malnourished, and had mental issues that were difficult to understand and support (Dai et al., 2022; Hayashi et al., 2022; Matsuba et al., 2021). In this environment, the pilot program for MindUp was enabled and implemented into an atmosphere of chaos to create a safe space for students to learn who had been out of school more than they had been in it. The program focused on reaching students and creating a caring environment in class, and in the end, both teachers and students were able to benefit from the program. Teachers reported that students increased their pro-social behaviors, such as showing empathy, caring, and respect while

decreasing behavior-related problems (Hayashi et al., 2022; Matsuba et al., 2021). Violence dropped among students while caring and understanding for others seemed to rise. Teachers showed an increased knowledge and more skills in handling relationships within the classroom and teaching students how they should interact with one another (Hayashi et al., 2022; Matsuba et al., 2021). Teachers had some guidance on how to teach students the skills they needed to know. A place was created for teachers to understand emotion and trauma better, which increased their knowledge of this vital skill. The informal, yet powerful, approach to SEL implementation laid a strong foundation for student's well-being and academic success.

Another study looked at the best ways to support Syrian refugees displaced due to conflict and persecution after 2017 and landed in Lebanon (Tubbs Dolan et al., 2022). As Syrian refugee students began going to school, it became apparent that the children needed much support as they entered school. The needs of the refugee children were vast due to this abrupt migration, which varied from interrupted school settings, language barriers, and mental and academic difficulties to the adversities children faced (Dryden-Peterson et al., 2019; Kim et al., 2020). Using a social and emotional program called Healing Classrooms, learning was implemented formally (during class) and non-formally (in an after-school setting such as tutoring) to see which one had an impact and if the impact was comparable (Tubbs Dolan, 2022). The findings indicated that every Syrian refugee child included in the study experienced reduced stress related to school and their response to stress throughout the study (Tubbs-Dolan, 2022).

The Healing Classroom program to help Syrian refugees was comparable to the Healing Classrooms program that was also used in the Democratic Republic of Congo for one year in a formal setting that showed from two different cohorts that there was an improvement in numeracy and literacy skills as well as an increasing student perception that the school was

supportive of them as well as the teachers (Aber et al., 2021; Torrente et al., 2019). Another study on Healing Classrooms conducted in Nigeria found that in a non-formal setting while math and literacy skills did show improvement, their school grades did not show an improvement (Brown et al., 2021; Tubbs-Dolan, 2022). These three studies showed that this SEL program, whether formally or non-formally integrated, dramatically benefited students. These studies showed how emotional regulation had the potential to increase academics but also made students feel their school environment is welcoming and supportive (Tubbs-Dolan, 2022). The way these programs worked was that teachers were provided with training. Teachers were given curricular materials and in-service training on creating a supportive classroom as they delivered basic literacy and numeracy instruction (Torrente et al., 2019; Tubbs-Dolan, 2022).

Social Emotional Learning Training in Math

Teacher educational development in SEL in math was crucial in bringing calm and engagement in math while increasing instructional rigor. Developing teachers' understanding of how to help regulate student emotions was essential to improving student outcomes and positively affects progress (Gupta & Lee, 2020). Focus on prioritizing compassion, caring, and building close relationships within the classroom, along with using student-focused techniques, were needed to create a supportive classroom (Gaias et al., 2019; Miller et al., 2023). Teachers could celebrate and appreciate student backgrounds (Gaias et al., 2019; Miller et al., 2023) while focusing more on building relationships than managing students to increase a sense of belonging (Foreman & Bates, 2021). A study that looked at the impact of teacher's motivation found that strongly committed teachers were more likely to maximize the benefits of a learning program, thus, creating better support for their students than weak committed teachers (Ng, 2019; Ogbuanya & Shodipe, 2022). Strongly committed teachers had various strategies, such as self-

regulatory and help-seeking strategies, when completing PD assignments within the study compared to weakly committed teachers. When given assignments, they often looked for multiple ways to complete them, while weak, committed groups of teachers did not seek help, spent less time on assignments, and did the minimum (Ng, 2019; Ogbuanya & Shodipe, 2022). Based on the criteria and the commonality of traits for a robust and committed teacher, this coincided with a teacher who has a strong EI level.

Emotional Intelligence

Teachers stood to gain substantial benefits through professional development (PD) in Emotional Intelligence (EI) instruction, particularly in the critical realm of fostering and incorporating emotional intelligence within the educational setting. EI had been described in many studies as people being able to recognize, comprehend, and master emotions (Bar-on, 1997; Muhammad et al., 2021; Winter & McCann, 2022). There were many benefits of EI in the workplace and schools, from keeping relationships together to achieving more in life (Gonzales, 2022; Muhammad et al., 2021). Studies had shown that people with high EI recover from stress faster and better (Abiodullah & Aslam, 2020).;Gonzales, 2022; Tubbs-Dolan, 2022). The characteristics of what makes up EI were varied. For this research, the definition of EI were based loosely on Reuven Bar-on's definition of EI.

We are strengthening Interpersonal Relationships. EI had been described as the ability to recognize and comprehend our own emotions as well as the emotions of others while reflecting on these emotions to understand others and promoting growth intellectually and emotionally by regulating our emotions (Bar-on, 1997; Jacobson, 2021). These are abilities and skills that students needed to build. In a situation where you can not give someone water if your cup is empty, the same analogy applied to being unable to teach a student how to self-regulate

emotions if the person learning emotional regulation was unaware of how to do this (Pozo-Rico et al., 2020; Wu et al., 2019). A recent study found that a teacher's EI level was a crucial factor in a person's perception of inclusiveness in education and, thus, the impact on inclusiveness within the classroom (Jacobson, 2021; Nwosu, 2023). If this was the case, increasing teachers' EI before implementing SEL within the school was the place to start. The best way to improve a teacher's skills in EI was to teach them the benefits of SEL and how to implement SEL competencies within an academic field, such as math.

Edward Thorndike, a psychologist in the early 1920s, was the first to notice the value of social intelligence (Lu et al., 2021; Gonzales, 2022); social intelligence was also referred to as EI. Thorndike saw social or EI to understand and manage others in a relationship (Thorndike & Stien, 1937). Maslow started this theory. According to Maslow's theory, humans possessed a hierarchical structure of emotional needs that must be fulfilled. The theory explained that one must first satisfy each need before progressing to the next level of requirement (Maslow, 1954; Williams et al., 2022). The higher people were on the hierarchy scale, the more likely they were to have significant positive relationships with job satisfaction (Hee et al., 2020; Williams et al., 2022). Teachers also fell into this category. If teachers were higher in the hierarchy scale for Maslow's theory, they were more likely to be satisfied with their jobs. Another study found that teachers who were emotionally engaged with their students, school environment, and colleagues had more impact on engaging students within the classroom (Abdullah et al., 2020). The study showed that classroom engagement increased due to teachers' perception of their emotional attachment to their students (Abdullah et al., 2020).

They are enhancing Classroom Leadership Skills. The high EI of a teacher helped them set the tone of the classroom (Lu & Chen, 2023; Shafait, 2021). For a teacher to teach

students self-control, the teacher came from a place of understanding self-control and self-awareness. Teaching was a process that not only supports students educationally but, in many ways, emotionally as well (Lu & Chen, 2023; Shafait, 2022). Students came to school with various levels of understanding of how to work with others. Limited were the contexts wherein students find themselves among sizable cohorts, akin to the collective environment provided by educational institutions. Understanding others' emotions and how to navigate social situations was something students began to learn in school. To say teachers only teach academics was not taking a more extensive look at how a classroom works, teachers were students' guides to how we cooperated. Numerous studies have been done that have identified how teacher interaction when based on positive emotional climates, which helped students advance academically (Hanich, 2019; Vovchenko, 2021; Wilson, 2022). A student who felt a sense of belonging and a sense of acceptance could then begin to be honest about their academic needs.

Adults were better at teaching children EI if they had strong relationship skills, self-management skills, and a positive mindset (Hannah, 2019; Romano et al., 2020; Welmilla, 2020). Teachers could give their best from a place of strength. Studies also found a high correlation between EI and work engagement with results showing that if a person's EI was developed. Particularly regarding stress management, teacher engagement had the potential to be increased (Granziera et al., 2021; Jacobson, 2021; Merida et al., 2023; Romano et al., 2020). Studies also showed that teachers' EI enhances teachers' confidence in their ability, which further improved fairness and equity within the classroom (Hanich, 2019; Lu & Ishak, 2022; Nwosu et al., 2023), thus creating a safe space for students.

The progressive development of EI necessitated a deliberate and focused embrace of Social-Emotional Learning (SEL) competencies. It was essential to recognize the symbiotic

relationship between EI and SEL, especially for individuals seeking to cultivate a heightened awareness and mastery of their EI. (Itzkovich et al., 2020; Le Messurier, 2020; Nwosu et al., 2023; Suleyeva et al., 2021) When teaching students how to manage their emotions it is imperative teacher have strong EI. At its core, EI encompassed the ability to recognize, understand, manage, and effectively use one's own emotions, as well as the ability to navigate and respond to the emotions of others. To embark on this journey of EI development, individuals often found a strategic ally in the SEL framework, which provided a structured and comprehensive approach to honing the skills and competencies that underpin EI (Nwosu et al., 2023; Suleyeva et al., 2021). Teachers were vital in preparing students to regulate their emotions and get along with others (Cohen, 2021; Savina, 2021). Teachers were regularly required to manage their classrooms, help students regulate their own and student emotions (Cohen, 2021; Savina, 2021), and manage their stress (Ciarrochi et al., 2001; Gonzales, 2022).

Emotional Resilience. Maslow's theory of the hierarchy of needs was not just relevant in how students must have their fundamental and foundational needsmet to start attaining growth needs; it also helped us see that teachers needed to be higher in the hierarchy of needs to give students emotional stability. If teachers were higher on Maslow's pyramid of needs, they were more likely to have a stronger emotional attachment to students, which increased engagement (Merida et al., 2023; Romano et al., 2020). A study revealed a noteworthy correlation between EI and psychological well-being while underscoring the importance of teachers' traits in promoting their mental health (Kamboj & Garg, 2021). The study showed a positive link between attributes, like conscientiousness, grit, emotion regulation, and success in the school environment. The strong correlation between motivational attributes suggested that the personal qualities of a teacher played a pivotal role in the academic achievement of students (Kamboj & Garg, 2021).

Summary

In early education, social-emotional learning and morals were included within the curriculum; although, it was labeled differently. Maslow noted the difference that began when church and schools were separated. Maslow's belief, based on his hierarchy of needs, stated that people needed to feel safe and protected and have their basic fundamental needs met before moving on to their conditions of esteem and self-actualization (Maslow, 1954; Williams et al., 2022). SEL was a gateway to helping people have their foundational needs of feeling safe because it allowed students to find ways to manage their emotions and helped others see that the teacher was taking time and care to calm students and their feelings. Placing importance on the emotional well-being of students created a safer classroom for everyone. Expanding on Maslow's studies and research, Ryan and Deci's continued research on self-determination focused on how people could make a structure for schools and other institutions to support student engagement and connection while increasing intrinsic motivation to strive for success. These required the foundation of teaching and understanding how SEL could benefit students within schools.

This study was critical because SEL in the math curriculum could increase academic progress and success. SEL was often seen in subjects, such as English Language Arts and Social Studies, because these subjects provided valuable opportunities for students to develop crucial social and emotional skills. In English Language Arts, students engaged with literature and writing, often exploring characters' emotions, motivations, and relationships (Coleman, 2021). Working within the context of math allowed students the potential to understand empathy, perspective-taking, and diverse viewpoints (J. Sun et al., 2022; Sutton et al., 2021). In Social Studies, students delved into topics related to history, society, and human interactions. The subject of Social Studies naturally lent itself to discussions about empathy and cultural

awareness as well as acknowledging the impact of historical events on individuals and communities (Jagers et al., 2019; Hendra, 2019). Math was pure and does not intertwined social-emotional learning with any other subject. When students were doing group work in math, this was an excellent opportunity to discuss personal preferences, as in the self-awareness competency of demonstrating an awareness of your interests (Frye et al., 2022) or building on relationship skills, such as identifying behaviors to maintain positive relationships or active listening (Frye et al., 2022). When teachers taught a skill on how to work with others, math was not tainted by the book you are reading or what happened in history at a particular time to teach skills of empathy, relationships, and the perspectives of others.

The proposed research examined the positive effects of implementing SEL standards and competencies within the math curriculum. The positive effects of math were currently an area of research that has yet to be explored. There had been a history of not including SEL within math classes and math curriculum, and we could see the impact of this within the classroom now more than ever. Upon the student's return to school following the COVID-19 pandemic, a discernible regression in their social skills became apparent. Many students exhibited challenges in effectively communicating and establishing connections with their peers. Additionally, there needed to be more clarity in sharing math manipulatives and articulating their problem-solving approaches confidently. These observations underscored the need for targeted interventions and support to reestablish a conducive learning environment that nurtures academic and social development.

Another pertinent factor was the EI level of a teacher within the classroom (Bar-on, 1997; Jacobson, 2021). With openness and having a growth mindset to increase EI, which was exceptionally similar to SEL, there could be more success in helping students understand the

importance of social and emotional education (Pozo-Rico et al., 2020; Wu et al., 2019). SEL competencies, including self-awareness, self-regulation, social awareness, relationship skills, and responsible decision-making, were the bedrock upon which EI is built (Jacobson, 2021). For instance, the cultivation of self-awareness within SEL directly contributed to the recognition and understanding of one's own emotions—a fundamental pillar of EI (Nwosu, 2023). Similarly, self-regulation, a critical SEL competency, aligned with the capacity to manage and navigate emotions effectively EI (Nwosu, 2023). The gap that needed to be closed was the need for more research post-COVID-19 to show the positive results of SEL integration with the math curriculum and looked at the benefits of having a strong EI teacher.

CHAPTER THREE: METHODS

Overview

This transcendental phenomenological study aimed to understand the lived experience of elementary math and middle school teachers' with social-emotional learning and math achievement for Midwestern and Western schools within urban and suburban areas. Math teachers with varying years of experience, ranging from novice to veteran, conducted research in

schools within the Midwest and West areas of the United States. Researching lived experiences using transcendental phenomenology was used to find meaning through a rigorous exploration of individuals' subjective perceptions, which unveiled the essence of their experiences and sought a deeper understanding of factors that shape their unique realities. The research within this paper defined the use of social-emotional learning as a basis for improving positive and meaningful social interactions with adults and peers. Teachers with diverse experience levels in mathematics, ranging from novice to veteran, conducted research in schools within the Midwest and West regions of the United States.

Research Design

This phenomenological study aimed to understand the lived experience of elementary math and middle school teachers with social-emotional learning and math achievement for Midwestern and Western schools within urban and suburban areas. A qualitative study was appropriate to study the phenomenon because the research method provided focuses on exploring and understanding the experiences, perspectives, and behaviors of people in their natural settings. After all, it was a complex phenomenon that cannot be easily quantified or measured (Moustakas, 1994). In the context of math education with social-emotional learning (SEL) integration, a qualitative study could help researchers gain insight into how students experience and engage with math and whether the influence of SEL integration was beneficial. Researchers could employ qualitative methods, such as interviews, focus groups, and written prompts, to explore how students' emotions, beliefs, and attitudes toward math are shaped by their social and emotional experiences. By understanding where emotional and social support was needed, research could help educators and policymakers develop more effective strategies for integrating SEL into math education. Moustakas's transcendental phenomenology was the best choice for

this study because it had a philosophical approach to qualitative research methodology sought to understand human experience (Moustakas, 1994). In this case, the human experience was that of math teachers, both pre and post-teaching COVID-19 and those who have only taught post-COVID-19. Within this study, transcendental phenomenology was grounded in the concept of setting aside all preconceived ideas to see phenomena through the clear focus of teacher perspectives, thereby, allowing the true meaning of phenomena to emerge naturally (Moustakas, 1994). This study was meaningful within the field of education because it sought to understand how to best support teachers going forward and to unearth common themes and relatable patterns that weaved through educators' narratives. The study offered a holistic understanding of the impact of SEL on teachers and students.

