BECOMING THE TEACHER I NEVER HAD: AN INVESTIGATION OF IDENTITY, MOTIVATION, AND BELIEF SYSTEMS IN PRESERVICE AND INSERVICE TEACHERS WITH A DESIRE TO TEACH STUDENTS WITH GIFTS AND TALENTS.

by

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Dedicated to my beloved and encouraging mother, Gloria Martinez

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ABSTRACT

Content about learners with gifts and talents is not necessarily a part of most teacher education programs. Without high quality training and professional development opportunities, preservice and inservice teachers are left with no tools to identify and serve the students with gifts and talents. However, adding more content is not enough. The successful translation of training and professional development into effective practice depends on understanding teacher motivation, debunking misconceptions, building adequate knowledge base, and building teacher identity. I adopted several theoretical perspectives in this study: teacher identity formation (Gardner & Kaplan, 2018), Teacher Efficacy (Tschannen-Moran et al., 1998), Teacher Goal Orientations (Butler, 2007), beliefs about gifted learners and gifted education (Gagne & Nadeau, 1991; McCoach & Siegle, 2007), desire to teach (Watt & Richardson, 2007). My participants were 236 preservice teachers who desire to teach learners with gifts and talents and inservice teachers in gifted education.

The objectives of this mixed-methods investigation were: (1) identifying the differences between preservice and inservice teachers in measures of identity, beliefs, motivation, and desire to teach learners with gifts and talents, (2) modeling the structural relationships among dimensions of identity, motivation, beliefs, and desire to teach, and (3) understanding how participants experiences and perceptions inform their identity, motivation, and belief systems. I used a combination of Multivariate Analysis of Variance (MANOVA), Structural Equation Modeling (SEM) and qualitative thematic analysis to answer my research questions.

Findings revealed inservice teachers (n=155) have high levels of relational goals, instructional efficacy, positive beliefs, and teacher identity, while preservice teachers (n=81) have high levels of intrinsic motivation and social value for gifted education. SEM showed that teacher identity, mastery goals, influenced positive beliefs; teacher identity was influenced by efficacy, mastery and relational goals. The strongest predictors of desire to teach learners with gifts and talents were teacher identity, teacher efficacy, and relational goals. Qualitative findings indicated that self-perceptions as gifted played a meaningful role in participants deciding to become teachers, understanding the needs of gifted learners, and advocating for gifted education.

CHAPTER 1: INTRODUCTION

Problem Statement

Researchers in gifted education have emphasized the role of teacher education programs and professional development in successfully supporting the needs of learners with gifts and talents. However, the lack of inclusion of gifted education content in programs and professional development persists. This problem is exacerbated by lack of policies that favor gifted education. In the United States, for instance, 49 states provide services in gifted education, but only 36 states report policies requiring inservice teachers to hold certification or endorsement in gifted education services (National Association for Gifted Children [NAGC], 2020). Further, only the states of Maine, Iowa, and Virginia report policies requiring preservice teachers to receive gifted education coursework in undergraduate programs.

Excluding and limiting content about this special needs' population creates a barrier for teachers to adequately support learners with gifts and talents in the general classroom and in the gifted education classroom. Conversely, specialized content in teaching education programs has the potential to increase teacher effectiveness and impact student outcomes (Bangel et al., 2010; Clinkerbeard & Kolloff, 2001). Professional development, coursework, and practical experiences in gifted and talented education content are key to supporting general education and gifted education teachers. While additional professional development for inservice teachers and learning opportunities for preservice teachers are natural avenues to enhance gifted education, forming effective teachers is a complex and dynamic process (Garner & Kaplan, 2018).

The success of a teacher does not depend only on the coursework and other development experiences, personal and socioemotional factors bear in teachers' development (Borko, 2004). One key area to understand teacher development is teacher identity (Beauchamp & Thomas, 2009).

Teaching professional identity encompasses interdependent constructs of teachers' knowledge and emotion at personal and contextual levels that are not accounted for by the coursework or professional development. For example, two major areas in teacher identity formation are belief systems and teacher motivation on the teaching and learning processes. In gifted education, lack of professional development, maladaptive forms of motivation and deficit-oriented belief systems about learners with gifts and talents hinders teaching quality and effectiveness (Speirs-Neumeister et al., 2007). Without understanding the complex development of teachers' beliefs about education, their attitudes towards learners, and more importantly, teachers' reasons to engage in teaching, it is difficult to ensure the positive impact professional development and coursework on the teaching practice.

In this study, I seek to understand the dynamic and complex interaction among identity, motivation, and beliefs systems of inservice and preservice teachers with a desire to teach learners with gifts and talents. By looking at who the teachers of learners with gifts and talents are, their beliefs systems, their reasons to serve learners with gifts and talents, and how they prepare to become teachers, this study provides a comprehensive approach to understanding teacher combined personal and contextual variables. Because these variables are precursors to teacher success and teacher satisfaction, this study expands education researchers' call for preparing teachers from a holistic perspective (Avalos, 2011; Khortagen, 2004, Brower & Korthagen, 2005).

Background

The 2018-2019 State of the States in Gifted Education Report (NAGC, 2020) revealed that the United States has made progress towards widespread gifted education policy formulation and implementation, yet challenges persist. For example, 46 states indicated provision of gifted education services through K-12 schools, however, only 13 states provided mandates and funding

for schools to identify and serve learners with gifts and talents. Five states (California, South Dakota, Michigan, New Hampshire, and Massachusetts) neither mandated nor provided funding for gifted education. One of the most persistent challenges is training and professional development. From the 46 participating states, 18 did not require training or professional development for inservice teachers of children with gifts and talents. Additionally, preservice teachers were required to take coursework on gifted education only in three states. With limited training and professional development opportunities, teachers are underequipped to serve learners with gifts and talents.

Because content about learners with gifts and talents is not necessarily a part of most teacher education programs, advocates of gifted education have called for increased professional development opportunities for preservice and inservice teachers to learn about this special student population (e.g., Bangel et al., 2010; Clinkerbeard & Kolloff, 2001; Lassig, 2009; Miller, 2009; Starko, 2008). Such training should be offered at different points of the teacher preparation process by providing scaffolded direction for teachers to identify their goals, acquire knowledge, tune abilities, enhance motivation, and attain internalization and independence throughout their professional trajectory (Matthews & Foster, 2005). Some examples of evidence-based professional development pathways are found in the literature of gifted education: (a) introduction of foundational knowledge and practical experiences at the preservice level (e.g., Adams & Pierce, 2004; Manuel & Hughes, 2006; Minor et al., 2002; Moon et al., 1999; NAGC, 2015), (b) specialization on teaching methods and instruction through graduate education certificates (Chamberlin & Chamberlin, 2010; Edinger, 2017; NAGC, 2020) and on-going self-actualization opportunities via multiple formats such as workshops, coaching, credentialed and non-credentialed courses for inservice teachers (Matthews & Foster, 2005).

Scaffolded and continuous professional development in gifted education addresses the acquisition of content knowledge and skills that foster understanding of the diversity characteristics of giftedness and flexible and broad criteria to identify learners with gifts and talents (Endepohls-Ulpe & Ruf, 2006; Miller, 2009; Neumeister et al., 2007; Van Tassel-Baska, 2009), and instructional techniques and advanced curriculum to serve them (Hertberg-Davis, 2009; Park & Oliver, 2009). Well-equipped teachers of learners with gifts and talents provide high quality and meaningful learning opportunities to their students (Robinson et al., 2007) and include best research-based practices to serve them in the general classroom and specialized classrooms (Van der Westhuizen & Maree, 2006; Van Tassel-Baska, 2009).

Without high quality training and professional development opportunities, preservice and inservice teachers are left with no tools to identify and serve the students with gifts and talents. Adequate professional development also leads to enhance student academic and socioemotional outcomes (Avalos, 2011; Brower & Korthagen, 2005), achievement motivation (Karimi & Hosseini Zade, 2019) career choices (Willard-Holt, 2008), and personal satisfaction (Rijavec et al., 2006). Furthermore, not only does teacher professional development equip practitioners with knowledge and skills required to succeed, but also supports career satisfaction and continuity in the teaching profession (McLean et al., 2019).