Moustakas's (1994) phenomenology theory anchored the study, which provided a profound investigative approach to understanding human experiences. Additionally, it draws on the early teachings and beliefs of philosopher-scientist Edmund Husserl, who was known for his pioneering work at the intersection of philosophy and science. Moustakas's phenomenology provided a fitting framework for probing and articulating the shared experiences associated with the phenomena under investigation (Moustakas, 1994). Edmund Husserl's unique fusion of philosophy and science formed a crucial extension to this study, mainly through his groundbreaking emphasis on emotional openness, which was an avant-garde concept in his era (Kirsberg, 2023). The study aspired to maintain subjectivity, which was a practice Husserl embraced by secluding himself during the research process for deeper reflection on the findings and self-analysis (Moustakas, 1994). Husserl's concept of transcendental phenomenology, which involved engaging with others in a way that refrained from making preconceived assumptions about their experiences and aligned seamlessly with the study's objective (Husserl, 1965;

Moustakas, 1994). The open-ended interview questioned in this study aimed to extract information about the interviewee's experiences without incorporating implicited assumptions that might influence the responses.

Research Questions

Research questions within the study served as the foundation for the dissertation and played a crucial role in guiding the entire research process. The research questions within this study were integral to the dissertation writing process as they provided a roadmap, established the purpose of the study, guided methodology decisions, and contributed to the overall coherence and significance of the research. The questions within this study focused on understanding the lived experiences of math teachers and their perspectives on SEL integration within the curriculum. The research questions guiding this study intricately explored the layers of understanding that math teachers contribute to integrating SEL within the curriculum. By eliciting their perspectives, the study sought to contribute valuable knowledge to the discourse surrounding the intersection of social-emotional learning and mathematics education whilefostering a more nuanced comprehension of the challenges and opportunities embedded in this pedagogical confluence.

I developed the following research questions to initiate an understanding of teacher perspectives.

Central Research Question

What are the lived experiences of elementary and middle school math teachers with social-emotional learning increasing math achievement?

Sub-Question One

How do math teachers’ views change in student behavior after integrating SEL into the math curriculum?

Sub-Question Two

How do math teachers perceive that their SEL training has influenced their teaching practices?

Sub-Question Three

How do math teachers perceive their personal experiences with SEL during their schooling have shaped their approach to teaching math?

Setting and Participants

The research study used Team meetings for interviews (Appendix I) and Google Forms, like the one within the follow-up email (Appendix F). to gather information from teachers in urban and suburban schools in the Midwest and West regions. The Midwest and West region of the United States was known for its diverse population, which made it an ideal location to study social and emotional learning (SEL) in math. The study involved teachers from urban and suburban schools in the Midwest and West who teach math to students in grades three through eight; however, the study did not take place on an actual site as everything was conducted via the computer. The sample included both novice and seasoned teachers. Novice teachers had been teaching for less than four years (Bettini et al., 2022) while seasoned teachers had taught for over four years. The sample was selected based on their willingness to participate in the study and their ability to provide access to students who meet the study's criteria.

Setting

This study included participants from the Midwest and West public in-person school districts, in urban and suburban school districts. Teachers were not at a particular site; the interviews and focus groups were conducted through Microsoft Teams and the written prompt was given via Google Forms. In 2022, there were approximately 625, 500 middle school teachers

(U.S Bureau of Labor and Statistics, [BLS], 2023c) and were approximately 1,548,400 elementary school teachers employed in the United States (U.S Bureau of Labor and Statistics, [BLS], 2023b). According to the Bureau of Labor and Statistics the United of States was economically divided into four economic regions: West, Midwest, South, and Northeast (2023a). This study concentrated on teachers within two of the regions in the West and Midwest. The pool of teachers was approximately 300,00 or less for middle school teachers and 500, 000 or less for elementary school teachers.

Participants

The participants included novice teachers from kindergarten through eighth grade (zero to less than four years' experience) and seasoned teachers within the same grade levels (four to ten or more years of experience). The teachers included novice teachers from a teacher's program and seasoned teachers. The teachers also included alternative certification teachers, who taught due to having a degree in any field and are just waiting to take their teacher certification test (Callahan & Brantlinger, 2023; Wilhelm et al., 2021). The sample group of teachers consisted of teachers in various classroom settings, both self-contained classrooms where various subjects are taught, one of which must be math and content-specific classrooms, which were just math teachers within general education classrooms (Bettini et al., 2022). The study required a minimum of fifteen teacher participants, as described by Dukes (1984), who recommend this many participants to provide enough opportunity to identify themes and conduct cross-analysis. The number of teachers I was required to generate had at least forty teachers. I was able to connect with eighteen teachers who agreed to be a part of the study. In the end, seventeen participants were able to attend all three parts of data collection including interviews, focus groups, and a written prompt and were the sample size of my study.

Recruitment Plan

The recruitment process, spanning approximately two months, involved reaching out to superintendents and school principals to gauge a teacher's interest in joining the study and reaching out to participants. Recruitment was conducted in two ways. One way recruitment was achieved was through an online platform and another was within schools in my region. In order to recruit from schools within my region, I sent out a recruitment letter to super intendant or the Director of School Quality (DSQ) within the charter school system. Once the DSQ approved my intention to approach 76 schools within each region, I sent the same recruitment letter to each of the principals for each school and asked them to disseminate the recruitment letters (Appendix D) and screener (Appendix E) to the math elementary and middle school teachers. The second method I used for recruitment was to send the recruitment flyer (Appendix E) to the following Facebook pages: My personal 100-follower Facebook Page, Teachers Ask Teachers, Michigan Teachers Group, Teachers helping Teachers, Colorado Teachers Group, Teachers Supporting Teachers, Mindful Teachers, Liberty University Doctoral Cohort, and Liberty University Online Students.

Once the flyer was sent out with my Liberty University email, candidates were sent a screener (Appendix E) to complete. The participant screener all participants filled out included gave participants the opportunity to include their email address and a date and time preference to conduct individual interviews. Once teachers went through the screening process, I sent out the consent form (Appendix B) to the teachers who had been selected through the survey via my university email.

Upon sending out the recruitment form, a seven-day window was provided for teachers to reply and grant consent; in the absence of email responses, in-person inquiries were made. All

communication was conducted via email, and times via the phones if there was any difficulty reaching participants. The one complication was finding a way for participants to sign a PDF form, which ended up requiring a paid version of Adobe to ensure each participant could sign without issue. In an effort to stay organized, a document was created to store all email addressed and acceptance of participant screeners completed, consent forms completed, and interview dates confirmed.

Purposive sampling was used when selecting individuals for this study. Purposive sampling entails intentionally selecting individuals with information relevant to the research problem (Bassot, 2022). The sample pool, constituting approximately 300,00 or less for middle school teachers and 500, 000 or less for elementary school teachers ensures the findings' applicability to the broader population (Pascale et al., 2022), such as the West and Midwest as per this study. In qualitative research, the sample size aligned with data saturation and with the specific count to be determined (Moustakas, 1994). According to Edmund Husserl, in qualitative research, the determination of sample size aligned with data saturation, which occured when no new information or insights were gained from additional participants (Moustakas, 1994). As the research progresses, the researcher continually assessed the collected data for redundancy, which noted when themes and patterns become repetitive or reach a point of saturation. This iterative process involved comparing new data with existing findings, and saturation has been reached when additional participants cease to contribute novel perspectives or information. This approach ensures that the chosen sample size was sufficient to capture the depth and diversity of experiences within the studied phenomenon while avoiding unnecessary data collection once saturation was achieved (Moustakas, 1994). A nuanced exploration of psychological constructs and theories in real-world contexts was best suited for this small sample-size approach (Crick,

2021). Recruitment focused on novice teachers and teachers with more than ten years of experience, which required permission from school authorities (Appendix D) or participants within Facebook (Appendix E). Participants underwent interviews (Appendix I) to unveil emerging themes and patterns indicative of teachers needing additional classroom support. The collected phrases or themes could be systematically categorized to facilitate data horizontalization (Moustakas, 1994).

Researcher's Positionality

I was interested in this study because I worked in schools before, during, and after COVID-19. I saw the behavior changes and stressors within my classroom and wanted to learn more about the experiences of others. As I worked in different schools, from different areas of the Midwest to different areas of the West, I heard about the change in behaviors with students. A study conducted in China found that there was an increase in children's depression and anxiety symptoms, and their academic adjustment was poor (Wang et al., 2021). This study changed what we understood about behaviors in math class and how we could help students with emotional and social difficulties within school. My worldview shaped my theoretical framework that students at home during COVID-19 had less time for social interaction, which affected their relationships within the classroom.

Interpretive Framework

My interpretative framework as a researcher was based on social constructivism. Social constructivism was often described as how researchers try to make sense of their world and how they interact within it (Cole, 2023; Rytilä, 2021). This research method looked at various cases and experiences and tried to make sense of them or find a pattern in how we interacted. I was interested in the social norms in place and also how those norms could be adjusted to create a

safe and loving classroom environment. My research included many open-ended questions to find out if there was a bigger picture I did not see within my research as well as classroom focus groups and analyzing lesson plans for SEL implementation. My interpretive framework also lent heavily to my research approach, which was grounded in phenomenological theory and based on the teachers' impressions of possible change and the current environment within the classroom.

Philosophical Assumptions

My philosophical assumptions were grounded in the theory that students needed to feel safe before they were ready to learn. By embracing the belief that safety was foundational to learning, my pedagogical approach extended beyond the mere dissemination of information. It involved cultivating a classroom culture that values empathy, understanding, and open communication. In essence, I viewed establishing a safe learning environment, not as an auxiliary consideration, but an integral and indispensable aspect of effective teaching and learning. The safer my scholars felt, the more they learned about learning within academics. Teachers guided the environment and the climate within their classrooms. This transcendental phenomenological study aimed to understand the lived experience of elementary math and middle school teachers about social-emotional learning and math achievement for Midwestern and Western schools within urban and suburban areas.

Ontological Assumption

The ontological view, which determined how reality was perceived, was based on the experience and what had been read and researched. Multiple realities existed for different people based on culture, moral values, and cognitive understanding. Looking at various versions of other people's knowledge of the truth could help us find a common theme. For example, when working in one school with the students in a community where there was 94% free and reduced

lunch, the understanding was very different regarding how to meet the needs of students compared to the teachers in the West where the free and reduced lunch rate is 18%. As a math specialist who worked in several different schools across the Midwest and West, teachers' perceptions of what was needed and how were very different though student needs may be similar. Although the community could be different and the needs of each community could be different, one thing was true for everyone: we like to be treated with respect and dignity. It did not matter what age someone was because people liked to be treated as though everyone mattered and had value. It was on this basis that I was conducting my research.

Epistemological Assumption

The *Sage Handbook of Qualitative Research* recognized and valued the subjectivity of researchers in the research process. It encouraged reflexivity, which acknowledged that researchers bring their perspectives, biases, and experiences to the study. This self-awareness was integral to producing rich, nuanced qualitative research (Denzin & Lincoln, 2005). It was essential when conducting the study to make contact with participants much as possible within the field.. I believed in qualitative research, which was constructivism, where knowledge was actively constructed by individuals based on their experiences, interactions, and interpretations of the world (Denzin & Lincoln, 2005). I viewed reality as a social construct shaped by the meanings people attributed to their experiences. Within my study, meaning was created from the interaction between the participants and the scholars within the classroom, which constructed the reality of the scholars within the classroom. When these questions were met with positive responses, this indicated a classroom that values SEL and math academics.

Axiological Assumption

I aimed to ensure that my personal opinions and values had not unduly influenced this study, thereby, preserving the impartiality and integrity of the research results. I had taught in urban and suburban school settings, and I knew the effect a robust implementation of SEL could have within the classroom. I had seen what the lack of implementing SEL in the classroom did and the possible damage it could cause. Students needed to be in a loving and respectful environment, and at times, teachers were teaching more than just academics to make a positive difference in a child's life. In advocating for a loving and respectful educational atmosphere, such an environment, was conducive to optimal learning outcomes. When students felt genuinely cared for and respected, they were more likely to engage actively in the learning process, cultivate a sense of belonging, and develop the confidence to explore and express their ideas.

Researcher's Role

My role in the study was to be an impartial observer and data collector. I analyzed the data collected and how teachers were given support. I was a human instrument in this study. I did not have any authority over the participants. I was a math curriculum and instruction specialist within the school, which worked with teachers as an instructional coach. I approached this study with a commitment to maintain objectivity and impartiality, particularly regarding the concept of a safe classroom. Acknowledging the potential influence of personal biases, I was conscientious about adopting a neutral perspective throughout the research process. I was dedicated to conducting a thorough and unbiased investigation, which refrained from letting preconceived notions or subjective experiences unduly shape the study's outcomes. In this role, I planed lessons with teachers and observed to offer support where possible. I co-taught and modeled lessons for teachers as well. Expertise in doing teacher focus groups and pulling out important information from lesson plans was helpful when conducting my research.

Procedures

This qualitative transcendental phenomenological research study design utilized multiple forms of instrumentation. This research study consisted of three data sources: one-on-one teacher interviews, a focus group, and a written prompt. These instruments were used to triangulate the data and provide validity to the study (Denzin & Lincoln, 2005; Moustakas, 1994). My recruitment procedures to recruit outside of the school districts I serve were mainly conducted through Facebook. Through utilizing the recruitment flyer (Appendix E), I posted this flyer to the following Facebook pages: my personal 100+ followers Facebook Page Teachers Ask Teachers, Michigan Teachers Group, Teachers Helping Teachers, Colorado Teachers Group, Teachers Supporting Teachers, Mindful Teachers, Liberty University Doctoral Cohort, and Liberty University Online Students. Once I sent out the recruitment flyer on Facebook (Appendix E) attaching a screener (Appendix E) to the math elementary and middle school teachers, I screened the possible candidates. I received only one candidate through Facebook, and this was someone that I knew. Most of my candidates were teachers I had worked with prior to my current position or knew from working within their school in my current work position. The teacher that did contact me through Facebook was sent a participant screener (Appendix H) and a consent form (Appendix G). I was looking for teachers to participate who have taught or were currently teaching within a school as a teacher with a certification or alternative certification. These could be teachers who were novice teachers (new teachers to teachers with less than 4 years of experience) or experienced teachers. Criteria included teachers within the West and Midwest area and within urban and suburban schools. Teachers had to be willing to commit to one interview, being part of a focus group, and being willing to complete a written prompt after I send out the consent form (Appendix B). Once the IRB gave setting approval (Appendix A), I

emailed interested volunteers a follow-up email (Appendix F) with the consent form link. When volunteers filled out a consent form (Appendix G), they also completed an initial data collection screener (Appendix H), and then the data collection process began.

Data Collection Plan

Data collection in transcendental phenomenology consisted of interviews, focus groups, and a written prompt (Aguas, 2022; Meihami & Rashidi, 2022). In this study, three data sources were used to collect and triangulate data: interviews, focus groups, and a written prompt. Through this transcendental phenomenological approach, the researcher needed to select participants from volunteers and establish a strong rapport with them (Moustakas, 1994). By analyzing the gathered data, it enabled the researcher to delve into a more profound comprehension of the phenomena. The validity of the findings was reinforced by triangulating the data, which involved the use of multiple sources to obtain rich experiential descriptions from participants.

Interviews

The purpose of conducting interviews was to provide teachers an opportunity to speak freely and provide insights based on their own experiences (Moustakas, 1994). Before beginning the interview, participants received an email from the researcher to thank them for volunteering to be a part of the study, let them know about the interview procedure, and ask them if they have any questions or concerns. Google Meet was used to conduct interviews with participants and to assist in recording the interview. Participants were contacted by email to set up appointments to conduct interviews at which time Google Meet meeting links were sent via email. Interviews were recorded with the permission of participants and accurately transcribed upon completion. All research questions for this study were addressed during interviews with participants.

However, flexibility was incorporated to allow for additional inquiry or probing when opportunities arose to explore unexpected topics beyond the scripted questions (Yin, 2018). The interview questions (Appendix I) were open-ended. The interview answers were then placed under password protection within the researcher's computer.

Table 1

Individual Interview Questions

1. Why did you become a math teacher? (SQ1)
2. What is your educational experience with it? (SQ3)
3. Tell me about the social-emotional training you received from your school (SQ2)
4. Did your SEL training address students physiological needs were unmet such as nourishment, sleep, clothing, and shelter? (SQ2)
5. Describe your experience with behavioral support? (CRQ)
6. Describe the behavioral strategies you use in your math classroom (SQ3)
7. How does Maslow's hierarchy of influence your classroom management style? (SQ1)
8. How do you support students in managing emotions during a math lesson? (SQ3)
9. How do you facilitate student discourse within your math lesson to support students in social environments? (SQ3)
10. How do you support students in making responsible decisions during a math lesson? (SQ3)
11. Describe your most challenging behaviors during your math lesson. (SQ1)
12. What do you believe is why students have such challenging behaviors in your math class? (SQ2)

13. What else would you like to add to this study?

The first interview question was an introductory question to have the participant think about why they entered teaching in the beginning and to establish rapport with the participant (Moustakas, 1994). The second question set the prerequisite stage for the experience and perspective questions instrumental to the study (Denzin & Lincoln, 2005). Questions three and four established a baseline of the participant's understanding and background knowledge of social-emotional training and learning. The participants' understanding of social-emotional learning was relative to their understanding of how they imbed SEL competencies within the curriculum and if they had experienced SEL opportunities within their education. Teachers often reported needing more confidence in knowing what SEL includes and how to teach those skills (Todd et al., 2022). Questions five and six addressed participants' perceptions of their training in behavioral support and training within the classroom. Teacher and educator training was crucial in supporting teachers and helping to build teacher self-efficacy (Orgel, 2022; Filderman et al., 2023; Sears et al., 2022; Von der Embse et al., 2020).

Question seven addressed Maslow's hierarchy theory to see if participants found a correlation or a connection to the theory. According to Maslow, individuals were motivated to fulfill these needs hierarchically with lower-level needs taking precedence before higher-level ones. The hierarchy spanned from the most fundamental to the most advanced needs (Maslow, 1964). Questions eight through eleven addressed teacher awareness of SEL competencies or connections that could be embedded within the curriculum. Teachers' implementation of social-emotional competencies correlated to classroom management and their classroom environment (Bouffard, 2021; Dragisich, 2020; Katzman & Stanton, 2020; Walsh et al., 2021). Questions eleven and twelve addressed teachers' beliefs about behavior and the causes of behavior

disruptions (Cvencek et al., 2021; Dowker, 2021; Metsapelto et al., 2020; Szczygiel, 2020). It was crucial to understand the participants' perspective about their belief in classroom management and how to support students. Question thirteen asked participants to share anything else they would like to add.

Focus Group

Once interviews had been completed and participants had time to reflect on the interview and their responses, the step of gathering a focus group began. The dates for the focus group were determined before the first interview was in place, so participants could be notified via email when the study began as well as during the interview as a reminder. Upon permission from the Director of School Quality for the schools participating in the study, a focus group was organized and conducted to support the research problem and questions by obtaining multiple perspectives within a group of participants. A focus group was ideal for this study because it offered a dynamic and interactive research approach that fostered open dialogue and generated multifaceted insights (Moustakas, 1994). The focus group captured diverse perspectives, stimulated discussion, and provided real-time responses, which made them particularly advantageous in specific research contexts. The focus group met via Google Meet, and reminders were sent a week ahead of time.

Focus group questions could change based on data collected during the interview. However, the goal was to focus the discussions on three topics. The first focus was to ask teachers to reflect on their experiences with student behavior since they began teaching: what do they remember? The second focus was for participants to reflect on their training and professional development while supporting students who were having a difficult time and could have challenging behaviors in regard to Math. Participants could define what was working well

and where support was needed. The focus group questions (see Appendix J) confirmed consistency in research and reinforced neutrality (Lincoln & Guba, 1985) in the study.

Table 2

Focus Group Questions:

1. Reflect on your experiences with student behavior since you began teaching; what do you remember?
2. How has professional development assisted in your understanding of SEL and its impact in the classroom?
3. What is your experience with SEL competencies within math implementation?
4. Based on your experience, what would SEL within math integration look like?
5. How could implementing SEL practices within math integration be helpful?

Writing Prompts

The last source of collecting data was to have teachers answer a writing prompt (Appendix K) via Google Forms after the focus group discussion. The prompt asked, “Describe how you overcame behavioral challenges in your math class. Write a reflection on your experience and be sure to include specific examples from your teaching practice.” Writing prompts in a phenomenological study helped participants explore and describe a significant life experience that has profoundly impacted their personal development after some reflection (Jager, 1979). Participants' narratives delved into the essence of the lived experience as a math teacher, which offered a detailed account of how this event shaped their understanding of the importance of SEL. Personal judgments or biases were suspended to focus on analyzing participants' lived experiences (Peoples, 2021).

Data Analysis

Data analysis required organizing data, coding information, looking for themes, reorganizing information based on the organization of themes, and then interpreting data (Moustakas, 1994). This study required the research to be based on the lived experiences of participants who had shared the same phenomena (Moustakas, 1994), in this case, teaching math in schools. The data was collected via interviews, focus groups, and a written prompt was analyzed after coding the data and looking for similar themes and patterns. The procedures that were used for this study included data organization, bracketing, and coding, which were used as the baseline of analyzing data. The researcher focused on the lived experiences of math teachers while considering the teachers prior knowledge, experience and understanding of social and emotional learning. The researcher used the participants lived experiences to understand the connection if any between social and emotional learning and math achievement.

The data from interviews, focus groups, and written prompts was collected and transcribed. The data was then horizontalized (Moustakas, 1994). In phenomenology, horizontalization was an essential step in the process of phenomenological reduction. Horizontalization involved treating all participants' statements with equal value, which removed repetitions and unrelated content, and through this process, it was focused on meaningful segments of experience, which allowed for a deeper exploration of subjective phenomena (Moustakas, 1994). The researcher analyzed the data by identifying themes using qualitative software and thoroughly reviewing transcripts. The final step involved organizing the data into figures, tables, and discussion-worthy themes (Creswell & Poth, 2018; Moustakas, 1994). Upon identifying the foundational themes that illuminate the phenomenon, the researcher then examined the pervasive structures that influenced participants' thoughts and emotions. Key

visual and textual imagery were discerned, which vividly captured the participants' descriptions of the phenomenon.

Data were captured and transcribed from interviews and focus groups using Microsoft Teams meetings and recordings. Individual interviews were taken first and once all interviews were conducted and transcript created, next focus groups were conducted, and transcripts were also created. The data was then compared to actual interview footage and corrected within the transcription of the software used to ensure accuracy of each participant interview and focus group. Participants were given an opportunity to write about a prompt days after they were in a focus group together. The information from the written prompt was collected within Google Forms and transferred into a document within the qualitative research tool. For privacy purposes, each participant was given a pseudonym, and the data was on a password protected computer by the researcher.

The data was then coded using a Qualitative Data Analysis Software (QDAS) program ATLAS.ti, which was a qualitative research tool used for qualitative research. An inductive method of assessing content was used. Systematic procedures of reading and re-reading the transcript, then coding the data reduced information from broad terms to more narrow themes. Epoché was implemented to abstain from any biases and prejudices that could have arisen while evaluating the data (Moustakas, 1994). Interview data was compared, contrasted, and displayed in charts and tables and then reported and displayed in a graph to analyze data.

Transcripts of participants experiences and perspectives were coded, and key phrases were extracted with a key focus on the teachers' understanding of social and emotional learning and their beliefs about math achievement. The researcher derived meaning from participants' responses by organizing them into common themes using qualitative software. By looking at the

coded data, the researcher used a three-part process to analyze the data. First, the researcher examined any patterns that came out of the data, looking for repeating ideas, and repeated areas of context. Second, the researchers reflected on the nuances and the connections between any data points. Lastly, the researcher pulled together and themes from the data providing qualitative understanding to the results.

Trustworthiness

According to Lincoln and Gaba, there were two ways to assess trustworthiness in research. The first way aligned with traditional scientific concepts, like internal validity, external validity, reliability, and objectivity (Lincoln & Gaba, 1994). The second way focused on socially constructed interpretations and emphasized authenticity criteria, such as fairness, ontological authenticity, educative authenticity, and catalytic authenticity (Lincoln & Gaba, 1994). To achieve a level of trustworthiness, the researcher identified accuracy from the lens of the researcher, participant, and readers, or reviewers as expressed by Creswell and Poth (2018); The researcher recorded and created a transcripts based on each recording for accuracy for interviews and focus groups. The researchers also used Google Forms to record participants answers for a written prompt. Triangulation was incorporated to look at all three data points and look for patterns within codes. Triangulation allowed for validation strategies to be incorporated, which clarified any bias or engagement in the researcher's reflexivity. This qualitative research study employed strategies for confidentiality, such as individual interviews that were password protected within the computer, truthfulness, direct quotes from participants from interviews and focus groups, participants' disclosure during every interaction or request for participant perspective, and ensuring transparency in the research study.

Credibility

Establishing trust and credibility became crucial for researchers to navigate challenges. Researchers felt the importance of building rapport with participants and had participants demonstrate genuine interest in their study. One way credibility was established within this study was to use triangulation of data by using multiple data sets, such as interviews, focus groups, and a written prompt. In building credibility, honesty and accuracy was important, and this was demonstrated within the study through interviews that were transcribed and recorded after gaining consent from participants. Focus group conversations were recorded and transcribed to maintain accuracy as well. Written prompts were given through Google Forms. Google Forms were automatically saved and transcribed, which ensured there was no information tampering. The findings of this study were derived directly from the experiences of the participants. This study used empirical grounding by aligning findings with data collected. Credibility was established by consistently engaging participants, bracketing information, revisiting and reanalyzing participant perspectives to give participants a voice in the study.

Transferability

Transferability referred to the extent to which research findings could be generalized or applied to different contexts or situations and assesses whether the results held true beyond the specific study population or setting (Kakar et al., 2023; Riazi et al., 2023). To ensure transferability within this study, there are detailed descriptions that capture the perspectives of different participants. These in-depth accounts were gathered from participant interviews, focus groups, and artifacts and could be transferable to other projects based on the detailed accounts of procedures and processes. The findings were supported by purposeful sampling from different schools and different classroom teachers.

Dependability and Confirmability

To ensure dependability and confirmability, the research must be reasonable, traceable, and well-documented to accomplish dependability (Denzin & Lincoln, 2005). Readers of the research must be able to analyze the process and conclude that it was dependable. Dependability knows the results could be subject to change and instability (Leggat et al., 2023; Simons & Copley, 2022). Confirmability was concerned with confirming that research findings are derived from data, focus groups, and instruments that proved the study and interpretations were reached by non-biased means (Kumar et al., 2022). A dissertation committee and the Qualitative Research Director completed this audit. This inquiry audit established triangulation within the study.

Confirmability dealt with consistency, which was addressed through providing rich detail about the context and setting of the study. Participants were given the opportunity to look at and confirm their interview answers with their interview recording. Participants were also able to contact the researchers with any questions or concerns. Confirmability also referred to a degree of neutrality, which was established in this study via triangulation. The research study, which involved the research effects of SEL within the math curriculum, included the reasons for theoretical, methodological, and analytical choices that were made within the study. Along with reflective practices and triangulation of data analysis, the researcher showed why certain decisions were made within the study and the conclusion with results within the study. Copies of data collected through notes, memos, and video copies were kept for a total of five years.

Ethical Considerations

Participation in this study was voluntary, and participants could back out at any time. Participants were informed of the results. Their responses were kept safe in a password-protected document, and the area where the research was conducted via computer interview was safe.

Permissions

Ethical considerations within a study related to respecting people, concern for the welfare of participants, and equitable treatment. The study began with obtaining site or participant assessment and consent. IRB approval was obtained before data collection began. Before the study began, consent was collected from participants, for the interviews, focus group and possible videos of a focus group as well as for the written prompts. Participants were able to withdraw from the study at any time. One participant was removed from the study because only one data point was achieved, the individual interview, the participant was not able to attend a focus group or complete the written prompt.

The study used pseudonyms for all participants and all the schools involved. All data was collected via the computer and password-protected in a secure online folder. The data will then be deleted within three years of the study. There was minimal risk to students in embedding social and emotional competencies within the math lesson, and many benefits exist. Benefits of embedding social and emotional practices within math included a safe classroom, increased safety leading to students taking more risks within math, and an increased understanding of mathematical concepts.

Summary

Schools were experiencing many disruptions and interruptions due to emotional unrest within the classroom. Teachers were having difficulty controlling student behaviors, and the

classroom seemed chaotic. Research showed that a skill and drill approach to telling students how a classroom could be was less practical than creating a strong classroom culture and focusing on the mindset of students and teachers (Main & Ellerbrock, 2023). Math was also an academic area students struggled with and have a large amount of frustration. By offering educators a way to embed SEL within their math lessons, there was a way to alleviate the stress students have and the frustration this adds to the classroom climate. In designing this transcendental phenomenological study, it was essential to note the importance of classroom teacher descriptions of classroom climate and the possible change in climate once SEL was introduced (Moustakas, 1994). This study looked into discovering the effects of SEL within the math curriculum for teachers and students. It could be described as transcendental because it looked at the participants' lived experiences (Moustakas, 1994).

CHAPTER FOUR: FINDINGS

Overview

The purpose of this transcendental phenomenological study is to understand the lived experiences of elementary math and middle school teachers with social-emotional learning and math Achievement for Midwestern and Western schools within urban and suburban areas. The problem is that educators have been encountering difficulties in effectively managing the escalating occurrences of negative behaviors exhibited by students since COVID–19 (Hanetz-Gamliel et al., 2021; Phelps & Sperry, 2020; Saputro & Murdiono, 2020); the focus is to look at the use of SEL to support math teachers in reducing negative behaviors in their classrooms. Significant research has shown significant research with an evolving understanding of educational psychology (Schonert-Reichl, 2019) and the recognition that emotional and social factors significantly impact academic success in general (Jagers et al., 2019; You et al., 2023). Since the effects of COVID are still being studied, this research is relatively new, and little research is available to show the specific impact of social and emotional learning on math post-COVID. This chapter encompasses detailed descriptions of the participants and the identified narrative themes from the study. This chapter also presents the research findings in response to the posed research questions. Furthermore, this chapter delves into a discussion on the outlier data observed during the study. The chapter concludes with a comprehensive summary encapsulating the key points discussed.

Participants

Participants include a sample size of seventeen educators specializing in elementary and middle school mathematics. This group is comprised of novice teachers, which are those with less than four years of teaching experience, and veteran teachers, who have more than four years

of experience in the field. I have crafted the list of possible participants by contacting superintendents and school principals within the local school districts I work within and posting a flyer (see Appendix E) on Facebook to gauge a teachers' interest in joining the study. Participants have been selected based on purposeful sampling. Interested participants are asked to complete a Participant Screener via Google Forms (see Appendix H). Once the screener is complete, interested participants are asked to fill out the consent form (see Appendix G) and wait to be contacted for an interview. Of the participants from the Facebook flyer and the eleven local schools, eighteen have expressed an interest in the study. All eighteen have completed the consent forms; although, only seventeen are a part of the study because they can complete the interview and written prompt portion of the study, and every participant but one can attend a focus group meeting. Upon completing the consent form, participants are given a pseudonym, which does not coincide with the participant's interview order. Participant demographics include years the participant has taught, current grade level, the path to teaching certification, educational background or the degree the teacher has earned, and the type of school the teacher works in (see Table 3).

Table 3

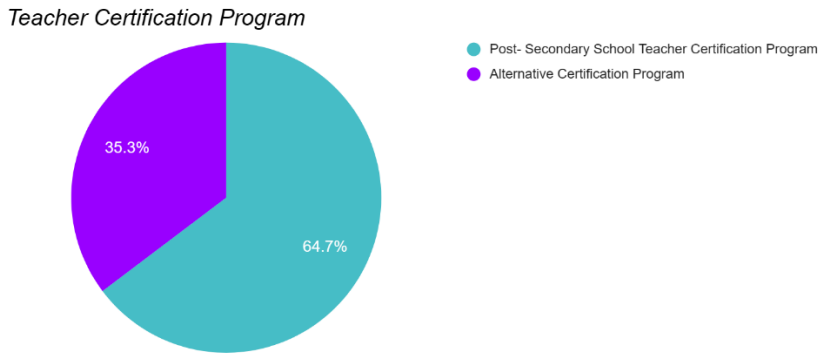
Teacher Participants

Teacher Participant	Years Taught	Degree Earned	Program to teacher Certification	Grade Level
Eric	25	B.A. Elementary Education	Teacher Certification	7th
Beth	4	B.A. Business Administration	Alternative Certification	3rd
Charlotte	4	Masters in Sociology with an Emphasis in Higher Education	Alternative Certification	1st
Jennifer	20	Curriculum and Instruction, Ed.D.	Teacher Certification	Kindergarten to 2nd

Susan	7	B.A. Elementary education with an early childhood endorsement and masters in curriculum and instruction	Teacher Certification	Prekindergarten
Sarah	16	Masters in Reading	Teacher Certification	7th
Linda	6	B.A. Elementary Education with and emphasis in social studies	Teacher Certification	Kindergarten
Fran	5	Bachelor of Arts in Elementary Education	Teacher Certification	5th
Emma	5	B.A. Accounting	Alternative Certification	6th
Olivia	12	Major: Integrated Science Minor: Reading Elementary Education, all subjects K-8	Teacher Certification	2nd
Janet	3	B.A. Elementary education	Alternative Certification	5th
Ava	4	B.A. Secondary Education in Chemistry and Mathematics	Teacher Certification	7th
Isabella	4	BA in Political Science; MS in Cultural Foundations of Education	Alternative Certification	8th
Sophia	11	B.S. in Elementary Education with Endorsements for Middle School Math	Teacher Certification	7th
Mona	3	B.A. African-American Studies	Teacher Certification	2nd
Jessica	4	B.A. General Studies Education of the Inner City	Alternative Certification	3rd
Rebecca	13	Bachelor of Arts in Education and Special Education	Teacher Certification	Kinder to 5th

This study focuses on understanding the lived experience of elementary math and middle school teachers with social-emotional learning and math achievement. Upon approval from the IRB, 11 schools are approached within the charter school district and given a flyer to distribute to interested teachers, and the flyer is also placed on Facebook. Interested teachers can access a participant screener (see Appendix H) from the flyer (see Appendix E). Once participants fill out the screener, they receive a consent form (see Appendix G) to fill out. Based on the participant screener, participants indicate that the best way to be reached is via email. The researcher contacts each participant and schedules individual interviews that occurs virtually using Microsoft Teams. Once each participant completes their interview, they confirm the day they would attend the focus group. At the end of each focus group meeting via Microsoft Teams, participants are given a link to a writing prompt via Google Forms (see Appendix K). There are three focus groups, and participants have to attend only one. One focus group has eight participants, another has seven participants, and the last focus group has two participants attend. Seventeen participants participate in the individual interviews and the writing prompt, and sixteen participate in the focus groups.