Despite the importance of teacher education and training programs, teacher development in gifted education does not depend only on giving prospective teachers more content about children with gifts and talents (McHalton et al., 2010). Adding more content to teacher education programs is not sufficient to guarantee that every child receives the education they need (Miller, 2009) or that teachers are fulfilled professionals (McLean et al., 2019). The successful translation of training and professional development into effective practice depends on building teacher

identity (Beauchamp & Thomas, 2009), teacher motivation (Watt & Richardson, 2007), and adaptive beliefs systems (Cross et al., 2009; Kaplan & Garner, 2018). In this study, I adopt three conceptual perspectives to the identity, motivation, beliefs of teachers who desire to teach learners with gifts and talents.

Relevant Literature

The literature review of this study is divided into three parts. Part one involves extant literature in preservice and inservice teacher beliefs systems, attitudes, and perceptions related to gifted education. Part two is related to the study of teacher motivation and its relation to beliefs and attitudes. The third part includes the concept of teacher identity formation and its relationship to motivation and belief systems. I use these three parts to build a theoretical and measurement model to identify the factors that lead to preservice and inservice teachers desire to teach learners with gifts and talents, and the implications for effective practice.

Although the literature on gifted education and teacher variables is limited, researchers have increased their attention to teacher perceptions of learners, teacher identity formation, and motivation to teach or becoming a teacher during the last three decades. Studies focused on preservice and inservice teacher's characteristics consider the effects of teacher beliefs, motivation, and identity in their internalization and application of professional development to become effective teachers of students with gifts and talents. This literature review considers examples inside and outside the field of gifted education. For example, scholars in gifted education have studied the dynamics of preservice and inservice personal beliefs towards gifted education (e.g., Berman et al., 2012; Matheis et al., 2017; Minor et al., 2002; Tofel-Grehl & Callahan, 2017), teacher identity (e.g., Bryan & Ford, 2014; Willard-Holdt, 2008). However, the study of teacher motivation has occurred mainly in the field of educational psychology. Theories of student

motivation have been translated and expanded to the context of how people develop interests in teaching (e.g., Butler & Shibaz, 2014), goals for teaching (e.g., Butler, 2012) teacher efficacy (e.g., Richardson & Watt, 2014) and teacher identity (e.g., Garner & Kaplan, 2019).

Professional development in gifted education must include these multiple factors because they influence how teachers develop a teaching identity, debunk misconceptions and maladaptive belief systems to finally gain competencies in best evidence-based practices. For instance, teachers' misconceptions and negative attitudes towards gifted education can hinder the effectiveness of the training experience (Geake & Gross, 2008; Miller, 2009). On the other hand, positive beliefs, motivation, and personal identity are factors that can enhance the outcomes of teacher training (Matheis et al., 2017). Adding to these factors, teacher development programs can work towards highlighting the value and importance of gifted education to attract prospective teachers. Currently, the United States faces a growing shortage in the supply of new teachers for all fields of education (Sutcher et al., 2016). The decreasing recruitment and retention rates of new teacher candidates affect the workforce and quality of teachers available to serve gifted and special populations (Lee et al., 2019).

Purpose

Previous studies in gifted education have focused mostly on the relationships between teacher beliefs and student outcomes, the relationship between teacher beliefs and teacher motivation, or teacher efficacy. This study adds to the body of literature by analyzing the combined relationship of teacher beliefs, motivation, identity in teachers with an interest in teaching children with gifts and talents. With a motivational approach, the purpose of this study is to develop and test a combined model to explain how preservice and inservice teachers choose to teach learners with gifts and talents based on three constructs: (a) motivation, (b) beliefs about learners with gifts

and talents, and (c) teacher identity. This study is the initial step in the development of a model of preservice and inservice teacher's desire to engage in gifted education and their potential to become effective teachers. By identifying and understanding these combined factors and preservice and inservice teaching experiences, it is possible to enhance teacher preparation and training outcomes leading to increased teacher effectiveness and retention.

Research Questions

The following research questions will guide this inquiry:

RQ1. What are the differences between preservice and inservice teachers in measures of motivation, beliefs, identity, and desire to teach learners with gifts and talents?

RQ2. What are the relationships among motivation, beliefs, and identity variables? How do these variables influence preservice and inservice teachers' desire to teach learners with gifts and talents?

RQ3. How do preservice and inservice teacher perceptions and experiences in teacher education programs inform their identities, beliefs, motivation, and desire to teach children with gifts and talents?

Significance

My study calls for a comprehensive approach to understanding preservice and inservice teacher professional development. Prior studies have focused primarily on how professional development and teacher perceptions influence teacher effectiveness in gifted education. However, this study includes a combination of motivational, attitudinal, and identity variables that influence how preservice and inservice teachers develop a desire to teach learners with gifts and talents. Situated in motivational theory, findings of this study have implications for enhancing teacher education programs and professional development opportunities to improve quality in teaching practice. For example, preservice and inservice teacher perceptions and attitudes towards learners with gifts and talents can inform strategies to address misconceptions and myths regarding gifted

education through professional development content. Teacher education programs and professional development can benefit from understanding preservice and inservice teacher motivation to identify engaging methods of training delivery and inform incentives for effective practice. Teacher identity can be used for targeting preservice and inservice teachers who can understand and connect with children with gifts and talents. Finally, their experiences in teacher education majors may unveil teacher preparation gaps and opportunities to enhance training via lectures, classes, workshops, and field experiences.

CHAPTER 2: LITERATURE REVIEW

In this chapter, I present the extant literature on preservice and inservice teacher beliefs about learners with gifts and talents, teacher motivation, and teacher identity formation. These socio-affective constructs and their relationships to teachers' desire to teach learners with gifts and talents are the foundation of the proposed theoretical and measurement models. This literature review informs the factors that lead preservice and inservice teachers desire to teach learners with gifts and talents.

Giftedness and the Role of Gifted Education

There is not a unique definition of giftedness. However, scholars in gifted education agree on the necessity of defining giftedness as a broad, multidimensional, and flexible construct (Dai & Chen, 2013; Lo & Porath, 2017). Additionally, since this study occurs in the United States educational context, broad definitions are necessary because they shape identification and instructional practices for learners with gifts and talents across the states. Due to the sparsely formulation, adoption, and implementation of gifted education policies, a broad conceptual framework aids in researching the motivations, beliefs, and identities of teachers in different contexts with different definitions and policies.

According to the National Association for Gifted Children, a definition of giftedness must reflect the "best thinking in the field and move beyond a focus on identification criteria to a deeper understanding of the complex nature of giftedness and the multi-faceted approach to services required to appropriately serve students with gifts and talents" (NAGC, 2019, p.1). Because of the complexity of giftedness and the myriad definitions available in the literature in gifted education, I used a multiple perspective lens to approach giftedness in this study. This approach incorporates

theory, research, and policy-based definitions: (a) The Three-Ring Conception of Giftedness (Renzulli, 2011, 2012), (b) The Theory of Multiple Intelligences, (c) The Differentiated Model of Giftedness and Talent (DMGT) (Gagné, 2004, 2005, 2010), (d) Sternberg's Theory of Successful Intelligence (Sternberg, 2005) and the Theory of Adaptive Intelligence (Sternberg, 2019), (e) the federal definition, and (f) NAGC's definition of giftedness.