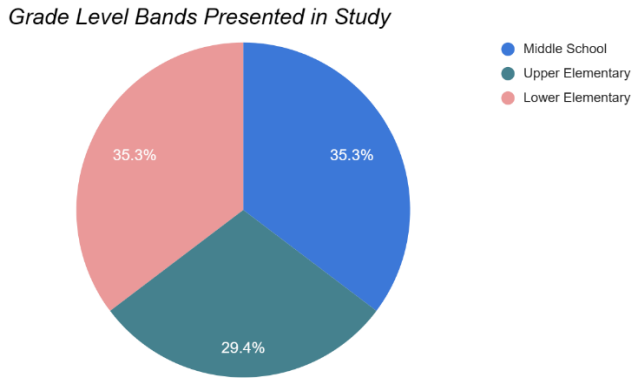
Figure 1



All participants are teaching math within their school district and hold post-secondary institution degrees ranging from Bachelor's to doctoral degrees. Participants disclose that they

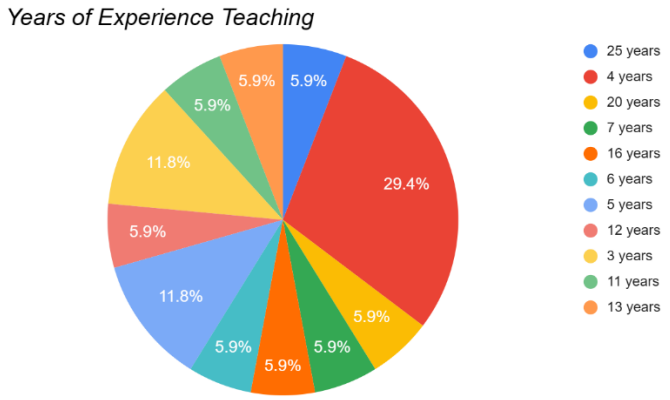
have gained their certification either through a teacher certification program within a post-secondary school or an alternative certification program (See figure 1). The Michigan Department of Education (SOM, n.d.) states that “Alternative certification for teaching programs in Michigan are non-traditional preparation programs designed for individuals who hold a minimum of a bachelor's degree and are seeking to complete an expedited teacher preparation program while employed as a teacher under an Interim Teaching Certificate” (State of Michigan, n.d.).

Figure 2



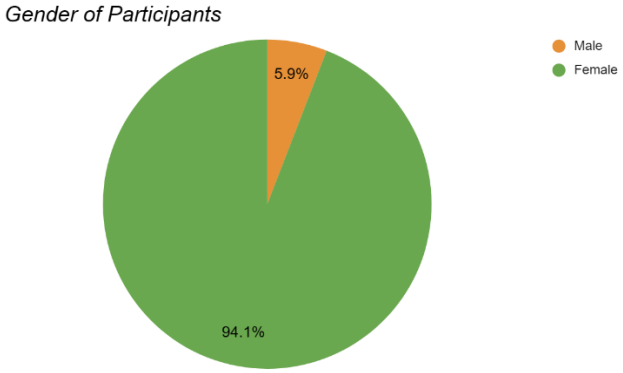
When looking at grade-level bands, participants are almost evenly divided based on the grade level they teach. Grade-level bands range from lower elementary teachers, upper elementary teachers, and middle school teachers (See figure 2). Early elementary grades include pre-kindergarten through second grade. Upper elementary grades include third to fifth grade Middle school grades include sixth through eighth grade.

Figure 3



The teachers in the study have a diverse range of experience, with the least experienced teacher having three years in the profession and the most experienced having a tenure of 25 years (See figure 3). Five teachers have four years of experience, two teachers have over three years of experience, and the remaining participants have a range of experience extending up to twenty-five years. All teachers have been teaching after the Covid-19 pandemic and their experiences reflect this experience.

Figure 4



The vast majority, specifically sixteen of the seventeen participants, are female, while there is a single male participant (See figure 4). This gender distribution provides an interesting context for the study, as it may reflect the gender dynamics prevalent in teaching. It is important

to consider how this gender imbalance might influence the findings and interpretations of the study. Gender dynamics may also influence teaching styles, communication patterns, and classroom dynamics may differ between male and female educators. The underrepresentation of male teachers highlights the need for diverse perspectives in education.

Eric

Eric is an African American male teacher between the ages of 45 and 55 who works in an urban school in the Midwest. Eric has over 25 years of experience in education as a teacher and, for a year, is an assistant principal; he misses teaching and the impact he can make on students, so he has returned to the classroom. Eric did attend a four-year college and has earned a bachelor's in Elementary Education. During his interview, Eric includes his reason for becoming a teacher, his education level, and his work history up to the present teaching position. Although Eric has been teaching several grade levels, including 3rd grade, 4th grade, and middle school, Eric currently teaches seventh-grade math. Eric explains why he became a math teacher:

> I became a teacher because I saw George McKenna when I was 16. I heard him speak at a conference, and he talked about the impact of being a teacher. He said lawyers, doctors, and presidents must come through me. I always wanted to be an ELA teacher, but during my internship, I got put into a math class, and then my first job in Houston, I was actually a math and science teacher for 3rd grade in the morning and 5th grade in the afternoon. I had this woman, Evelyn, with whom I worked and was mentored. She worked my tail off, and she made me a better teacher. I didn't like it at first, but it paid dividends later on. She would make me read math books and math theory. I was glad to read Math theory books over and over again, and she gave me homework assignments. My first year of

teaching, I didn't like it, but a lot of the math theory that I use and the teaching mathematics come from her.

Eric believes that classroom management is an inaccurate description when trying to create a community in the classroom; he believes relationship building is the heart of a strong classroom culture. Eric often mentors new and novice teachers to help them understand how to create a strong classroom with a minimum of behaviors. Eric has also won numerous awards for increasing students' math scores and bringing them up to proficiency. Eric believes that all students can learn math, and it is not that students lack math ability either a concept is taught well in a way students can understand, or it is not.

Beth

Beth is an African American female teacher between the ages of 25 and 35 who works in an urban school in the Midwest. Beth has over four years of experience in education as a teacher. Beth did go to a four-year post-secondary school and has obtained a Bachelor's degree in business administration. Beth has received her teacher certification by attending an alternative certification program. In the course of her interview, Beth includes her reasons for becoming a teacher, her education level, and her work history up to her present teaching position. Beth’s role as a third-grade teacher in a self-contained classroom is multifaceted and challenging. She is responsible for teaching a variety of subjects, including mathematics, which requires a broad knowledge base and the ability to switch between different teaching methods to cater to each subject effectively.

Beth employs various strategies in her mathematics instruction to help her students grasp complex concepts. She uses manipulatives for hands-on learning, incorporates technology to make lessons engaging, and differentiates instruction to meet her students' diverse needs.

When asked why she became a teacher and why a math teacher, Beth explains, “I'm good at it. I'm good at math, so that was the main reason why I became a teacher. I'm good at math, so I get to tell somebody what to do all day. That's another small reason, but mostly because I'm good at it, and it came with ease. It's not; it's a lot to do, but it's not hard to do." Beth's motivation for becoming a math teacher appears to be primarily driven by her proficiency and ease with mathematics. She finds that she is good at math, and it comes to her with ease, which makes the job not hard for her. This suggests that she enjoys the subject and feels confident in her ability to teach it. She also mentions being able to direct others as part of her job, which might indicate that she enjoys the leadership and authority that comes with the role of a teacher. However, this seems to be a secondary reason for her.

Charlotte

Charlotte is an African American female teacher between the ages of 25 and 35 who works in an urban school in the Midwest. Charlotte has over four years of experience in education as a teacher. Beth did go to a four-year post-secondary school and then did obtain her Master's degree in Sociology with an emphasis on Higher Education. Charlotte did receive her teacher certification by attending an alternative certification program. In the course of her interview, Beth includes her reasons for becoming a teacher, her education level, and her work history up to the present teaching position. Charlotte previously did have a career in healthcare, specifically working with seniors by offering support and care. Charlotte loves her role as a first-grade teacher; although, she is originally a fourth-grade teacher in a self-contained classroom. She is responsible for teaching a variety of subjects, including mathematics, which requires a broad knowledge base and the ability to switch between different teaching methods to cater to each subject effectively.

In her mathematics instruction, Charlotte loves her job teaching elementary education, which focuses on problem-solving strategies in math rather than role memorization. She sees changes in student behavior during COVID-19 and emphasizes the social-emotional learning through programs. She did receive training on trauma, and Title I issues to support students facing hardships, and Maslow's Hierarchy of Needs influences her classroom management.

Charlotte explains why she became a teacher as, "When I worked at the school, I remember it was more family-oriented. So I went back to work as a para and a teacher decided to quit the first week of school and I felt bad that the kids weren't gonna have a teacher. I actually love it." Charlotte emphasizes building discourse skills and responsible decision-making in students to improve academic achievement.

Jennifer

Jennifer is a white female teacher between the ages of 30 and 35 who works in an urban school in the Midwest. Jennifer has over 20 years of experience in education as a teacher and instructional coach. Jennifer has a doctorate in Curriculum and Instruction and did receive her education through a post-secondary school. In the course of her interview, Jennifer includes her reason for becoming a teacher, her education level, and her work history up to the present teaching position. Although Jennifer has taught several grade levels, including lower and upper elementary grades, she is currently an academic instructional coach in her school as she teaches part-time as a lower elementary teacher. Jennifer explains why she became a math teacher: "I was always inspired by my uncle who taught math, and he used to help me with my math in school. I always enjoyed math. It came easily to me. I tested out of college math, so I only had to take all the statistics courses. Didn't have to take the basics. I like how everything is orderly. There's always an answer. It's nice and neat."

Jennifer emphasizes the importance of building relationships with students by addressing their basic needs and creating a supportive learning environment during her interview. Melissa uses strategies, like brain breaks, individualized approaches, and small victories celebrations to help students succeed in math and manage their emotions effectively. The interview also touches on topics such as student discourse, decision-making, and challenging behaviors in the classroom.

Susan

Susan is an African American female teacher between the ages of 25 and 35 who works in an urban school in the Midwest. Susan has over seven years of experience in education as a teacher. Susan did go to a four-year post-secondary school and did obtain a Bachelor's degree in Elementary Education with an early childhood endorsement and a Master's in Curriculum and Instruction. Susan did receive her teacher certification by attending a post-secondary school. In the course of her interview, Susan includes her reasons for becoming a teacher, her education level, and her work history up to the present teaching position. Susan explains why she became a math teacher:, "So being a math teacher was just part of the reason I became a teacher. I like to learn, and I always enjoyed school. I realized how interested I was in learning how children learn. To have an opportunity to learn how to help them overcome those hurdles to learning that they might have? Yeah, I was interested in that."

In her interview, Susan discusses her experience as a math teacher in a preschool setting, which emphasizes the importance of understanding how children learn math and the changes in math education over the years. She also talks about the challenges she faces in supporting students with social-emotional needs and the impact of trauma on their behavior. Susan

highlights the need for more behavioral supports and strategies in preschool and the importance of addressing students' basic needs for effective classroom management.

Sarah

Sarah is an African American female teacher between the ages of 30 and 35 who works in an urban school in the Midwest. Sarah has over 16 years of experience in education as a teacher. Sarah did go to a four-year post-secondary school for her Bachelor's and Master's degrees, and she did obtain a Bachelor's degree in Elementary Education and a Master's in reading. Sarah did receive her teacher certification by attending a post-secondary school. In the course of her interview, Sarah includes her reasons for becoming a teacher, her education level, and her work history up to the present teaching position. During the interview, Sarah discusses her reason for becoming a teacher: "I became a teacher because I felt that there was something that a purpose in my life that I needed to fulfill. And so, I found myself, you know, doing tutoring and teaching Sunday school, things of that nature. I tried to get away from it, but then, eventually, I ended up going back to teaching. Even though I was gonna be a nurse when I started school, I went to school for teaching. So, I decided to pursue teaching."

During her interview, it has become apparent that Sarah believes that challenging behaviors in students can sometimes stem from not being challenged enough academically. They use platforms, like Khan Academy and IXL, to provide advanced materials to engage students. In facilitating student discourse in math lessons, Sarah uses prompts and questions and encourages students to explain their answers and engage in discussion. To support students in making responsible decisions during math lessons, Sarah emphasizes checking their work and understanding the steps to solve problems. She also highlights the importance of perseverance and critical thinking.

Linda

Linda is a white female teacher between the ages of 25 and 30 who works in an urban school in the Midwest. Susan has over six years of experience in Education as a teacher. Linda did go to a four-year post-secondary school and obtained a Bachelor's degree in Elementary Education with an emphasis on social studies. Linda did receive her teacher certification by attending a post-secondary school. In the course of her interview, Linda includes her reasons for becoming a teacher, her education level, and her work history up to the present teaching position. Linda explains why she became a math teacher as such, "I think becoming a teacher was something I knew I wanted to do from a young age. I really loved being able to help others in school when I was growing up. I would love to go help other kids. And then, as I got older, I was like, ooh, I really like working with little kids and helping them. And just seeing that growth and success, I just loved it so much that I started thinking, I wanna do this as my career, and I really enjoyed it. And I think growing up, I had really good teachers as well that I loved and respected and learned a lot from, and they were kind of like my role models where I was like, I wanna be like that."

Linda shares that managing student emotions during math lessons involves acknowledging challenges and providing support strategies, like taking breaks and seeking help. Linda uses emotion charts to help young students identify and express emotions. Challenging behaviors in math may stem from the pressure of finding a correct answer and the perceived lack of flexibility compared to other subjects, like reading and writing. Linda believes encouraging positive behavior and using manipulatives can help students make responsible decisions and improve their engagement with math.

Fran

Fran is a white female teacher between the ages of 30 and 35 who works in a suburban school in the West. Susan has over five years of experience in Education as a teacher. Fran did go to a four-year post-secondary school and obtained a Bachelor's degree in Elementary Education. Fran did receive her teacher certification by attending a post-secondary school. In the course of her interview, Fran includes her reasons for becoming a teacher, her education level, and her work history up to the present teaching position. Fran discusses why she became a math teacher: "I always loved going to school. I love to learn new things. I love to help my friends. My grandmother was a third-grade teacher, and I loved to hang out with her in the summers and help her do stuff for her classroom. So even though I kind of thought about, oh, maybe I wanna write commercials, or for one whole year in high school, I wanted to go into gerontology. I went back to teaching. I loved it for a really long time. I did not necessarily specifically want to be a math teacher, but the way [our district] works, I was there, and they were lacking in the 5th-grade math and science position last year, so I got voluntold to be the math teacher."

In the interview, Fran did speak about how she uses various nonverbal cues during math class to keep students engaged and manage behaviors. Fran implements classroom competition and peer support strategies to help students navigate challenging emotions during math lessons. The teacher emphasizes building trust and community with students, especially post-COVID, where there may be more reluctance or anxiety around learning.