First, Renzulli's conception of giftedness includes the interaction of high levels of performance in one or more areas, with task commitment, and creativity, with this interaction producing what he calls gifted behaviors (Renzulli, 2011, 2012). Second, Gardner recognized that individuals do not develop or achieve mastery in all learning domains. Instead, he argued that there are multiple types to intelligence and individuals develop competence in one or various domains (Gardner, 1999). Gardner´s multiple intelligences are popular among educators because they promote learning development in areas where students display strengths. Third, for Gagne, giftedness is the potential for natural abilities to be developed via intrapersonal characteristics and environmental catalysts that foster the systematic development of skills and talents (Gagné, 2004, 2010). Fourth, Sternberg (2005) proposed three aspects of intelligence; analytical (useful for processing information, facts, and test taking), creative (related to creation and innovation); and practical (common sense applied the first two types to everyday life situations). Sternberg extended his theory by adding wisdom due to his concern about the use of gifts and talents in ethical and moral ways to achieve a common good (Sternberg, 2019).

These conceptions of giftedness have gained popularity in the field of gifted education and are used to inform the characteristics of gifted children, the procedures to identify learners with gifts and talents, and more importantly, to design and implement modifications to the curriculum and instruction (NAGC, 2010; 2019). There are also policy-based definitions, determining the

scope and funding for services in gifted education. In the United States, the federal definition indicates that:

> The term gifted and talented, when used with respect to students, children, or youth, means students, children, or youth who give evidence of high achievement capability in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who need services or activities not ordinarily provided by the school in order to fully develop those capabilities. (USDOE, 2002)

Finally, the National Association for Gifted Children (NAGC) provides a definition that guides national educator and researchers' communities of practice in the US. NAGC indicates that "Students with gifts and talents perform - or have the capability to perform - at higher levels compared to others of the same age, experience, and environment in one or more domains" (NAGC, n.d). These definitions are necessary to guide the identification of learners with gifts and talents, as well as the program services that meet their learning needs and develop their potential (Callahan, 2011).

Teachers' Attitudes, Beliefs, and Perceptions of Children with Gifts and Talents

Teachers develop beliefs systems based on ontological and epistemological sources (Kaplan & Garner, 2018). Ontological beliefs encompass knowledge and emotions acquired through experiences in defined social and cultural contexts. Ontological beliefs inform teachers personal attitudes and conceptions towards learners, the learning process. Epistemological beliefs are informed by teachers earning experience, evidence based and commonly accepted knowledge of the field. Epistemological beliefs facilitate teachers' reflective process by creating "a sense of certainty, complexity, and credibility" (Kaplan & Garner, 2018, p. 73). Teachers' belief systems about students have consequences for classroom dynamics (Buehl & Beck, 2014; Pajares, 1992). With increased consensus, researchers have reported teacher perceptions towards learners with gifts and talents have important effects on learners' experiences. Over the last two decades, several researchers have paid attention to the role of teachers' beliefs about the nature of giftedness

(Monsen et al., 2014; Snyder et al., 2013), attitudes towards learners with gifts and talents (S. Y. Lee et al., 2004; McCoach & Siegle, 2007), and perceptions of gifted education (Curtis, 2005; Godor, 2019; Ozcan & Kayadelen, 2015). Teacher ontological beliefs systems may deviate from research-based evidence and be disconnected from accepted pedagogical practices. Epistemological belief systems aid teacher education training and professional development by providing foundational research-based knowledge to address and align educators' personal beliefs, attitudes, and perceptions with best practice of the field.

Teachers' beliefs, attitudes, and perceptions affect educational practices and outcomes (Pajares, 1992). How teachers feel or think about giftedness influences their understanding of the characteristics of learners with gifts and talents (Moon & Brighton, 2008), identification of who the learners with gifts and talents are (Endepohls-Ulpe & Ruf, 2006; Schack & Starko, 1990; Snyder et al., 2013), nomination of student for gifted programs (McBee et al., 2016; Siegle et al., 2010; Siegle & Powell, 2004). Teachers' beliefs, attitudes, and perceptions are important predictors of teacher practices and experiences.

When addressing educational needs, teachers epistemological and ontological beliefs inform decision making processes, for example, deciding on pedagogical strategies, tasks, activities, to challenge students in the classroom (Hoogeveen et al., 2005; Miele et al., 2019; Olthouse, 2015; Troxclair, 2000; Wood et al., 2010). In turn, beliefs affect student wellbeing and outcomes (Benny & Blonder, 2016; David, 2011; Geake & Gross, 2008). Governed by teacher beliefs, teachers can have positive or negative effects on their students. Beliefs, attitudes, and perceptions have the potential to govern motivational changes (Dixon et al., 2014; Matheis et al., 2017), the quality of instruction (Gentry et al., 2011; Paek & Sumners, 2019), overall job satisfaction (Siegle et al., 2014a), and teacher attrition and burnout (Henry et al., 2011).

Belief Systems and Student Development

Maladaptive ontological beliefs perpetuate myths and misconceptions about the cognitive and affective development of children with gifts and talents. Such beliefs abound in the collective imaginary of teachers with little experience, professional development, and knowledge (Hansen & Feldhusen, 1994; Heyder et al., 2018). Misconceptions feed beliefs, attitudes, and perceptions about the educational needs of learners with gifts and talents (Lassig, 2015; Reis & Renzulli, 2009; Siegle & Powell, 2004). Teachers with misconceptions about the characteristics and behaviors of learners with gifts and talents, adopt stereotypical representations and behaviors that can be harmful for learners with gifts and talents (Moon, 2009; Troxclair, 2013). For example, stereotypical representations of what giftedness looks like and how it manifests in the classroom alter teacher's decision making in identification (Baudson & Preckel, 2016; Elhoweris et al., 2005; Kampylis et al., 2009; Miller, 2009). Additionally, misconceptions related to the student backgrounds and non-cognitive characteristics determine the opportunities teachers offer to their students (Moon & Brighton, 2008; Olthouse, 2014). This is especially problematic for students of color, students from low-income households, and English language learners. Teacher biases about the achievement and ability of promising students in these populations make the difference between opportunities for talent development and deficit views (Mansfield, 2015).

Regarding the nature of giftedness, preservice and inservice teachers carry misconceptions that differ from the definitions of giftedness found in gifted education literature (García-Cepero & McCoach, 2009; Moon & Brighton, 2008; Olthouse, 2014). Common misconceptions are related to characteristics and the behaviors exhibited by learners with gifts and talents. For instance, teachers, who equate giftedness with high performance on ability measures such as intelligence tests, favor analytical abilities and memorization in their subject matter, and disregard other affective characteristics from their conception of giftedness (Olthouse, 2014; Peterson, 2009).

Definitions focused on highly analytical abilities also disconnect teachers from serving students who do not score within the expected percentiles of analytical measures (García-Cepero & McCoach, 2009). Moon and Brighton (2008) also argued that teachers with traditional views of giftedness are more likely to develop deficit views towards students who do not exhibit such traditional traits. Within these ontological beliefs, teachers might not consider students with potential but poor performance to be eligible for gifted services and practices.

Based on their perceptions of student characteristics and behaviors, educators make decisions for identification and program nomination. Beliefs influence teacher nomination practices and the methods they use for identification (Hodges et al., 2018; Schroth & Helfer, 2008). Teachers with broad views of characteristics of giftedness favor the use of multiple criteria for identification, local norms, and representation of diverse learners (de Wet & Gubbins, 2011). Conversely, teachers with narrow or traditional views of intelligence tend to favor standardized ability measures only (Snyder et al., 2013). In a study assessing teacher biases in recommending student for gifted programs, Siegle and Powell (2004) found teachers tend to nominate students with high analytical and memory skills over students who are motivated and complete their work. Speirs Neumeister et al. (2007) found that teachers with narrow views disregard environmental and cultural factors, becoming less likely to nominate students of color or students with behavioral problems.

The damaging effect of teacher biases in nomination leads to large proportion of children with gifts and talents missing from programs (McBee, 2006; McBee et al., 2016) and underrepresentation (Peters et al., 2019; Gentry et al., 2019). Researchers have advocated for universal screening in identification practices due to human error. Nevertheless, this approach to identification generates time and economic costs related to assessment. As teachers are gatekeepers

in the identification process, their perceptions, attitudes, and beliefs constitute an ontological barrier in gifted education (Endepohls-Ulpe & Ruf, 2006). Foundational knowledge in identification best-practices offers an alternative to enhance teachers' epistemological belief systems.