Emma

Emma is a white female teacher between the ages of 35 and 40 who works in a suburban school in the Midwest. Emma has over five years of experience in education as a teacher. Beth did go to a four-year post-secondary school and did obtain a Bachelor's degree in accounting. Fran did receive her teacher certification through an alternative certification program. In the

course of her interview, Emma includes her reasons for becoming a teacher, her education level, and her work history up to the present teaching position. Emma explains why she became a teacher and why she is a math teacher, "That's my biggest thing is I love helping people, and I've always been drawn to math. I was the person that tutored every math kid that was struggling when I was a kid. Working in a school, I tutored someone in junior high, and she was significantly younger than me. She looked at me one day, and she said, you know, if you were my teacher, I would actually understand this because I don't understand anything. It just made me sad, and I was like, you know what? I wish I was your teacher. I wish I could be in again to help you with this every day."

During her interview, Emma shares her journey from accountant to math teacher and discusses teaching experiences pre- and post-COVID whileemphasizing treating students as human beings. She states that she prioritizes students' physiological needs, uses social-emotional training like "Capturing Kids' Hearts," and focuses on accountability in education. She believes in fostering self-esteem, addressing behavior challenges, promoting social interactions, and creating a supportive learning environment.

Olivia

Olivia is a white female teacher between the ages of 30 and 35 who works in an urban school in the Midwest. Susan has over 12 years of experience in education as a teacher. Olivia did go to a four-year post-secondary school and did obtain a Bachelor's degree in Elementary Education. Her major was Integrated Science, and she minored in Reading. She is certified in all subjects for K-8. Olivia did receive her teacher certification by attending a post-secondary school. In the course of her interview, Olivia includes her reasons for becoming a teacher, her education level, and her work history up to the present teaching position. Olivia explains why

she became a teacher and why she was a math teacher, , "I became a teacher because I love being around kids. They are amazing. Yeah, and I love seeing those aha moments."

Olivia explains how she helped students transition from fixed mindsets to growth mindsets and make responsible decisions during math lessons. Throughout the interview, she emphasizes building a supportive and engaging environment for her students' learning and growth. Oliva did speak of how she incorporated SEL practices such as morning meetings, SEL discussions, and counselor-led lessons to support students' emotional well-being and academic success.

Janet

Janet is an African American female teacher aged 30-35 who works in an urban school in the Midwest. Janet has over three years of experience in education as a teacher. Janet did go to a four-year post-secondary school and did obtain a Bachelor's degree in Elementary Education. Janet did receive her teacher certification by attending an alternative certification program. In the course of her interview, Janet includes her reasons for becoming a teacher, her education level, and her work history up to the present teaching position. Janet discusses why she became a math teacher: "I always like to tell people that I didn't choose to teach. Teaching chose me, so it is my passion. It is my purpose, and that is the main reason I am teaching."

During the interview, Janet emphasizes building trust, confidence, and peer support in the classroom. Janet also believes emotional regulation impacts students' math achievement with those who can regulate their emotions showing more willingness to try and problem-solve. Janet states student confidence and foundational understanding play key roles in mindset and academic performance in math.

Ava

Ava is a white female teacher between the ages of 25 and 30 who works in a suburban school in the Midwest. Ava has over four years of experience in education as a teacher. Ava did go to a four-year post-secondary school and did obtain a Bachelor's degree in Secondary Education in Chemistry and Mathematics. Ava did receive her teacher certification by attending a post-secondary school. In the course of her interview, Ava includes her reasons for becoming a teacher, her education level, and her work history up to the present teaching position. Ava explains why she chose to become a math educator: "So ever since I was little, I wanted to be a teacher, and I don't know what it was about it, but I really liked helping people and like I was always like tutoring people around me and doing extra. I gave myself homework over the summer so that I could help other kids in my class."

Ava initially did wants to be a pharmacist but instead did switch to teaching. She did her student teaching in math and did teach 6th grade as a long-term sub before starting her first year teaching middle school. She feels students missed out on hands-on learning during the pandemic. She did receive social-emotional training in college and at her school, which focuses on community-related issues, like poverty. During her interview, Ava discusses challenges with students talking a lot in class, which leads to distractions during math lessons. The students are close friends and find it hard to focus on math sometimes. Some students show anxiety when they struggle with new concepts. Ava also highlights the importance of addressing students' emotional well-being for better learning outcomes and the increasing loss of social interaction within school time for students.

Isabella

Isabella is an African American female teacher between the age of 25-35 who works in an urban school in the Midwest. Isabella has over seven years of experience in education as a

teacher. Isabella did go to a four-year post-secondary school and did obtain a Bachelor's degree in Political Science and a Master's degree in Cultural Foundations of Education. Isabella did receive her teacher certification by attending an alternative certification program. In the course of her interview, Isabella includes her reasons for becoming a teacher, her education level, and her work history up to the present teaching position. Isabella talks about why she became a math teacher.

Isabelle explains the importance of recognizing and addressing underlying issues affecting students' behavior and engagement in the classroom before focusing on academic work. Building relationships with students, creating a safe environment, and showing care and love are crucial aspects of effective teaching. According to Isabella, leadership and proactive support systems, such as behavioral specialists and school staff, play a key role in managing student behaviors effectively.

Sofia

Sofia is a white female teacher between the ages of 20 and 35 who works in an urban school in the Midwest. Sofia has over 11 years of experience in education as a teacher. Sofia did go to a four-year post-secondary school and did obtain a Bachelor's degree in Elementary Education with endorsements for Middle School Math. Sofia did recieve her teacher certification by attending a post-secondary school. In the course of her interview, Sofia includes her reasons for becoming a teacher, her education level, and her work history up to her present teaching position. Sofia explains why she became a teacher and why she became a math teacher: "It always comes easy to me, and since I was a child, I have always wanted to be a teacher. I just love helping kids and love seeing their light bulbs go off when they succeed."

Sofia believes students benefit from productive struggle and should understand that when they are faced with a specific problem, they do not always need to raise their hand immediately for help. Sofia encourages independent problem-solving to foster resilience and critical thinking. In mathematics, quick answers are not always possible. As educators, we address student behavior changes, provide social-emotional training, and meet students' needs. Effective classroom management, emotional support, and facilitating student discourse are essential. Promoting responsible decision-making in math also correlates with social-emotional learning and overall achievement. Building positive relationships with students and adapting teaching methods are key.

Mona

Mona is an African American female teacher between the ages of 35 and 40 who works in an urban school in the Midwest. Mona has over three years of experience in education as a teacher. Mona did go to a four-year post-secondary school and did obtain a Bachelor's degree in African American Studies. Mona did receive her teacher certification by attending an alternative certification program. In the course of her interview, Mona includes her reasons for becoming a teacher, her education level, and her work history up to her present teaching position. Mona reveals that she became a math teacher: "Because I wanted to contribute to the future, and I feel like teaching is a way to reach into the future and affect change."

Mona emphasizes the importance of addressing students' basic needs and providing emotional support to enhance math achievement. Overall, she highlights the significance of creating a supportive and inclusive classroom environment to promote success in math education. Mona is also concerned about students having challenges with basic interpersonal skills and self-control since the coronavirus pandemic.

Jessica

Jessica is an African American female teacher between the ages of 25 and 35 who works in an urban school in the Midwest. Jessica has over four years of experience in education as a teacher. Jessica did go to a four-year post-secondary school and obtained a Bachelor's degree in General Studies Education in the Inner City. Jessica did receive her teacher certification by attending an alternative certification program. In the course of her interview, Jessica includes her reasons for becoming a teacher, her education level, and her work history up to her present teaching position. Through questioning, Jessica discusses why she became a teacher, "I was really influenced by my calculus teacher back in high school. She had me tutoring as a junior, so I tutored junior and senior year, and then I went off to school, and I thought I was gonna become a dentist. Unfortunately, my mom passed, and I couldn't stand the smell of blood or whatever after going through that, so I just changed my major. When I graduated from college, I went and worked for a Quaker chemical company. In the end, they downsized because of technology, and I bumped into my teacher, who had become the assistant principal of my high school." Jessica applies to the school and soon becomes a teacher.

Jessica uses methods, like coaching, relationship-building, support through tools and materials, and facilitating group therapy for children with behavioral needs in the school. In math, she employs personalized strategies, anchor charts, and various tools to support students with challenging behaviors, such as frustration and difficulty with concepts. Jessica believes that social-emotional learning can impact math achievement in a classroom setting, with factors like home life, social awareness, and self-management playing key roles. She believes social awareness can drive students to seek help and excel in math while self-management can determine students' level of engagement and academic growth.

Rebecca

Rebecca is an Asian female teacher between the ages of 25 and 30 who works in an urban school in the Midwest. Rebecca has over four years of experience in education as a teacher. Rebecca did go to a four-year post-secondary school and did obtain a Bachelor's degree in Education and Special Education. Rebecca did receive her teacher certification by attending a post-secondary school. In the course of her interview, Rebecca includes her reasons for becoming a teacher, her education level, and her work history up to her present teaching position. Rebecca explains why she became a teacher and why she was a math teacher:

Rebecca emphasizes the importance of creating a safe and interactive learning environment for students, especially post-COVID, where students faces challenges catching up on missed concepts. She discusses her experience in math intervention and behavioral support strategies in her classroom and making math fun through games and interactive activities. Rebecca highlights the role and importance of family involvement and the school environment in fostering these skills. She also stresses the need for varied teaching methods to cater to diverse learning styles in math education.

Results

The purpose of this transcendental phenomenological study is to understand the lived experiences of elementary and middle school math teachers with social-emotional learning and math achievement for Midwestern and Western schools within urban and suburban areas. Data is collected from interviews, focus groups, and a written prompt. Data is analyzed using Moustakas's(1994) method based on the principles of Edmund Husserl (1931), which seeks to understand human experiences and explore the essence of their lived experiences. Data analysis is grounded and created through the research questions designed to understand the lived

experiences of elementary and middle school math teachers and their experience with social and emotional learning. Information within the theme development section elaborates on the three primary themes that emerges from the data analysis as they relate to the phenomenon. The the information incorporates with the section research question response connects the data as derived from the participant interviews, focus groups, and a written prompt to directly answer the information sought by the central and guiding research questions.

Theme Development

Data is collected and coded from participant interviews, focus groups, and a written prompt and then it is analyzed to search for patterns and themes. As a result of analyzing data, three themes and six subthemes emerges. The three themes that emerges were (a) classroom relationship building as noted by seventeen of the seventeen participants (b) student engagement as noted by sixteen of the seventeen participants, and (c) SEL program stewardship by Administration as notes by thirteen of the seventeen participants. Themes are developed after coding transcripts from interviews, focus groups, and written prompts. Transcripts are read several times, and codes are created, analyzed, and, at certain times, combined with like terms to avoid redundancy. Results of the themes and subthemes are represented within Table 4.

Table 4

Themes & Subthemes

Theme	Subthemes		
Relationship building	Teacher impact	Teacher ownership	
Student engagement and behavior	Supporting student needs	Positive behavior incentive	Effects of Covid

SEL program stewardship from leadership	Leadership Guidance	Practical application

Relationship Building

The first theme from the data collection process is the importance of relationship building as shown by table 4. A positive connection between teacher and students, student to student, and between a teacher and parents is essential for creating a supportive learning environment. Seventeen of the seventeen participants states the importance of creating and maintaining strong relationships with students. Table 5 verifies the repeated words and phrases during the interview that helped structure the themes.

Table 5

Theme 1: Relationship Building

Theme	Sub-theme	Number of times Coded	Number of Participants
Relationship Building		339	17
	Teacher Impact	67	16
	Teacher Ownership	39	12

Elements of relationship building appears across all three types of data collected the code appearing. During one focus group, Emma remembers working in a school in Nashville that had high poverty and students with high needs; she remembers that,

The behaviors and everything were all over the place. You had some kids who would be

there to learn, and then you had a lot of kids who were there to be loved. It was my first and second year of teaching, so I feel like it would have been better if I went there now because I've had a few more years under my belt. You know, We have a lot of high needs, both socioemotional and academic, very high needs as well. In my opinion, I feel like I see more kids in this school who come to school and will be loved more than at my last school. They definitely need to feel a bit of assurance that somebody's on their side.

As participants share their experiences and perceptions on relationship building in the classroom, fifteen participants acknowledge that relationship building and community building take experience and time beyond the first and second years of teaching.

Teacher Impact

The impact of a teacher has a profound and lasting effect on students. Through interviews, focus groups, and written prompts brought to the forefront, several elements grouped together shows the positive impact of an effective teacher and shows up in common code 67 times. Codes that make up teacher impacts, included effective teaching, effective communication, academic achievement, positive teacher influence, teacher self-efficacy, teacher ownership, and a teacher growth mindset. When talking about his classroom during his interview, Eric states, “You won't hear kids in my math class say I am not smart or I didn't get this because I am dumb. I told my kids if they get it, that means it was taught well, and they understood it, or if they weren't taught well and they may be struggling, then they ask for help, and I will help them.”

Another aspect of teacher impact is a teacher who is a positive influence. Teachers talks about teaching kindness in the classroom to foster a positive environment. Charlotte discusses strategies for fostering a positive learning environment and encouraging positive student

behavior. She emphasizes the importance of speaking kindly, which creates a culture of academic focus and redirects negative behaviors toward positive ones. They also mention the significance of acknowledging children's feelings and guiding them toward positive social interactions. Her perspective is

> So we do like a lot of different things where if a kid says something to another kid that might offend them, we correct it right away like we have a social contract that we go back to, and we talk about what is that kind or nice like we listed on our social contract or we might even say file and now I need you to say two nice things about that person just constantly like redirecting back to what is positive behavior in the classroom and actually taking time to acknowledge the children's feelings because I'm noticing that a lot of kids don't get like conversations that's positive at home.

Based on interviews, a teacher who has strong emotional intelligence and is invested in positively influencing their classroom, has a strong impact on classroom climate. In that case, their understanding of Social and Emotional Learning seems deeper. Seven teachers seem to understand what SEL is, and ten need to be shown a diagram to clarify their understanding of SEL and the five SEL competencies aligns to the learning.

Teacher ownership

One factor has become vital to a strong SEL program within math is the teacher's ownership of his or her classroom. Fifteen participants shows different ways they take ownership of their classroom to support students. During the data collection phase, teachers share experiences and challenges working at a public or public charter school, particularly with students facing poverty and instability. Participants emphasizes investing in students and building relationships to support their growth. In focus groups, teachers discusses handling

classroom dynamics, planning curriculum, and fostering a positive learning environment. Teachers highlights the impact of building relationships with students and families for academic and emotional success. One factor is parental involvement, which is crucial in relationship building within schools. According to twelve teachers out of seventeen during interviews, when parents actively engage in their child's education, it fosters positive relationships between the teacher, parent, and student. Several teachers, like Janet, feel that students feel supported both at home and in the classroom when parents and teacher are on the same page, and this creates a clear importance of similar values being conveyed on all fronts. Janet states in a focus group that, "I have to use terms with parents, and you know, teach them, teach your terms and vocabulary for math instructions for their students. I taught them how to read data and everything sitting there, and you know, a few of my parents liked it, and this was very helpful."

While Janet speaks of working with and educating parents, the way she explains how she did go out of her way to support parent understanding shows how she takes responsibility to help strengthen the relationship between the teacher and the parent while also supporting students. Some common terms while coding that fell under the parent involvement umbrella are parent motivation, parent involvement, lack of parent involvement, impact of poverty on household, home-to-school communication, and home-to-school collaboration.

Student Engagement and Behavior

Student engagement encompasses the level to which a student participates in academic activities that are goal and learning-based (Wong et al., 2024). Student engagement also contributes to academic achievement (Salmela-Aro et al., 2021). The importance of student engagement is coded 248 times during data collection.

Table 6

Theme 2: Student Engagement and Behavior

Theme	Sub-theme	Number of times Coded	Number of Participants
Student Engagement and Behavior		248	17
	Supporting student needs	63	17
	Positive behavior incentives	32	12
	Effects of Covid-19	26	17

All participants mention the importance of student engagement in all data collection forms. Sarah states, " The most challenging behavior in class, I would say, is with students who lack knowledge. So, a lot of times, when I have students for whom the content is too difficult, they tend to talk or disengage." The interview data shows that all seventeen participants state that student engagement was necessary for academic growth. Through the interviews, sixteen out of seventeen participants indicate that student discourse adds a social element to math, which helps students get along in their classroom. twelve out of seventeen participants indicate that hands-on tools and visuals help students process their thinking in math.