Another pervasive consequence of teachers' beliefs, attitudes, and perceptions is the type of services teachers provide for their students with gifts and talents (Jung, 2014; Speirs Neumeister et al., 2007; Troxclair, 2013). Beyond definition and nomination, teachers make instructional decisions based on beliefs about their students' educational needs. Common myths in gifted education thwart teachers' effectiveness when serving students with gifts and talents in two aspects: (a) determining whether students with gifts and talents require accommodations at all, for example, differentiated instruction (Bain et al., 2007; Berman et al., 2012) and (b) limiting support exclusively to the academic domain (Anderson & Martin, 2018; Baudson & Preckel, 2013; Wood et al., 2010). Ontological beliefs nested in social biases associated with elitism may prevent teachers from effectively meeting the needs of children with gifts and talents (Jung, 2014). For example, seeing gifted learners as privileged refrains teachers from providing resources and challenge.

The misconception that students with gifts and talents do not require special academic accommodations leads teachers to believe learners will be okay on their own (Adams, 2009; Cooper, 2009; Sisk, 2009). These beliefs extend to refusing academic accommodations inside and outside the general education classroom (Hertberg-Davis, 2009). In a study of 285 undergraduates in educational psychology classes, researchers found that approximately three fourths of participants considered children with gifts and talents have enough ability to advance academically without teacher support (Bain et al., 2007). Such misconceptions cause teachers to impart

homogenous curriculum, disregarding students' needs for optimal challenge and attention to their individual interests. Therefore, teachers unintentionally neglect enrichment and differentiation (Dixon et al., 2014; Tomlinson, 2009; Troxclair, 2000), and acceleration opportunities (Siegle et al., 2013).

Apart from academic support, children with gifts and talents have unique socio-emotional characteristics (Bonner et al., 2009; Peterson, 2009). When teachers hold misconceptions about the affective domain, vulnerability arise from the interaction between emotional development and academic advancement (Peterson, 2009). Common issues derived from these misconceptions include perfectionism (Rimm, 2007), underachievement (Kim, 2008; Reis & McCoach, 2000), social maladjustment (S. Y. Lee et al., 2010), and asynchronous development (Hoogeveen et al., 2005). For example, teachers may prevent students from participating in advanced academic programs, grade skipping, and acceleration under the belief that children with gifts and talents will struggle socially or emotionally (Siegle et al., 2013).

Finally, negative beliefs and attitudes towards children with gifts and talents engender potential damage for student wellbeing (Monsen et al., 2014). Teachers with negative attitudes towards children with gifts and talents promote hostile environments. Negative classroom environments cause students with gifts and talents to experience increased levels of stress, isolation, and neglect (Chamberlin & Chamberlin, 2010). As students are aware of how they are perceived by teachers and peers, their experienced belonging and satisfaction are reduced by teachers' negative perceptions (Geake & Gross, 2008).

Beliefs Systems and Teachers' Motivation

Ontological beliefs systems are intimately connected with a persons' values and personal experiences and affect. Researchers in gifted education have reported changes in motivation due

to teachers' beliefs about students (Camci Erdogan, 2015; Matheis et al., 2017; Siegle et al., 2014a). Evidence exists that ontological beliefs undermine or boost teacher efficacy to serve children with gifts and talents. In a study of preservice teachers' beliefs Matheis et al. (2017) found that participants with misconceptions about socioemotional maladjustment tended to have low enthusiasm toward teaching children with gifts and talents; whereas teachers who perceived their students as highly able, showed high efficacy beliefs in the classroom. Because of the relationship between teacher efficacy and teacher effectiveness, beliefs that affect teacher motivation have the potential to affect quality of instruction (Matheis et al., 2017). For example, in a study of teachers' beliefs and motivational mindsets, the researchers discovered teachers with negative beliefs and fixed mindsets neglect students with gifts and talents' creative thinking (Paek & Sumners, 2019). Te. Teacher beliefs are also associated with positive teaching experiences. Gentry et al. (2011) found that exemplary teachers of students with gifts and talents have positive attitudes towards their learners. This is translated into a high-quality classroom climate, sense of belonging, and student engagement.

Teachers' beliefs also have consequences for teacher job satisfaction and retention. Positive regard for learners with gifts and talents has been found to increase job satisfaction (McCoach & Siegle, 2007; Monsen et al., 2014). Monsen et al (2014) showed evidence that teacher beliefs and attitudes had significant effects for stress levels and satisfaction with the profession. Teachers with strong epistemological beliefs were mindful of students with gifts and talents needs. These teachers provided support for their students and displayed adaptive and productive patterns compared to teachers who had poor perceptions of learners with gifts and talents. Teachers with poor ontological and epistemological beliefs systems are less likely to succeed in the classroom, consequently, being prone to attrition from the profession (Henry et al., 2011).

Teacher Professional Development and Beliefs Systems

Because gifted education is not part of most teacher education programs, advocates of gifted education have called for increased professional development for inservice and preservice teachers (Bangel et al., 2010; Pancsofar & Petroff, 2013). Adequate teacher training provides practitioners with opportunities to develop the foundational knowledge and skills required to enhance epistemological belief systems. Professional development is the gateway for general education and gifted education teachers to understand (a) the characteristics of children with gifts and talents and their identification, (b) referral for programs and acceleration, and (c) best research-based practices to serve them in the general classroom (Van der Westhuizen & Maree, 2006; Van Tassel-Baska, 2009). Without strong epistemological belief systems, preservice and inservice teachers are left with few tools to identify and serve students with gifts and talents.

Although more content and professional development opportunities in gifted education increases teacher's knowledge, pedagogical and instructional skills (Sánchez-Escobedo et al., 2020), teachers' beliefs and attitudes remain an important variable in the study of teacher effectiveness. For example, when comparing teachers with different learning experiences and professional development, there were no significant differences regarding how they viewed learners with gifts and talents (Miller, 2009). McCoach and Siegle (2007) found no relationship between teachers' attitudes toward students with gifts and talents and the amount of professional development they received in gifted education. Therefore, it is crucial to identify what other teacher-related factors prevent professional development from changing teacher ontological beliefs while building substantive epistemological beliefs. Osman and Warner (2020) indicated the study of teacher motivation may be a key to solving this problem.

Teacher Motivation

Why do people pursue teaching as a profession? People choose teaching because of complex intrinsic and extrinsic reasons (Richardson & Watt, 2014). People who become teachers pursue intrinsic interests, for example, to support the development of children and adolescents, contribute to social progress, and promote justice (Han & Yin, 2016; J. A. Lee et al., 2019). People who pursue extrinsic reasons to enter the teaching profession focus on job security, community influence, social status, and fallback career (Sinclair, 2008). Like learner motivation, teacher motivation is an evolving attribute. The importance of studying teacher motivation stems from the influence that teachers have on student outcomes. Teachers influence students via classroom climate, socioemotional support, and quality of instruction (Butler & Watrous, 2005; Butler, 2012; Butler & Shibaz, 2014; Han & Yin, 2016; Whitten, 2014). Teacher motivation has implications for teacher performance, continuous professional development, and retention in the field.

Motivational theorists and researchers have translated and expanded achievement motivation to the context of teacher education (Benita et al., 2019; Butler & Shibaz, 2014; Watt & Richardson, 2007). Popular theories in teacher motivation include teacher self-efficacy beliefs (Klassen et al., 2011; Tschannen-Moran & Hoy, 2001), achievement goal orientations for teaching (Butler, 2007, 2012; Butler & Shibaz, 2014; Malmberg, 2008), teacher mindsets (Miele et al., 2019), and Expectancy Value Theory (Richardson & Watt, 2014; Watt & Richardson, 2007). Most studies about teacher motivation have been carried out in educational psychology. However, there have been recent efforts in gifted education to understand teacher motivation towards teaching learners with gifts and talents (Hong et al., 2011; Laine & Tirri, 2016; Paek & Sumners, 2019; Rissanen et al., 2019; Siegle et al., 2014b).

Teacher Efficacy Beliefs

The work on teacher efficacy is grounded in social cognitive theory and the work of Albert Bandura. Self-efficacy is the belief an individual has in their ability to successfully perform a task (Bandura, 2001). For teachers, efficacy beliefs refer to their perceived ability to engage students in learning processes (Klassen et al., 2011). Teacher efficacy is also a multidimensional construct. Skaalvik and Skaalvik (2007) identified six dimensions of teacher efficacy: instruction, meeting individual needs, motivating students, discipline, cooperation with teachers and parents, and coping with challenges. Teacher efficacy is a strong predictor of student motivation and performance. Teachers with high self-efficacy believe they can spark and sustain motivation to learn, while emphasizing meaningful learning and mastery of content and skills (Tschannen-Moran & Hoy, 2001). Given difficult tasks, self-efficacy also determines teacher's effort, perseverance, and resilience (Kim et al., 2019). In gifted education, teacher efficacy has been associated with ability to implement differentiated instruction (Dixon et al., 2014), ability to teach complex subjects (Camci Erdogan, 2015), epistemological knowledge of students with gifts and talents (Hong et al., 2011), and ability to support students from diverse contexts and abilities (Rowan & Townend, 2016).

Teachers' Mindset

Stemming from the work on ability beliefs, Carol Dweck and colleagues have popularized the concepts of entity and incremental theories of intelligence. These theorists have researched the effect of learners' perception of the nature of ability as predictor of achievement (Blackwell et al., 2007; Haimovitz & Dweck, 2017; Paunesku et al., 2015; Yeager et al., 2019). Entity theories or fixed mindsets indicate a person-centered static unchanging perception of ability, whereas incremental theories or growth mindsets indicate a task-centered and dynamic perception of

intelligence (Blackwell et al., 2007). Learners with a fixed mindset are risk averse. This type of learner believes to have a limited ability, resulting, in disengagement from tasks that challenge their ability beliefs (Haimovitz & Dweck, 2017). Conversely, students with growth mindsets perceive ability as malleable and choose optimally difficult tasks that demand effort (Yeager et al., 2019). When translated into teachers' contexts, a growth mindset predicts teachers' resilience, perseverance, and confidence (Seaton, 2018). Teachers who believe they can improve their teaching ability engage in professional development, collaborative work with colleagues, and help-seeking behaviors (Dweck, 2014). Teachers who possess fixed mindsets develop low efficacy for teaching and static perceptions of student abilities (Fraser, 2018; Yeager et al., 2016). Additionally, teachers' fixed mindset predicts the promotion of performance approach goals among learners, while a growth mindset is associated with mastery approach (Miele et al., 2019). In relation to gifted education, teachers' mindsets have been found to be associated with teacher's perceptions of student ability and the strategies teachers use to develop student talent (Paek & Sumners, 2019; Rissanen et al., 2019)

Achievement Goal Orientations

Ruth Butler translated achievement goal theory to the teacher context. The theory operated under the premise that the school is an achievement space, not only for students, but also for teachers. Teachers develop goal orientations that reflect their reasons to teach and their conceptualizations of success (Butler, 2007; Malmberg, 2008). Originally, Butler (2007) identified four orientations: mastery approach, performance approach, ability avoidance, and work-avoidance. Mastery approach features the desire to help students learn effectively and the desire to improve one's teaching ability. Performance approaches place focus on appearing competent before colleagues or students. Ability avoidance approach aims at avoiding failure and concealing

one's lack of competence or knowledge. Work avoidance goals reflect teachers' striving to get through the day minimizing the effort invested in teaching. Butler (2012) identified an additional type of goal, one she termed relational, among her sample of 530 teachers. Relational goals describe the aspiration of creating close and caring relationships with students (Butler, 2012), Mastery and relational goals have been associated with adaptive behaviors such as help-seeking, autonomy, elevated quality of instruction, social support, and community building; whereas, ability and work avoidance goals are associated with negative views of help seeking, reduced engagement, and depersonalization (Benita et al., 2019; Butler, 2012; Butler & Shibaz, 2014). In the field of gifted education, teacher achievement goals have been associated with student academic growth and positive relationships (Siegle et al., 2014b).

Teachers' Expectancy Value Theory

Extensive work on the Expectancy Value Theory (EVT) has been produced during the last three decades (Eccles, 1995, 2009; Gniewosz et al., 2012; Jacobs et al., 2002; Muenks et al., 2018; Wigfield & Eccles, 2000a, 2000b). The EVT theory posits that people engage in activities due to their beliefs in the potential to succeed (expectancy) and how much they value the activity (Wigfield & Eccles, 2000a, 2000b). In this motivation tradition, expectancy is an evaluation of ability beliefs in relation to task difficulty and required effort. Task values are represented by the extent of importance (attainment value), usefulness (utility value), and enjoyment (intrinsic value) that the task ignites in the learner. Cultural influences help determine expectancy beliefs and values, and their relationships with choice, persistence, and performance (Eccles, 2009; Muenks et al., 2018). In relation to teacher motivation, Watt and Richardson (2007) argued that the EVT helps build a cogent framework to understand the choice of teaching as a career. This framework has been validated across different educational contexts and is particularly useful to disentangle ability

beliefs in teaching practice from the reasons people engage in teaching (Watt & Richardson, 2007, 2014). For example, efficacy beliefs inform how teachers evaluate their capability to effectively deliver instruction, subject expertise, classroom management, and to build relationships. Additionally, the concept of value helps explain social utility values such as enhancing social equity and making social contributions; personal utility such as job security and time; and intrinsic value by the interest and enjoyment in the profession (Richardson & Watt, 2014; Watt et al., 2012; Watt & Richardson, 2014). Expectancy predicts performance. However, it is value what predicts choice. Recent expansion of the theory included the concept of cost or the relative difficulty and barriers to engaging in teaching (Bergey et al., 2019).

Teacher Motivation, Effectiveness, and Success

The most recent survey on teacher effectiveness by the USDOE highlights that teacher effective instruction is the most important predictor of student achievement at school level (USDOE, 2015). With increasing job demands to meet academic standards, the teaching profession requires effective and motivated professionals who can create a productive learning environment while promoting thinking skills (Goodson et al., 2019). There is consensus that highly motivated teachers strive to succeed at connecting with their students and facilitating lifelong learning and mastery (Han & Yin, 2016). The opposite, low self-efficacy, maladaptive goal orientations, and fixed mindset lead teachers to neglect students' needs, lowering students' attainment (Benita et al., 2019).

Teacher effectiveness moderated by teacher motivation has also been found to predict burnout and retention in the profession (Kim & Buric, 2019). Unmotivated teachers are less effective and frequently leave the profession within the second year after graduation (Henry et al., 2011). Successful teachers can recalibrate their motivation to face the challenges of teaching, even

when facing demotivating factors such as disengaged students, low achievement, and unsupportive work environments (Butler & Shibaz, 2014; Vermote et al., 2020). Because teacher motivation is a central concept to instructional effectiveness, teacher preparation and teacher development programs are spaces to foster not only the cognitive components of teaching, but also encourage teachers to develop healthy forms of motivation (Osman & Warner, 2020). Unfortunately, the transformational power of motivation cannot be unlocked without understanding the dynamic personal and contextual relationships between motivations and actions (Eccles, 2009; Friesen & Besley, 2013). Motivational theory is promising to enhance teaching and learning; however, it does not operate in a vacuum. Positive outcomes in the education profession are tied to complex dynamic system that lead to actions only when there are transformations in the participants' identity (Kaplan et al., 2011).