Supporting student needs

Supporting students' needs within the classroom is mentioned by seventeen of the seventeen participants. Student needs varied from basic needs of food, clothing, and safety to

psychological needs due to trauma based on participant interviews. Sixteen of the seventeen participants describe how they assist students with their unmet needs to increase student safety at school. The codes of food, safety, hygiene, supporting basic needs, student trauma, healing resistance, and trauma cluster to form the subtheme of supporting student needs. In her interview, Beth states, “If the kid is hungry, you know, if they're living in an environment where they're lacking food and other things. And so, when students come into the classroom, it's important that you know, teachers provide that sense of safety, that sense of nourishment, that sense of love, that sense of belonging, in order for them to feel at a place where they can actually learn.”

Positive behavior interventions and support

School environment significantly impacts adolescents' growth by shaping their social and emotional paths and safeguarding against student-related challenges (Crowley et al., 2021; Kubiszewski et al., 2023; Singla et al., 2021). Elements of theme appeared across all three sources of data for most participants. The codes of positive behavior incentive, positive behavior support, positive reinforcement, positive affirmations, community building, rewards, recognition, and belonging are clustered to form the sub-theme of positive behavior interventions and support. Teachers find that rather than reminding students of what they did wrong that more emphasis should be put on praising students for what is done well along with incentives for finishing work on time and with effort. Codes range from positive incentives, positive affirmations, free rewards, community building, positive support and building up students to all come under the umbrella of positive behavior incentives and support. These codes appear 63 times in participant interview transcripts, focus group transcripts, and written prompts. Ten out of seventeen participants during interviews, all focus groups, and three participants within

written prompts mention that positive behavior supports help assist students and attributes to creating a positive classroom environment.

Effects of Covid

All seventeen participants reflects on the challenges of teaching during and after the COVID-19 pandemic, which higlights the emotional impact on students who missed out on in-person experiences. The codes included topics such as: adaptability after COVID-19, COVID-19 challenges, which overcomes challenges after the pandemic, the impact of COVID-19, coping strategies, anxiety increase post-Covid, and fear of failure after COVID were combined with falling under the theme of the effects of COVID. Sixteen out of seventeen participants emphasize building trust and community with students to help them navigate these uncertain times. Seven participants also touch on the unique nature of teaching math and the impact of social media, particularly TikTok, on students during quarantine within two of the three focus groups.

SEL program stewardship by leadership

According to fourteen of the seventeen participants, educational programs and practices that promote the development of student's social and emotional competencies are best supported by school administration and leadership. The codes, admin support, teacher empowerment, teacher support, emotional intelligence, self-awareness, self-regulation, emotional regulation programs, social skills, teaching kindness, building student self-esteem, and administrative guidance cluster to form this theme, with 247 codes appearing within interviews, focus groups, and written prompts.

Table 7

Theme 3: SEL program Stewardship by Leadership

Theme	Sub-theme	Number of times Coded	Number of Participants

SEL program Stewardship		247	17
	Leadership guidance	29	13
	Practical application	42	16

Leadership Guidance

Leadership guidance with SEL involves providing effective leadership in the social-emotional learning program to create and maintain a positive and productive learning environment. Thirteen of the seventeen participants mention the importance of strong and supportive leadership and implementation of an SEL program for it to be effective. The element of the theme appears in interviews and within focus groups. The written prompt did not show mentions of leadership support. Another element that is called out was from fourteen of the seventeen participants, and this is about the lack of practical application within their SEL program or initiative from training. Twelve of the seventeen participants mention trauma training as associated with supporting social and emotional needs; however, only two of the seventeen candidates mention their SEL or trauma training, including practical applications, and both those candidates mention leadership being a strong proponent of utilizing SEL within the classroom. In her focus group, Fran states, “I feel like we have a brand new principal this year, and she's awesome. What she did at the beginning of the year was survey all the staff and ask what they felt was their biggest struggle and what would help them the most. And then she's sought out other professional development just specifically for the things that we said we needed. I have never had behaviors like I've had this year, and just their training that they gave me talking

about, you know, dysregulation and how to reregulate and then the NHA restorative circle part just, and I think has helped me personally stay." Another aspect that emerges from the interviews was that having a supportive administration and leaders gives a strong foundation to an SEL program. However, sixteen out of seventeen participants show and talked about how ownership within your classroom is an important element to success.

Practical Application

The element that is called out was from sixteen of the seventeen participants, which is about the lack of practical application within their SEL program or initiative from training; two of the seventeen participants mentioned they had practical applications to the SEL program. However, it is due to the principal's initiative. The codes of trauma training, basic needs support, student trauma, healing, resilience, trust building, student self-confidence, and emotional regulation curriculum were pulled together to create the subtheme practical application. When talking about training and education on Social-Emotional Learning, Susan states,

> We did a district-wide professional development on trauma and adverse childhood experiences. Was it helpful? I think so. We did talk a lot about those traumas that students experience and how it affects them in the classroom and understanding all of that. I also learned a lot about trauma in my undergrad and then my Master's program. I will say one of the gaps I'm finding is the knowledge we have about trauma and then the lack of what to do about when those traumas show up in the classroom. You know you can be informed and trauma-informed, but there aren't really answers to how to help these kiddos.

Six out of the seventeen participants mention finding their own way of teaching self-management and self-regulation during math class in a way that supports students. According to

Jennifer, this is one element along with the teacher having a strong sense of self-regulation to keeping a calm classroom. Jennifer discusses, “I don't expect anything from my students that I wouldn't expect from myself. Umm. If they need to move, I let them move, but they know the parameters. When I was in a first-grade classroom, I taped off a rectangle in the back of the room, and it was their wiggle spot. And they knew the rules. I don't get angry if they are angry. Typically, I don't. Depends. You know, sometimes I'm having big feelings that day too. I'm, but no, I'm just trying to be supportive of them.”

Outlier Data and Findings

With the number of research participants who reached saturation and data that was triangulated within the interviews, focus groups, and written prompts, some unexpected findings have emerged. The unexpected findings did not align with the themes, or the research questions that are presented in the study. The unexpected data come during interviews and on one written prompt.

Red Dye and Negative Behavior

Jessica adds to her experience with Social Emotional Learning, "Is there a way to look at the dietary? Because I find my kids get a lot of red dye and hot chips, I used to have math, and in the afternoon, I switched it to the morning because, in the afternoon, there was nothing after that lunch. They're excited." No other participants mention the food or diet of students or ask about the effects of diet on student behavior.

Authoritarian Purpose

Sixteen of the seventeen participants give the impression of teaching for altruistic reasons. The same sixteen participants show empathy and compassion when talking about students, which conveys a sense of responsibility for being in service when supporting students.

During the interview, participant reveals a willingness to give more than necessary or expected to support students in becoming successful. One of the seventeen participants give the impression of being a teacher for reasons of self-satisfaction and seem authoritarian. Beth response to questions about entering teaching by saying, "Oh well, and its probably because I'm good at it. I'm good at math, so that was the main reason why. So that's one of the reasons why, for sure, that was because I'm good at math, so and then I mean I get to tell somebody what to do all day, so that's another small reason, but mostly because I'm good at it and it became with ease. It's a lot to do, but it's not hard to do." Beth also stated that she didn't like to work outside of school hours; whatever she could do within school time would be completed.

Math helps Emotional Dysregulation

Sixteen out of seventeen participants see a correlation between an increase in negative behaviors from students who have trouble regulating emotion during math class or when working on challenging math problems during class. One participant out of seventeen feel some students who had difficulty regulating emotion did better in math class. Fran states, "Because you can prove things in math, whereas other subjects. It's very subjective; you know it's more abstract, and it's not always this is the answer. I mean, I do have a couple of those kids needing social-emotional support who are really sharp and love math. I also think that's because math by nature is finite, and they can control whether or not they get an answer, and in their regular life, that's not always true. And so, as I said, I think the majority of them do struggle, but I do have those friends who are like, I can't control the fact that dad's deployed and moms in over her head, and so she yells at the kids. They think I was at home, and I can't control what happens there, but I can control the fact that I know how to do long division, and so they just dive in because they know they can have an answer."

Research Question Responses

This study is guided by the central question about the lived experiences of elementary and middle school teachers with social and emotional learning about math achievement. Three sub-questions are derived from this central question, surrounding teachers' experience with difficult classroom behaviors, teachers' perception of their SEL training within school, and their personal experience with SEL as students. The insight and reflections of teachers and their experiences are the basis for this research study.

Central Research Question

The central research question that is asked is what are the lived experiences of elementary and middle school math teachers' with social-emotional learning increasing math achievement? The overwhelming response with seventeen out of seventeen participants is that teachers are ill equipped to help students because they did not have enough effective training in this area. Lack of training varied from having no train, having trauma training, having informative training only to be missing training in practical methods to help students. The issue of behavior management is a significant challenge in schools where administrators often act reactively rather than addressing underlying causes. Understanding and addressing students' needs, trauma, and learning styles can also improve behavior and academic outcomes. Implementing various teaching strategies in subjects, like math, can help students grasp concepts better and improve their overall performance. It is important to let students know they have options in learning and to teach concepts in multiple ways, especially in math, which has different paths to the answer. Some educators find success by building relationships, providing behavioral support, and implementing positive reinforcement systems, like PBIS (Positive Behavioral Interventions and Supports). Teachers feel unsupported by school leadership based on most participants' reflections. The

approach should shift towards proactive strategies and empower teachers with effective classroom management techniques. Mona recalls her difficulty in the first year of teaching, "My first year was awful behavior-wise. Behaviors have been a struggle in the classroom, and in terms of what I do in the classroom, we do. Many basic needs are unmet for our kids. I do try to get snacks for the kids, and we're trying to kind of hoard the free breakfast as little pieces of the free breakfast. I feel like I have been supported, but I wish I had more practical guidance." The benefits of a strong SEL program where leadership takes stewardship of the program are common themes among many participants who have strong leadership in this regard and also from teachers who lack this element in their school.

Sub-Question One

How do math teachers' views changes in student behavior after integrating SEL into the math curriculum? Participants in the study discuss challenges faced in Education post-COVID year, especially in managing the self and dealing with authority. Teaching requires direct instruction and engaging young students who may struggle with attention and behavior, such as talking during lessons. Most teachers find it difficult to address behaviors without addressing students' basic needs. Students may exhibit challenging behaviors when facing difficult topics, like fractions. The speaker employs cooperative learning strategies to tackle disengagement and lack of knowledge, which encourages student discourse and problem-solving. Encouraging growth mindsets and persistence is important in overcoming fixed mindsets, especially in understanding story problems. Building relationships is key in integrating SEL into the math curriculum, and this aligns with strong parent involvement or a connection with parents. The focus is on student engagement, supporting needs, positive behavior incentives, and the impact of COVID-19 on Education. Many teachers feel integrating SEL helped with math achievement.

Although, some anomalies existed.

Sub-Question Two

How do math teachers perceive that their SEL training has influenced their teaching practices? Participants discuss the importance of social-emotional learning in preschool, elementary education, and middle school, which emphasize its role in preparing children for academic success and developing leadership skills. They highlight the centrality of social-emotional skills in all aspects of the classroom, including academic subjects, like math. Training programs, such as Capturing Kids Hearts and restorative circles are mentioned, along with the challenges of maintaining consistent implementation and teacher buy-in for these programs. The significance of teacher impact and relationship building in supporting students' social-emotional development and academic growth is emphasized. In-school training is seen as something implemented by leadership, and strong leadership and buy-in creates strength in teacher buy-in. During a focus group discussion, Olivia comments, "I agree with Joy; it's very intertwined with everything we do within the classroom. For math specifically, it is just encouraging students that it's OK to make mistakes and to keep trying. It's meant to be a challenge, and you really have to dig deep to understand what it's looking for. I teach second grade, so there are, you know, a lot of story problems that are new for them when they are just used to adding two numbers together. But sometimes, the multi-step problem is that they just really would rather just add these two numbers and be done, and that's how they make their mistakes. But we have to really think critically and revise. I will retry and try to make more sense of math. Our admin and leadership are very supportive and willing to help us with whatever we need in supporting our students."

Sub-Question Three

How do math teachers perceive their personal experiences with SEL during their

schooling have shaped their approach to teaching math? There seems to be some correlation between older teachers who are never taught SEL during their schooling and some of their parents are unable to teach this. Many of these teachers who have been teaching for a longer time recall training has been more recent in SEL and that the first few years in the classroom are difficult. Newer teachers have received more training in their beginnings; although, training is still insufficient. Most teachers agree that training has improved over the last few years. Ava recalls, "My first year teaching was rough. I didn't know what I was doing, and I think the students knew it. At the beginning of this year, there was professional development for social-emotional learning, and it was actually pretty nice because they related it a lot to the community that we're in and the types of situations that we would see the most in our school. So, like poverty, homelessness, and like. That kind of stuff and how we can apply that into the classroom and how we can use that to help us help them is something new."

Summary

This research study explores the experiences of elementary and middle school teachers regarding social and emotional learning (SEL) about math achievement. The study addresses the challenges teachers face in managing student behaviors and the impact of integrating SEL into the math curriculum. During the research and information-gathering process, it soon becomes clear the effects of students being removed from school and isolated during COVID has negative effects on behavior. Teachers emphasize the importance of addressing individual student needs, trauma, and learning styles and implementing various teaching strategies to enhance student engagement and academic performance. Many teachers believe SEL training has positively influenced their teaching practices and student outcomes. However, there are still challenges in consistent implementation and teacher buy-in for SEL programs. The study also examines how

teachers' personal experiences with SEL during their schooling have shaped their approach to teaching math. Overall, strong SEL programs and supportive leadership are beneficial in improving student behavior and academic achievement. However, teacher ownership is a deciding factor for success.

CHAPTER FIVE: CONCLUSION

Overview

The purpose of this transcendental phenomenological study is to understand the lived experiences of elementary and middle school math teachers with social-emotional learning and math achievement for Midwestern and Western schools within urban and suburban areas. The initial four chapters of this transcendental phenomenological study detail the purpose of the research study, review the literature, explain the methodology implemented, and discuss the research findings. Chapter five encompasses the interpretations and findings of the study, including the insights collected from math teachers who have taken ownership over their classroom and who provide academic and emotional support to their students.

Discussion

The research study's findings are grounded in the lived experiences of elementary and middle school math teachers with social and emotional learning and math achievement. Within this section, three overarching themes and six subthemes have emerged and are analyzed through the lens of the theoretical framework. The discussion encompasses several major subsections, including a summary of thematic findings, theoretical and empirical implications, limitations, and recommendations for future research. Ultimately, the study's results can inform policy and practice, enhancing student math achievement and overall classroom quality of life.

Summary of Thematic Findings

This study examines participants' perception on implementing social-emotional learning within math curriculum and academic achievement. The findings from this study show three clear themes and six subthemes. The first theme revealed is the importance of building relationships with students, which can be broken down into two subthemes: the positive and

negative impact of a teacher and teacher ownership of a classroom. The second theme that became evident is the impact of student engagement and behavior on academic success; this was further divided into the three subthemes of supporting student needs, positive behavior incentives, and the effects of COVID-19 on learning and behavior. The third and last theme is leadership taking stewardship and responsibility for a program that integrates SEL and math in the curriculum; this was further divided by subthemes of guidance by leadership on the program and practical applications of steps that can be taken to support students.

Relationship Building.

The first theme revealed by participants' perception of effective SEL within math is the importance of relationship building within the classroom. Participants emphasize the importance of not giving up on students and instead working to help them improve. Focus group participants discuss the idea of rewiring the classroom and finding effective strategies for behavioral management. Seventeen participants state the importance of creating and maintaining solid relationships with students. When looking at the theme of positive relationships, the impact of a teacher becomes a subtheme in this section. Research indicates that children who have at least one positive and stable relationship are more protected than children who do not have even one stable relationship (Post et al., 2022). Teachers are often the only stable person for students experiencing trauma and poverty, which helps students build the resilience needed to succeed (Post et al., 2022; Somers, L & Wheeler, 2022). Teachers with vital emotional intelligence bring positivity and create a supportive environment where students thrive (Maamari & Majdalani, 2019; Maamari et al., 2023; Waiswa et al., 2020). Resilient teachers play a crucial role in fostering inclusion and overcoming educational adversities by creating supportive networks for students at risk, thereby, enabling schools to adapt to unique challenges (Pozo-Rico et al., 2023;

Rodriguez Fernandez et al., 2018; Salinas-Falquez et al., 2022). The second subtheme is the importance of teacher ownership of the classroom for the SEL program to be successful. A teacher who is also a leader plays a pivotal role in influencing students' development (Duan, s., et al., 2024; Stevenson N.A. et al., 2020; Tångring, C. et al., 2023). Related to different terms such as classroom management (Chow J. et al., 2024; Korpershoek, H. et al., 2022), classroom ownership (Cocieru et al. et al., 2021), and teacher self-efficacy (Hajovsky, D. et al., 2020; Wray, E. et al., 2022) to name a few fall under the umbrella of teacher ownership which related to teachers taking responsibility of students social, emotional health, behavior outcomes, and academic growth within the classroom. The research findings show that the teachers who showed ownership over their classrooms asked for less administrative help and had fewer behavior issues. The participants who had ownership within the classroom also create their plans for supporting students with social and emotional needs within the classroom and used resources they create or bring themselves.