Teacher Identity Formation

Teaching and learning are complex and dynamic social, cognitive, and affective processes (Garner & Kaplan, 2019; Perez et al., 2014). From a complexity perspective, teaching and learning cannot be reduced to achievement tasks or content delivery. These processes encompass personal attributes, beliefs, skills, knowledge, and experiences that continuously evolve in the social, cultural, and political context (Kaplan & Garner, 2018; Richardson & Watt, 2018b). Therefore, to properly understand and nurture teacher and student learning trajectories, a developmental approach to identity formation is necessary (Garner & Kaplan, 2019). Kaplan and Garner (2018) proposed that "teachers act in order to achieve goals on the basis of their beliefs about the situation and about themselves as teacher in that situation" (p. 72). Therefore, teacher actions are mediated by a dynamic system of beliefs and motivations in response to learners. Before successful teaching

and learning can take place, teacher personal goals, values, knowledge, and motivation must be aligned (Garner & Kaplan, 2019)

Research in teacher identity development is still emerging. However, findings have shown great promise to conceptualize teacher's experiences and their effect on student learning (Friesen & Besley, 2013). One direction to enhance teacher engagement and performance over time is to reconceive teachers as individuals with agency, rather than instructional tools. This approach is also useful to give support to individuals as they form their teacher identity. Preservice and inservice teachers face challenges and struggles to their identity (Cross-Francis et al., 2018). Because of the dynamic nature of identity development, teacher education programs and teaching experiences can enhance or hinder the identity formation process (Alsup, 2018).

Support for identity explorations and change are essential for self-enhancement and enhancement of others. Day (2018) elaborated on the association between teacher identity and teacher satisfaction and retention. A combination of factors such as well-being, working context, agency, and resilience are conducive to sustained professional development and effectiveness: "without active mediation, this may diminish teachers' broader sense of positive professional identity and…lead to frustration, disengagement, and alienation and erode teachers' willingness and ability to teach to their best and well" (Day, 2018, p. 68). Therefore, scaffolding of teacher motivation and knowledge is only possible by addressing individuals and collective identities, goals, assumptions, efficacies (Alsup, 2018). Teacher education programs are the safe spaces in which the development of identity is fostered (Bergmark et al., 2018).

A Combined Perspective: Who Are the Teachers of Learners with Gifts and Talents

Teachers' negative beliefs, attitudes, and perceptions about students are detrimental to student success. Nevertheless, elevated levels of motivation have been associated with teacher

relational and mastery orientation, high efficacy, growth mindset, and social and personal value for education. Adaptive forms of motivation catalyze the effects of teacher preparation and professional development and lead to higher teacher effectiveness and positive student outcomes. However, teacher beliefs and motivations do not operate in a vacuum untied from other constructs. Teacher motivation and teacher beliefs about learners are part of dynamic and complex systems. Theorists and researchers in educational psychology have proposed to study the development of teacher identity as the product of contextual dynamic, and complex interactions in which motivations, beliefs, and personal attributes produce teaching and learning actions. By researching teacher identity, motivation, and beliefs systems in preservice and inservice teachers, I can produce insights regarding ways to enhance and support teacher education and professional development programs designed for future teachers of students with gifts and talents. Such an approach requires disentangling the relationships among beliefs systems, motivation, and identity of teachers in gifted education.

Gifted education literature has examples of dual relationships between (a) motivation and belief systems and (b) beliefs and identity. However, no efforts have been made to understand the complexity of the three constructs: beliefs, motivation, and identity. The first attempt to disentangle the combined effects between teacher motivation and beliefs was made by Matheis et al. (2020). These contributions informed the detrimental effects of stereotypes and misconceptions in teacher motivation, and the subsequent negative effect in teacher performance. Tirri and colleagues (2002, 2016, 2017, 2019) have informed how motivational constructs like growth mindset influences teacher's positive attitudes and support towards learners with gifts and talents. The study of teacher beliefs and identity has been advanced in gifted education (e.g., McCoach & Siegle, 2007; Miller, 2009; Troxclair, 2013). These researchers have paid attention to the effects

of teachers' beliefs about learners with gifts and talents on teachers' practice. A noteworthy finding is that teachers who self-identify as gifted commonly hold positive attitudes towards learners with gifts and talents compared to teachers who were not identified (McCoach & Siegle, 2007).

During the last three decades, experts in gifted education have actively called for increased teacher professional development on the nature of giftedness and strategies to develop gifts and talents (Berman et al., 2012; Clinkenbeard & Kolloff, 2001; S. Y. Lee et al., 2004; Troxclair, 2013). Although progress has been made via increased teacher learning experiences time and delivering content to teachers (Bangel et al., 2010; Baum et al., 1995; Chamberlin & Chamberlin, 2010; Edinger, 2017), there is evidence that the negative effects of low motivation and negative beliefs can persist even after participating in professional development (Miller, 2009; Sánchez-Escobedo et al., 2020; Schack & Starko, 1990).

Osman and Warner (2020) argued that teacher motivation is the missing link in the translation of teacher training to teacher effectiveness. To this claim, I add that it is also necessary to consider the role of teacher identity. Teacher identity and teacher motivations can explain why people choose to be educators and how they become effective educators. More importantly, identity informs the beliefs systems that teachers bring to the profession (Kaplan & Garner, 2018). Therefore, I propose a combined model of beliefs, identity, and motivation to understand why people choose to engage as teachers in gifted education. The model is a window to understand how teacher beliefs and attitudes are framed in relation to motivation and personal identity (Figure 1).

By addressing motivation and identity, researchers and educators can intervene in teachers' misconceptions and myths to produce positive change in the gifted education practice. Consequently, by addressing these components, teacher education programs can enhance preservice teacher support geared to produce more competent teachers in gifted education.

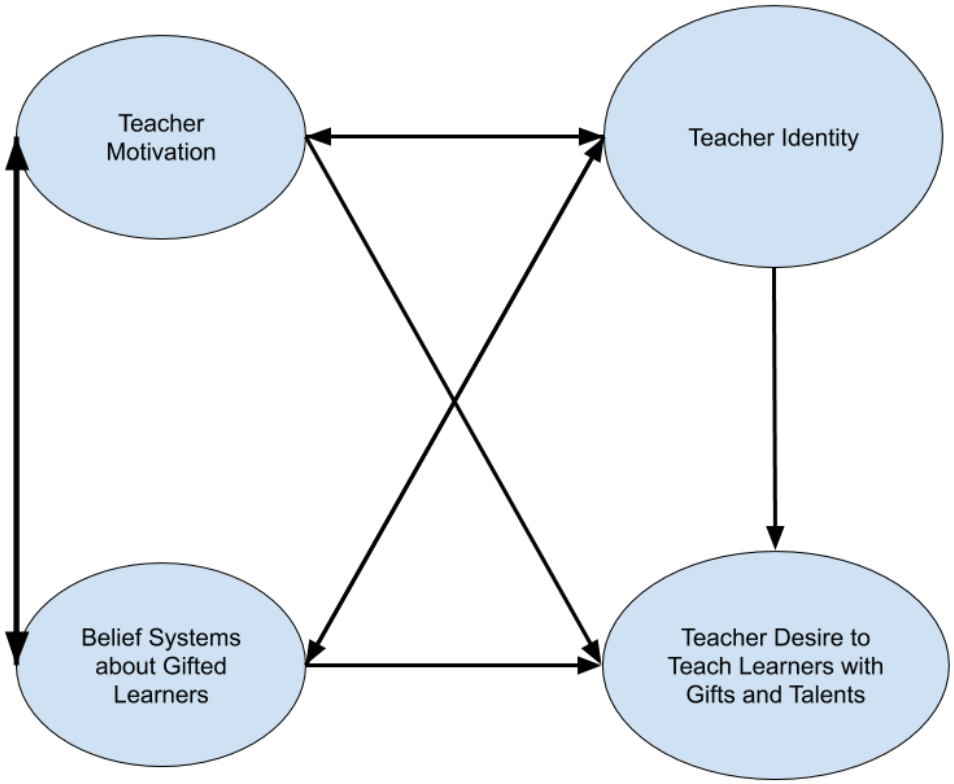

Figure 1 Combined Model: Teacher Identity, Motivation, and Belief Systems

CHAPTER 3: METHODS

Research Design

This is a mixed-methods study on preservice and inservice teachers' motivation to teach learners with gifts and talents, beliefs towards gifted children, teacher identity, and desire to teach gifted learners. I developed this study in two phases: quantitative and qualitative. Using these two approaches is appropriate as the quantitative phase illustrates an exploration of the relationships among motivation, beliefs, and identity variables, while the qualitative phase offers support and explanations on how pre-service and inservice teachers choose to teach children with gifts and talents. With this mixed-methods approach, I provide answers to the following research questions:

RQ1. What are the differences between preservice and inservice teachers in measures of motivation, beliefs, identity, and desire to teach learners with gifts and talents?