Student Engagement and Behavior.

The second theme that emerged is the importance of student engagement and student behavior within the classroom. The first subtheme to emerge is supporting student needs. Participants tell about how students had unmet basic needs such as food, clothing, shelter, and sleep. Many teachers speak about getting extra snacks for the classroom to help students who may be hungry throughout the day; other teachers discuss getting extra breakfast for students who arrived late and came hungry to school. Teachers speak about getting extra clothes from a closet at school and creating a loving environment for students. Some students would sleep at school because they either did not get enough sleep at home or sometimes felt unsafe at home. Most teachers admit that students who did not have their basic needs met would often be unable

to function academically. Teachers who shows ownership within their classroom also commented about the effort they put into making sure they connect with students personally. A few teachers use the term Maslow before Bloom. Research shows that if students have their basic needs met, as is Maslow's hierarchy of needs, they can concentrate on academics, as highlighted in Bloom's taxonomy (Hood, N., 2020; Mutch et al.; S., 2023).

SEL Stewardship from Leadership.

The third theme that emerged is the stewardship of the SEL program from leadership. Participants range from having no training in SEL to having some training in SEL when teaching in schools. The majority of teachers felt they are given some training on trauma and the effects of trauma on students. Where most programs are lacking is that there needed to be more practical applications available for how teachers can support their students. The three teachers who said the admin did go to help indicated they need little behavior support. Out of those three teachers, one teacher states that in recent years, more behavioral support is needed, and her school principal did go out of her way to find a way to support teachers and found the funding or resources to help her. The first subtheme in this category is about guidance from leadership on what to do to implement SEL within the school. The interviews and focus groups reveals that through trial and error, teachers figure out they needed to start early, start strong, and create opportunities to learn about their students; this only sometimes comes with leadership guidance. The second theme that is revealed, and the most important, is the lack of practical application of how to support students with trauma or students with behavior management difficulty and social anxiety.

Teachers have a better understanding of the effects of trauma from in-school training and reading literature. However, practical ways to tackle this in the classroom are complex for

teachers with insufficient training or resources. One resource that comes up a few times is a program called Capturing Kid's Hearts, a character education program. The essence of this program is to create an environment that increases school connectedness through adult support, belonging to a positive peer group, commitment to education, and a welcoming school environment (Centers for Disease Control and Prevention, 2009). Based on research, school connectedness has been shown to increase or attribute positively to academic achievement (Arslan, G., 2021; Kiuru, N. et al., 2020; Korpershoek, H. et al., 2020). Teachers appreciate the critical elements of the program, such as engaging students as soon as they arrive at school, as students learn about the good things that are happening in their lives at the start of the day, which creates a social contract with students about basic norms in the classroom and ends the class on a positive note (Centers for Disease Control and Prevention, 2009). In many schools, this program is discontinued due to lack of funding.

Implications for Policy or Practice

The findings from this study offer compelling evidence for necessary policy and practice adjustments. Qualitative research, which delves into the intricacies of real-world experiences and phenomena (Creswell & Poth, 2016), underscores the importance of these changes. Specifically, the implications for policy pertain to school leadership, superintendents, and administration, emphasizing the need for strategic decision-making. Meanwhile, the practice-related implications center on schools and classrooms, which urges collaborative efforts between teachers and leadership. A proactive approach is essential when designing and implementing social and emotional learning (SEL) programs alongside the math curriculum.

Implications for Policy

During the study, it has become clear that teachers believe integration of a strong,

supportive SEL program requires an approach that starts with leadership. The first step to a successful SEL program is looking for SEL standards that align with the vision and purpose of the school. The collaborative provides the current and consistent SEL framework for Academic, Social, and Emotional Learning (CASEL). Research shows that the standards content through CASEL has been consistent amongst over nine states (Frye F. et al., 2022; Frye F. et al., 2024; Dusenbury, L., 2020; Wigelsworth M. et al., 2022). Once SEL standards are identified, leadership should determine which math curriculum aligns with these standards and identify the practical applications teachers can use. Leadership should also identify and highlight the teacher moves required to implement this program successfully. Sixteen of the seventeen participants referred to leadership in a positive or negative light regarding SEL program implementation which directly correlated with the success of the program's effectiveness within classrooms and schools. Within one focus group five of the five participants within the group discuss the benefits of an assessment tool that needs to be developed and implemented to measure both the math and SEL outcomes, so educators can understand how well students are developing SEL skills in the context of math learning. Once all the key elements of adapting and identifying standards, integrating standards into the math curriculum, and having practical applications ready to support teachers are identified and agreed upon. The next priority is providing the teachers with high-quality professional development on integrating SEL and math. All stakeholders should understand that integrating SEL into the math curriculum is not just about adding new content; it will also change how math is taught, with increased collaboration, problem-solving skills, and emotional awareness. Sixteen of the participants also expressed the need for a practical application ideas and methods for SEL and math integration which doesn't seem to be present.

Implications for Practice

Through this study, it has become evident that creating and maintaining student relationships is vital for any learning. Based on Maslow's hierarchy of needs, this study also shows that teachers who address the basic needs of students can nudge those students to engage in academic activities. The basis for helping students is healthy communication and healthy relationships as well as having a supportive, loving teacher in the classroom who holds students accountable. For a teacher to lead the classroom, it is imperative that teachers have a high level of emotional intelligence and strong self-efficacy and take ownership of their classroom. In order to do this, this study furthers the research on effective classroom management by revealing that a teacher's impact is crucial to a student's success. This study also reveals that teacher training is not effective when it comes to the practical application of supporting students with various levels of trauma.

As supported by research, a significant number of teachers are not adequately trained to handle the socioemotional challenges of students and to react to students in a manner that nurtures the relationship between the child and the teacher (Post, P. et al., 2022; Wood, C. et al., 2022). Based on the data collected for this study, the participants in both the individual and focus group interviews mention the importance of making connections with students and the adult in the room by having more self-control and understanding than students do in order to foster positive relationships. This becomes especially more evident after the Covid pandemic. This finding supports previous research about the disconnect with students after COVID-19 and the effects of isolation on socialization. Nearly all the participants mentioned that the stronger the relationship with students is, the fewer behavior issues teachers must address. Teachers also mention that they could strengthen relationships if they start working on those relationships from the beginning of the school year if they take responsibility for the classroom atmosphere and

hold students accountable. Teachers also mention that the first year of teaching was challenging, and it takes time for them to find their normal and learn the best way to approach students. Several teachers mention having a growth mindset while assuming positive intentions from students and having a positive mentor teacher to process with, which is helpful.

Empirical and Theoretical Implications

This study adds to the current research through empirical and theoretical implications. Empirically, this study confirms most findings in the literature but expands on and found new nuances in the existing literature such as math anxiety, inequality and life factors effecting math achievement negatively. Theoretically, this study is grounded in Maslow's theory of the hierarchy of needs, which stresses the importance of having a psychological framework outlining fundamental human needs met before students can learn (Maslow, 1943). However, admittedly, it did not consider that learning must take place at school even if basic fundamental needs have not been met outside of school hours. This study confirms the need for extensive teacher training with practical applications of how to support teachers who are supporting students with trauma, which has either increased or become more evident after the COVID-19 pandemic.

Empirical Implications

Eighteen teachers provides empirical evidence based on their experiences as elementary and middle school math teachers with SEL increasing math achievement. The evidence confirms the literature on this topic related to math anxiety, life factors, benefits of SEL, and the need for more intentional professional development opportunities. Participants' responses reveals feelings of frustration when support from leadership is either nonexistent or unclear with negative behaviors. There is no actual integration of SEL and math, and there was no preparation for the mental health of students from the return to school after COVID-19.

Math Anxiety

Math anxiety is something that affects adults and students alike and can affect learning outcomes in a negative way (Sanchez-Perez et al., 2021; Tarkar et al., 2022). Participants in the study also confirm that many students struggle with math anxiety, and this number has increased since the COVID-19 pandemic when students missed vital math concepts before they automatically graduated to the next school year. Research shows that math anxiety unintentionally creates a significant barrier that hampers the development of a robust mathematical foundation, which prevents students from building upon previously learned concepts and achieving proficiency in the subject they are studying (Dijck et al., 2022; Sears et al., 2022; Szczygie, 2021). Participants in my study almost unanimously agree that the isolation and distance from school during COVID makes this already existing gap much worse. Something unique the study revealed is that more than half of the participants revealed that anxiety increased as self-confidence in math decreased for students who were returning to school after COVID-19. Several teachers emphasize the importance of building a student's math confidence to increase a student's self-efficacy in math; this aligns with the teachers who take ownership of their own classrooms. When most students are out of school during the pandemic or even being taught online, they practice or keep up with math less than they would have with in-class learning, thus, decreasing their memory of specific math skills and strategies.

Inequality

Existing research underscores a concerning trend, indicating that disparities in mathematics performance commence as early as elementary school and, quite possibly, even earlier (Boda et al., 2022; Lavrijsen, 2022; Scammacca et al., 2020). Participants in this study provide collaborating testimony of a socioeconomic disparity and divide, which marks a

difference in math performance and achievement. Three teachers out of seventeen admit to noticing a difference in the expectations of math achievement expectations for African American students. Two teachers reveal a bias in how female students within their class approach math, a lack of confidence when approaching math and uncertainty. The participants insights align with the literature research; although to a lower extent, teachers did not notice a significant bias or inequality towards females or different races. It should be noted that teachers would only be able to identify their own biases, and with observing a teacher within the classroom, this is also a problematic factor to identify.

Life Factors

Recent research reveals that the COVID-19 pandemic highlights the diverse inequalities students face due to the loss of learning opportunities, which comounds by the additional stress and trauma they experienced (Lake & Dusseault, 2020; Welsh, 2020). Chapter Two discusses the inequality in student lives due to socioeconomic factors and disparities, childhood trauma, and adult influences. Participants reveal a lot of similar experiences that supported the earlier research about life factors influencing student growth, math achievement, and students' ability to navigate social situations. Research indicates that students return to school after COVID-19 with heightened impulsivity, reduce capacity for higher-order thinking, delay cognitive processing, and significant setbacks in social interactions and academic performance (Howell et al., 2019). Participants in the current study agree with this assessment, and eight teachers add that students tend to freeze and shut down when confronted with complex math concepts. Participants also notice that students wanted to talk to each other all the time, but not necessarily about math or academics. A unique factor that many teachers revealed is the new strategy that schools use to place students in classrooms with similar ability groups. Students who are high achievers are

placed with other high-achieving students, which leaves students who have lower grades and scores to be grouped in the same classrooms. Many participants feel that by dividing students into ability groupings by classroom; students with lower grades may also be from the same socioeconomic background, which unintentionally create a layer of segregation within schools. Another risk factor of dividing classes by ability level in elementary grades is the forced socialization with specific students and the forced division with other students, which takes away the ability for students to learn from students with different knowledge bases. Participants reveal that students struggled to develop math strategies to support themselves due to the gap in learning that occurred after COVID-19. Something participants also revealed is their perception of an increase in ADHD qualities in students in recent years, such as making careless mistakes, having difficulty paying attention, or spending long periods on a task or when speaking to someone.

Benefits of Social–Emotional Learning

Research shows that teachers' perceptions of their effectiveness are pivotal in enhancing student achievement in mathematics alongside their teaching methodologies (Huss-Keeler, 2022; Szczygiel, 2020). Interviews with participants reveal that teacher self-efficacy lends toward teacher leadership and teacher ownership within the classroom. Something unique that is revealed was that teacher ownership in the classroom is the deciding factor of the success of a SEL program. When teachers take responsibility for the emotional well-being of students, a positive change takes effect within the classroom. Another factor revealed is that teachers can have self-efficacy and strong leadership ability in the classroom, but inconsistency in teaching emotional regulation of the teacher and lack of math content knowledge is a detrimental to student growth.

Professional Development

The effectiveness of teacher professional development is intricately tied to its ability to resonate with teachers on a personal level (Bernay et al., 2020; Cochran-Smith et al., 2020). Within the current study, most participants reveal that professional development needs to meet the needs of teachers. Teachers need more practical measures to help students and time to process and plan this with other teachers. Several participants reveal that teacher understanding increases when leadership gives teachers time to collaborate and learn from other teachers. Participants reveal that PDs go over what trauma is and how students react to a trauma response; however, following through on what to do next is lacking. Another discovery through participant interviews and focus group transcripts is the importance of emotional intelligence teachers have. Research shows that a teacher's EI level is a crucial factor in a person's perception of inclusiveness in education and, thus, the impact on inclusiveness within the classroom (Jacobson, 2021; Nwosu, 2023; Pozo-Rico et al., 2020). This aligns with the data collected.

Theoretical Implications

Maslow's hierarchy of needs theory is a theoretical framework this study is designed and grounded in. While Maslow's theory emphasizes the importance of addressing foundational needs for optimal cognitive and emotional development (Maslow, 1943) when working in a school setting, students only sometimes meet all their basic needs. Leaning into Ryan and Deci's self-determination theory, which elucidates how social conditions can either support or impede an individual's motivation for personal growth (Ha & Roehrig, 2022; Ryan et al., 2021), it gives insight into what happens when social conditions are not optimal. Deci's approach emphasizes the importance of creating learning environments that satisfy students' basic psychological needs for autonomy, competence, and relatedness. When these needs are met, students are more likely

to internalize the importance of learning, leading to improved teaching and learning outcomes (Ha & Roehrig, 2022; Ryan et al., 2021). Participants seem to feel that according to Maslow's hierarchy of needs, it is essential that before students can internalize a lesson. Teachers were in a position where they had to satisfy both situations simultaneously. Based on interview data and focus group information teachers who took ownership of their classroom keep extra food in the classroom, find extra clothing from the clothing locker, and occasionally let students sleep for a moment if they knew it was not an everyday habit. At the same time, participants show that they felt responsible for building up a student's math confidence and general self-esteem. Sixteen out of the seventeen participants demonstrate altruistic motivation in assisting students to achieve proficiency in mathematics and realize their full potential, driven by a sense of moral obligation. Several participants discuss how they encourage students to think about their future and where they want to be; they give students time to reach for something more for themselves. The central research question of this study looks at the lived experiences of elementary and middle school math teachers with SEL increasing math achievement. This study's central question is supported by the perception of math teachers looking at the integration of SEL within the math curriculum and with teaching without SEL integration. Most teachers feel that they had to create their own SEL program within the classroom, and the more autonomy they have, the more they can make the program fit their vision. However, there is much frustration in the fact that teachers also needed guidance on what the program should look like and what action steps can be taken to integrate SEL with math. More than half of the participants need clarification on what the core competencies of SEL were.

The first research sub-question looks at the participant's insight into the changes in student behavior after integrating SEL into the math curriculum. The response is

overwhelmingly positive, which reveals that teachers thought that applying SEL definitely helps students once basic needs were met, based on Maslow's theory. The participants point out that the students have to be engaged, there should be positive incentives or affirmations for students to grow consistently, and the impact of a teacher makes a difference in any program or initiative undertaken.

The second research sub-question looks at teachers who perceive their SEL training as influencing their teaching practices. This question is more challenging to answer since most participants feel like their SEL training can have been more effective, and they feel like it is limited. Few schools go above and beyond training, which explains what childhood trauma is and what it can manifest as. The few cases of vital SEL training or trauma training are given by leadership, who take responsibility for creating a PD that benefit teacher needs and then pull outside sources to help.

Limitations and Delimitations

In the context of the study, the researcher encounters several limitations and delimitations. The limitations primarily stem from inherent weaknesses beyond the researcher's control. Specifically, many of these limitations are associated with the measurement instruments employed. Additionally, the researcher intentionally set certain boundaries, which results in delimitations within the study.