RQ2. What are the relationships among motivation, beliefs, and identity variables? How do these variables influence preservice and inservice teachers' desire to teach learners with gifts and talents?

RQ3. How do preservice and inservice teacher perceptions and experiences in teacher education programs inform their identities, beliefs, motivation, and desire to teach children with gifts and talents?

The quantitative component enables me to test a structural model based on motivation constructs as predictors of preservice and inservice teacher's desire to teach children with gifts and talents. The qualitative component allows me to understand the dynamic processes that influence the desire to teach gifted children according to participants' lived experiences. Therefore, quantitative and qualitative methods address my research questions and illustrate the complexities of preservice and inservice teachers desire to teach learners with gifts and talents.

Context and Participants

This investigation is about inservice and preservice teachers with interest in gifted education in the United States. According to the State of the States in Gifted Education Report (NAGC, 2018), legislation, funding, teacher education programs, and training vary largely from state to state. Teacher education programs and inservice teacher training vary largely depending on state level and local policies and practices. Not all colleges of education and teacher education programs may offer options for preservice and inservice teachers to engage in gifted education training. Opportunities such as certifications in gifted education, undergraduate classes on gifted education, workshops, lectures, and field experiences may not be equally available to all prospective teachers of gifted children. Therefore, different experiences of preservice and inservice teachers inform their motivation, identity, attitudes, and desire to teach gifted children.

Participants. Participants were preservice teachers in education programs in the United States and inservice teachers who are currently teaching or who have taught in the United States. Preservice teachers were invited to the study based on the following criteria (a) intention to pursue a career in teaching learners with gifts and talents, (b) have completed required courses in educational psychology, and (c) have engaged in field experiences in K-12 settings. Preservice teachers were invited via listservs at large universities offering teacher education programs. For inservice teachers, I invited participants who currently serve or who have served children with gifts and talents in public and private schools in the United States. Inservice teachers were invited via social media webpages and listservs including the national and state associations for gifted children and the American Educational Research Association's Research on Giftedness, Creativity, and Talent Special Interest Group. Participants who completed the survey were entered into a drawing for one of the twenty $10 Amazon gift cards. Eighty-one preservice teachers and 155 inservice teachers participated in this study. Overall, preservice and inservice teachers represented

37 different states with more than 10 participants from states such as Alabama, California, Florida, Indiana, and Kentucky. Regarding to gender, 86% of preservice teachers and 78.71% of inservice teachers self-identified as women, 75.31% preservice teachers and 75.48 inservice teachers self-identified as White. Age range varied from 21 and 34 for 80% of the preservice teachers and between 21 and 54 years of age for 76.77% of inservice teachers. These demographic characteristics are shown in Tables 1 to 7.

Table 1. Participants by State

State	Preservice		Inservice	
	Freq.	Percent	Freq.	Percent
Alabama	16	19.75	6	3.87
Alaska	-	-	2	1.29
Arizona	5	6.17	3	1.94
Arkansas	4	4.94	1	0.65
California	-	-	9	5.81
Colorado	-	-	4	2.58
Connecticut	-	-	3	1.94
Florida	1	1.23	10	6.45
Georgia	2	2.47	1	0.65
Hawaii	2	2.47	1	0.65
Idaho	-	-	5	3.23
Illinois	2	2.47	7	4.52
Indiana	14	17.28	20	12.90
Iowa	1	1.23	2	1.29
Kansas	1	1.23	10	6.45
Kentucky	3	3.70	2	1.29
Louisiana	-	-	4	2.58
Maine	1	1.23	2	1.29
Maryland	-	-	4	2.58
Michigan	1	1.23	6	3.87
Minnesota	2	2.47	2	1.29
Mississippi	-	-	2	1.29
Missouri	1	1.23	1	0.65
Montana	1	1.23	7	4.52
Nevada	2	2.47	3	1.94
New Mexico	-	-	4	2.58
New York	2	2.47	2	1.29
Ohio	1	1.23	2	1.29
Pennsylvania	1	1.23	1	0.65
South Carolina	-	-	2	1.29
Tennessee	-	-	4	2.58
Texas	4	4.94	2	1.29
Utah	-	-	1	0.65
Virginia	2	2.47	4	2.58
Washington	3	3.70	16	10.32
Wisconsin	1	1.23	6	3.87
Wyoming	2	2.47	2	1.29
Non-US/Taught in US	3	3.70	3	1.94
Total	88	100	155	100.00

Table 2. Preservice Teachers by Gender

Gender	Freq.	Percent
Female	70	86.42
Male	10	12.35
NonBinary	1	1.23
Total	81	100

Table 3. Inservice Teachers by Gender

Gender	Freq.	Percent
Female	122	78.71
Male	32	20.65
Nonbinary	1	0.65
Total	155	100

Table 4 Preservice Teacher Race/Ethnicity

Ethnicity	Freq.	Percent
African American	2	2.47
AIAN	3	3.70
Asian	9	11.11
Hispanic/Latino	1	1.23
NHPI	2	2.47
TMR	3	3.70
White	61	75.31
Total	81	100

Note: AIAN=American Indian/Alaska Native,
NHPI=Native Hawaiian/ Pacific Islander
TMR=Two or More Races

Table 5. Inservice Teacher Race/Ethnicity

Ethnicity/Race	Freq.	Percent
African American	4	2.58
AIAN	4	2.58
Asian	13	8.39
NHPI	2	1.29
Hispanic/Latino	8	5.16
Other	5	3.23
TMR	2	1.29
White	117	75.48
Total	155	100

Note: AIAN=American Indian/Alaska Native,
NHPI=Native Hawaiian/ Pacific Islander
TMR=Two or More Races

Table 6. Preservice Teacher Age Range

Age Range	Freq.	Percent
<21	10	12.35
21-24	37	45.68
25-34	18	22.22
35-44	8	9.88
45-54	7	8.64
>54	1	1.23
Total	81	100

Table 7. Inservice Teacher Age Range

Age Range	Freq.	Percent
<21	2	1.29
21-24	14	9.03
25-34	37	23.87
35-44	39	25.16
45-54	27	17.42
>54	36	23.23
Total	155	100

Research Development and Implementation

I collected data to measure preservice and inservice teacher motivation, beliefs about children with gifts and talents, identity, and desire to teach. Then I used these constructs as latent variables in a structural model to identify the directionality and strength of the relationships among motivation, beliefs, identity, and desire to teach learners with gifts and talents. I used subscales from existing instruments that have been previously validated and widely used in the research literature in educational psychology and gifted education fields.

Measures.