Limitations

There are several limitations of the study. The study is volunteer-based, and though I did reach out through my school district, a charter school, communication is also sent through posters on the university site and Facebook. The results are that sixteen of the seventeen participants are all from the same charter school company, which, although in nine different

states, uses the same math curriculum in most states. This influences the data. When participants volunteer to be a part of a study, at times, it is because it is a subject that interests them. In focus groups, when having conversations with teachers about the importance of SEL, sixteen of the seventeen participants show a passion and an interest in what SEL is, even if they have to have some competencies explained to them. This, I believe, influence the overall perspectives in the data collection. Although this survey is open to teachers in the Midwest and West, two participants are from the West, and everyone else is from the Midwest. The study's limitations are also that all participants have taught or are in education for over three years. Although the study is not designed to be this way, it allows all participants to discuss pre- and post-COVID-19 teaching experiences. One male teacher did volunteer to participate in this study, even though it is open to all teachers.

Delimitations

The study's delimitations include having participants from only the Midwest and West areas, where I work as a math specialist. It is my belief that it is easier to get participants from areas I serve, so familiarity makes teachers feel more comfortable with participating in the study. I choose to make this a transcendental phenomenological study over a hermeneutic phenomenology study because this allows me to focus on the universal structure of the experiences of math teacher without having to look at the historical or cultural context of their experience. Another reason for using a transcendental phenomenological study is to have an objective interpretation to describe phenomena as experienced by the participants, which gives a direct, uninterpreted understanding of the phenomenon under study.

Recommendations for Future Research

This study focuses on the lived experiences of elementary and middle school math

teachers with social-emotional learning and math achievement for Midwestern and Western schools within urban and suburban areas. In consideration of the study's findings, limitations, and delimitations, multiple recommendations and directions for future research are placed. While this study contributes to the current literature on SEL and academic achievement, it focuses mostly on math achievement.

Future research can explore how to help and support teachers with effective training on SEL and math achievement as well as creating a strong program with practical applications. The current study demonstrates that social and emotional skills and competencies are teachable, if there is strong leadership ownership over the program. A high-quality SEL program has been shown to have a positive impact on students' social for participants who had a strong program within the study, however, this includes only two out of seventeen participants. Based on participant perspectives positive outcomes for a strong SEL program include the development of social and emotional skills, improve academic engagement and performance, grow positive social behaviors, and lower rates of behavior problems and psychological distress.

In the present study, fourteen out of the seventeen teachers are affiliated with a charter school system that employ a single math curriculum. However, to enhance the robustness of our findings and gain deeper insights into the implementation of the Social and Emotional Learning (SEL) program, future research should explore a broader range of math curriculums. By examining diverse curricular contexts, researchers can better assess the impact of SEL interventions across different educational settings and instructional approaches. Such an approach would facilitate a more comprehensive understanding of how SEL practices are effectively integrated within various educational frameworks.

Conclusion

During the research and information-gathering process, it becomes clear that although having and SEL program is essential, it is also lacking in most schools. The lived experiences of elementary and middle school math teachers is that there is no practical applications of how to integrate SEL practices within math class. When leadership takes ownership over the SEL program there is substantial progress. Often leadership is not strongly supporting SEL and SEL becomes a compliance piece. Teachers do notice a positive difference in student behaviors when the SEL program is applied, but a strong program needs to be created and teachers need to be taught what a SEL program looks like in action and how to implement the program. Most teachers are not taught SEL within school themselves when they are in elementary and middle school and have little idea from their own experience on what SEL integration looks like.

Social and emotional learning (SEL) is a noted gateway to helping people have their foundational needs of feeling safe met because it allows students to find ways to manage their emotions and helps others see that the teacher is taking time and care to calm students and their feelings. The current study is critical because SEL in the math curriculum would increase academic progress and success. Upon the student's return to school following the COVID-19 pandemic, a discernible regression in their social skills becomes apparent. Many students exhibit challenges in effectively communicating and establishing connections with their peers. Additional research is needed on what type of SEL program are successful and the practical steps teachers can take to make their students successful and increase their math self-confidence.

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Appendix A

IRB Approval

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

March 1, 2024

Farina Sami
Traci Eshelman

Re: IRB Exemption - IRB-FY23-24-1130 EXPLORING THE LIVED EXPERIENCES OF ELEMENTARY AND MIDDLE SCHOOL MATH TEACHERS AND THEIR BELIEF ABOUT SOCIAL AND EMOTIONAL LEARNING AND MATH ACHIEVEMENT: A TRANSCENDENTAL PHENOMENOLOGICAL STUDY

Dear Farina Sami, Traci Eshelman,

The Liberty University Institutional Review Board (IRB) has reviewed your application per the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data-safeguarding methods described in your IRB application, and no further IRB oversight is required.

Your study falls under the following exemption category, which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:104(d):

Category 2.(iii). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:
The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by §46.111(a)(7).

For a PDF of your exemption letter, click on your study number in the My Studies card on your Cayuse dashboard. Next, click the Submissions bar beside the Study Details bar on the Study Details page. Finally, click Initial under Submission Type and choose the Letters tab toward the bottom of the Submission Details page. Your information sheet and final versions of your study documents, **which you must use to conduct your study,** can also be found on the same page under the Attachments tab.

This exemption only applies to your current research application, and any modifications to your protocol must be reported to the Liberty University IRB for verification of continued exemption status. You may report these changes by completing a modification submission through your Cayuse IRB account.

If you have any questions about this exemption or need assistance in determining whether possible modifications to your protocol would change your exemption status, please email us at irb@liberty.edu.

Sincerely,
G. Michele Baker, PhD, CIP
Administrative Chair
Research Ethics Office

Appendix B

Site Approval Informed Consent

[Date]

Farina Sami

National Heritage Academy

3850 Broadmoor Ave SE,

Grand Rapids, MI 49512

Dear Farina Sami:

After careful review of your research proposal entitled A Transcendental Phenomenological Study on the Lived Experiences of Elementary Math Teachers in regards to SEL, I have decided to grant you permission to contact our staff and invite them to participate in your study.

I will grant permission for Farina Sami to contact teachers from grades Kindergarten to eigth grade to invite them to participate in her research study.

Sincerely,

[Official's Name] [Official's Title]

[Official's Company/Organization]

Appendix C

Application to Conduct Research

Dear [Recipient],

As a graduate student in the Curriculum and Instruction department/School of Education at Liberty University, The title of my research project is EXPLORING THE LIVED EXPERIENCES OF ELEMENTARY AND MIDDLE SCHOOL MATH TEACHERS AND THEIR BELIEF ABOUT SOCIAL AND EMOTIONAL LEARNING AND MATH ACHIEVEMENT: A TRANSCENDENTAL PHENOMENOLOGICAL STUDY and the purpose of my research is will be to understand the lived experience of elementary math and middle school teachers and to describe their beliefs about social-emotional learning and math achievement for Midwestern and Western schools within urban and suburban areas..

I am writing to request your permission to contact members of your staff to invite them to participate in my research study.

Participants will be asked to complete the attached survey to contact me to schedule an interview, meet via google meet for a focus group and to complete and writing prompt at the end of the study. The data will be used to understand their experience within the classroom in regards to student behavior and teaching math. Participants will be presented with informed consent information prior to participating. Taking part in this study is completely voluntary, and participants are welcome to discontinue participation at any time.

Thank you for considering my request. If you choose to grant permission, please respond by email to [redacted]

A permission letter document is attached for your convenience.

Sincerely,

Farina M. Sami

Doctoral Candidate

Appendix D

Recruitment Template

Dear Potential Participant,

As a doctoral candidate in the School of Education, at Liberty University, I am conducting research to better understand the lived experiences of elementary and middle school math teachers and their beliefs about social-emotional learning and math achievement. The purpose of my transcendental phenomenological study that will aim to understand the lived experience of elementary math and middle school teachers' beliefs about social-emotional learning and math achievement for Midwestern and Western schools within urban and suburban areas. The focus is to look at the use of SEL to support math teachers in reducing negative behaviors in their classrooms. and I am writing to invite you to join my study.

Participants must be:

- Teachers who have taught or are currently teaching within a school
- Certified teachers
- Alternative Certification teachers
- Novice teachers (new teachers to teacher with less than 4 years' experience) or experienced teacher with four to more than ten years' experience.
- Teacher within the West and Midwest area within urban and suburban schools

Participants will be asked to:

- Take part in a one-on-one, audio-recorded, one hour interview via Google Meet
- Take part in a video-recorded focus group, one hour via Google Meet
- Complete a written prompt after the focus group has been concluded.

Names and other identifying information will be requested as part of this study, but participant identities will not be disclosed.

If you meet my participant criteria, click on the following link (https://forms.gle/rJr4iWUQGcjTSqQj7) to complete the screening data. I will contact you to schedule an interview if you are selected.

A consent document will be emailed to you if you meet the study criteria one week before the interview and focus group meeting. The consent document contains additional information about my research. If you choose to participate, you will need to sign the consent document electronically and return it to me at the time of the interview.

Sincerely,

Farina M. Sami
Doctoral Candidate
[redacted]
[redacted]

Appendix E

Social Media Recruitment Flyer

ATTENTION FACEBOOK FRIENDS: I am conducting research as part of the requirements for a PhD in education at Liberty University. The purpose of my research is to this transcendental phenomenological study that will aim to understand the lived experience of elementary math and middle school teachers' beliefs about social-emotional learning and math achievement for Midwestern and Western schools within urban and suburban areas.

Participants must be:

- Teachers who have taught or are currently teaching within a school.
- Certified teachers
- Alternative Certification teachers
- Novice teachers (new teachers to teacher with less than 4 years' experience)
- Teacher within the West and Midwest area within urban and suburban schools

Participants will be asked to:

- Take part in a one-on-one, audio-recorded, one hour interview via Google Meet
- Take part in a video-recorded focus group, one hour via Google Meet
- Complete a written prompt after the focus group has been concluded.

If you would like to participate and meet the study criteria, please click here (https://forms.gle/rJr4iWUQGcjTSqQj7). Contact me at fsami@liberty.edu for more information.

A consent document will be emailed to you if you meet the study criteria one week before the interview and focus group meeting. The consent document contains additional information about my research.

Appendix F

Follow Up Email

Dear Potential Participant,

As a doctoral candidate in the School of Education, at Liberty University, I am conducting research to better understand the lived experiences of elementary and middle school math teachers and their beliefs about social-emotional learning and math achievement.
Last week an email was sent to you inviting you to participate in a research study. This follow-up email is being sent to remind you to contact me, sign and return the consent document to me if you would like to participate and have not already done so. The deadline for participation is [You are welcome to leave the date blank and update it once your study has been approved.]

Participants must be:

- Teachers who have taught or are currently teaching within a school
- Certified teachers
- Alternative Certification teachers
- Novice teachers (new teachers to teacher with less than 4 years experience)
- Teacher within the West and Midwest area within urban and suburban schools

Participants will be asked to:

- Take part in a one-on-one, audio-recorded, one hour interview via Google Meet
- Take part in a video-recorded focus group, one hour via Google Meet
- Complete a written prompt after the focus group has been concluded.

Names and other identifying information will be requested as part of this study, but participant identities will not be disclosed.

To participate please complete the applicable instructions, click here (https://forms.gle/rJr4iWUQGcjTSqQj7) to complete the screening survey. If you meet my participant criteria, I will contact you to schedule an interview.

If you choose to participate you will need to sign the consent document and return it to me at the time of the interview.

Sincerely,

Farina M. Sami
Doctoral Candidate
[redacted]

Appendix G

Consent Form

Title of the Project: EXPLORING THE LIVED EXPERIENCES OF ELEMENTARY AND MIDDLE SCHOOL MATH TEACHERS AND THEIR BELIEF ABOUT SOCIAL AND EMOTIONAL LEARNING AND MATH ACHIEVEMENT: A TRANSCENDENTAL PHENOMENOLOGICAL STUDY

Principal Investigator: Farina M Sami, Doctoral Candidate, School of Education, Liberty University

You are invited to participate in a research study. To participate, you must be a teacher and have taught from less than a year to 10 years time frame. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to take part in this research

The purpose of the study is to understand the lived experience of elementary math and middle school teachers' beliefs about social-emotional learning and math achievement. Within the study, social and emotional learning is described as a basis for improving positive and meaningful social interactions with adults and peers. Behavioral support refers to a set of strategies, interventions, and systems designed to foster positive behavior and create an environment that supports the social, emotional, and academic development of students.

If you agree to be in this study, I will ask you to do the following:

1. Participate in an in-person, audio-recorded interview that will take no more than 1 hour
2. Have the researcher observe a math lesson in your classroom

3. Complete a written prompt about your perspective of social and emotional learning within math class.

Participants should not expect to receive a direct benefit from taking part in this study.

Benefits to society include helping support teacher professional development.

The expected risks from participating in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

I am a mandatory reporter. During this study, if I receive information about child abuse, child neglect, elder abuse, or intent to harm self or others, I will be required to report it to the appropriate authorities.

The records of this study will be kept private. Research records will be stored securely, and only the researcher[s] will have access to the records.

Participant responses will be kept confidential by replacing names with pseudonyms.

Interviews will be conducted in a location where others will not easily overhear the conversation.

Data collected from you may be used in future research studies or shared with other researchers.

Data will be stored on a password-locked computer. After five years, all electronic records will be deleted.

Recordings of interviews will be stored on a password locked computer for five years and then deleted. The researcher/the researcher and members of her doctoral committee will have access to these recordings.

Participants will be compensated for participating in this study.

Participation in this study is voluntary. Your decision whether to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time if you choose to withdraw from the study,

please contact the researcher[s] at the email address/phone number included in the next paragraph. Should you choose to withdraw, data collected from you will be destroyed immediately and will not be included in this study.

The researcher[s] conducting this study is Farina Sami. You may ask any questions you have now. If you have questions later, you are encouraged to contact her at fsami@liberty.edu. You may also contact the researcher's faculty sponsor, [name], at [email].

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher[s], you are encouraged to contact the IRB. Our physical address is Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA, 24515; our phone number is 434-592-5530, and our email address is irb@liberty.edu.

Disclaimer: The Institutional Review Board (IRB) is tasked with ensuring that human subjects research will be conducted in an ethical manner as defined and required by federal regulations. The topics covered and viewpoints expressed or alluded to by student and faculty researchers are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University.

By signing this document, you are agreeing to be in this study. Make sure you understand what the study is about before you sign. You will be given a copy of this document for your records. The researcher[s] will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

☐ The researcher has my permission to [audio-record/video-record/photograph] me as part of

my participation in this study.

_____

Printed Subject Name

_____

Signature & Date

Legally Authorized Representative Permission

By signing this document, you are agreeing to the person named below participating in this study. Make sure you understand what the study is about before you sign. You will be given a copy of this document for your records. The researcher[s] will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I have read and understood the above information. I have asked questions and have received answers. I agree for the person named below to take part in this study.

_____

Printed Subject Name

_____

Printed LAR Name and Relationship to Subject

_____

LAR Signature Date

Appendix H

Participant Screener

https://forms.gle/tVNwdnNzDfpqavm27

1. Are you interested in participating in this research study on the lived experience of elementary math and middle school teachers' beliefs about social-emotional learning and math achievement?
    a. Yes or No
2. What State do you teach in?
3. What grade level do you teach?
4. Do you teach math?
5. Participant Name
6. Participant email
7. Participant phone number (optional)
8. Preferred method of contact: email or phone
9. Are you a certified elementary school teacher?
    a. Yes or No
10. What is your degree in?
11. Are you an alternative certification teacher?
    a. Yes or No

Appendix I

Interview Questions

1. Why did you become a math teacher? (SQ1)
2. What is your educational experience with it? (SQ3)
3. Tell me about the social-emotional training you received from your school (SQ2)
4. Did your SEL training address students physiological needs were unmet such as nourishment, sleep, clothing, and shelter? (SQ2)
5. Describe your experience with behavioral support? (CRQ)
6. Describe the behavioral strategies you use in your math classroom (SQ3)
7. How does Maslow's hierarchy of influence your classroom management style? (SQ1)
8. How do you support students in managing emotions during a math lesson? (SQ3)
9. How do you facilitate student discourse within your math lesson to support students in social environments? (SQ3)
10. How do you support students in making responsible decisions during a math lesson? (SQ3)
11. Describe your most challenging behaviors during your math lesson.
12. What do you believe is why students have such challenging behaviors in your math class? (SQ2)
13. What else would you like to add to this study?

Appendix J

Focus Group Questions

1. Reflect on your experiences with student behavior since you began teaching; what do you remember?

2. How has professional development assisted in your understanding of SEL and its impact in the classroom?

3. What is your experience with SEL competencies within math implementation?

4. Based on your experience, what would SEL within math integration look like?

5. How could implementing SEL practices within math integration be helpful?

Appendix K

Writing Prompt

Describe how you overcame behavioral challenges in your math class. Write a reflection on your experience, and be sure to include specific examples from your teaching practice.