I compiled a multiple-dimension instrument adopting scales used in educational psychology and gifted education to measure the constructs of interest. The instrument was composed of five main scales and 67 items in total. Participants rated items on a six-point scale of agreement (1=Completely Disagree, 6=Completely Agree). Teacher motivation is a composite of two subscales measuring teacher adaptive goal orientations (Butler, 2007) and teacher efficacy beliefs (Tschannen-Moran et al., 1998). Teacher beliefs is based on two subscales measuring support and needs of gifted children (Gagne & Nadeau, 1991; McCoach & Siegle, 2007). Teacher identity is comprised by two joined measures: teacher identity (Friesen & Besley, 2013) and gifted identity (McCoach & Siegle, 2007). Lastly, desire to teach learners with gifts and talents encompasses six subscales of teaching value, choice, and satisfaction (Watt & Richardson, 2007). Table 8 shows a detailed overview of each construct, scales, and items.

Teacher goal orientations. The Goal Orientations for Teaching Scale (GOT: Butler, 2007, 2012). included three subscales with four items per each goal orientation. I adopted the subscales on adaptive goal orientations: mastery, relational, and performance approach goals. I did not use

the task avoidance and performance avoidance subscales because they did not support my research focus on adaptive motivation. As reported by Butler and colleagues (Benita et al., 2019; Butler, 2007, 2012), the factor structure and the relationships of goal orientations with other motivational constructs is supported by evidence of construct validity and reliability for the three subscales of mastery, relational, and ability goals. For example, in a study of 530 Israeli teachers (Butler, 2007), a study of 283 German teachers (Retelsdorf & Günther, 2011), and a study of 174 preservice and 245 inservice U.S. teachers (Miele et al., 2019) the three adaptive goals subscales structure was confirmed and showed acceptable to high reliability coefficients (Mastery, .75 to .81; Relational .86; and Performance approach .80). Participants responded to the prompt *I would feel that I had a successful day in school if:* Mastery Approach (e.g., "Something that happened in class made me want to learn more about teaching"), Ability or Performance Approach (e.g., "I was praised for having higher teaching abilities' than other teachers"), and relational goals (e.g., "I saw that I was developing closer and better relationships with students in my classes").

Teacher efficacy beliefs. I assessed efficacy beliefs using the main subscales of the Ohio State Teacher Efficacy Scale (OSTES) (Tschannen-Moran et al., 1998). Teacher efficacy beliefs indicate the confidence of teachers on their ability to deliver instruction, engage students in learning, and manage the classroom environment appropriately. Each scale includes eight items that measure efficacy beliefs on two dimensions: instructional strategies (e.g., "I can promote creative thinking/problem solving in my gifted students") and student engagement (e.g., "I can promote value for learning in my gifted students*"*). The OSTES was developed following Bandura's foundations of self-efficacy beliefs. After the OSTES was published, it was assessed for short (12 items) and long (24 items) formats with three studies including 103 preservice and 255 inservice teachers (Tschannen-Moran & Hoy, 2001). The instructional and engagement

subscales showed high internal consistency, with alpha coefficients between .81 and .87 for the short format, and between .86 and .91 for the long format. The OSTES instrument has received wide attention as it has produced invariant estimators in samples of preservice and inservice teachers (Tschannen-Moran & Hoy, 2007), teachers with varied years of experience (Hoy & Spero, 2005), and across multiple countries (Roberts & Henson, 2001).

Beliefs about Learners with Gifts and Talents. I assessed teacher beliefs with the Needs and Support subscales of the Opinions About the Gifted and their Education scale (OAG) (McCoach & Siegle, 2007). This scale contained eight items that assess positive teachers' perceptions of the needs of children with gifts and talents and whether teachers are supportive of gifted education (e.g., "Gifted children need special attention to fully develop their talents" "Schools should offer special education services for gifted children"). McCoach and Siegle (2007) provided evidence of internal consistency for the subscale with an alpha coefficient of .76 in a sample of 262 U.S teachers. Plunkett and Kronborg (2011) and Troxclair (2013) used OAG to assess preservice teachers attitudes towards learners with gifts and talents of 332 Australian preservice teachers, and 45 U.S. preservice teachers, respectively. In both studies participants showed high levels of positive beliefs about students with gifts and talents and support towards gifted education.

Identity. I measured two aspects of identity development: teacher identity and gifted identity. I measured teacher identity using the identity subscale from the Teacher Identity Scale (Friesen & Besley, 2013). This subscale includes five items reflecting teacher's self-categorization within the teacher profession (e.g., "I feel comfortable identifying myself as a teacher"). This subscale showed high internal consistency ($\alpha = .87$). Although this instrument has not been used in gifted education, there is evidence of its adequacy across teaching fields. For example, in a study

of 162 music education teachers, the scale has shown subscale internal consistency estimates from.82 to.90 (Koca, 2016). In the context of STEM education, a study with a sample of 311 showed internal consistency estimates of .77 to .86 for the self-categorization subscale (Horvath et al., 2018); the identity dimension was also associated with desire to remain in the field and job satisfaction (r = .27, $p < .001$). Additionally, to assess teachers' perceptions of their identity as gifted learners, I used the Perceptions of Self subscale of McCoach and Siegle's (2007) version of Opinions About the Gifted. The subscale has five items to complement the assessment of teacher identity (e.g., "I was or could have been in a gifted program in school"). Although this subscale was not correlated with the other constructs of teacher perceptions and beliefs in the same study, the researchers found that teachers who perceived themselves as gifted had strong identity development as teachers of gifted children. The reliability coefficient estimate for this scale was .94.

Desire to Teach Learners with Gifts and Talents. According to the Expectancy Value Theory, the decision to become involved in a task depends on the values attached to the task (Wigfield & Eccles, 2000a). To assess teachers desire, I used six subscales of the Factors Influencing Teaching (FIT)-choice scale (Watt & Richardson, 2007). The subscales include 22 items distributed as follows: three items measure desire to teach (e.g., "I wanted a job that involves working with children and adolescents," α= .89), three items measure intrinsic value (e.g., "I like teaching," α= .70), three items measure Utility Value (e.g., Teaching offered me a steady career path" α= .81), seven items for Social Utility Value (e.g., Teaching allows me to provide a service to society" α= .80), and satisfaction with the decision to teach. (e.g., "I am happy with my decision to become a teacher" α= .80). The total reliability score for the six subscales ranged from .81 to .97. Researchers have used the FIT-Choice across different ethnicities and contexts (e.g., urban versus

rural) (Leech et al., 2019), international contexts (Watt et al., 2012), gender differences (Heinz et al., 2021), attitudes towards teaching fields (STEM vs. non-STEM) (Kilinç et al., 2012), and disposition to teach learner with disabilities (Alexander et al., 2020) among others. The FIT-Choice is used not only to predict desire to teach as a career, but also to provide evidence of factors leading to career satisfaction and retention (Fenech et al., 2021).

Table 8. Compiled Instrument of Identity, Motivation, Beliefs, and Desire to Teach Learners with Gifts and Talents

Instrument	Construct	Item ID	Descriptor
Goals Orientations for Teaching (Butler, 2007, 2012)	Mastery	GOMA01	I learned something new
		GOMA02	Something that happened in class made me want to learn more about teaching
		GOMA03	My students made me think
		GOMA04	I saw that I was developing as a teacher and teaching more effectively than in the past
	Relational	GOR01	I saw that I was developing closer and better relationships with students in my classes
		GOR02	As a teacher, building relationships with students is most important for me
		GOR03	My main goal as a teacher is to show my students that I care about them
		GOR04	More than anything, I aspire to create deep personal relationships with each and every student
	Performance	GOAP01	I was praised for having higher teaching abilities' than other teachers
		GOAP02	My classes did better on an exam than those of other teachers
		GOAP03	I was recognized as one of the best teachers in the school
		GOAP04	My lessons were rated as the best lessons
Ohio State Teacher Efficacy Scale (Tschannen-Moran & Hoy, 2001)	Instructional	OSTESIS01	Use a variety of assessment strategies
		OSTESIS02	Adjust your lessons to the proper levels for individual students
		OSTESIS03	Provide appropriate challenges for very capable students
		OSTESIS04	Implement alternative strategies in your classroom
		OSTESIS05	Craft good questions for your students
		OSTESIS06	Provide an alternative explanation or example when students are confused
		OSTESIS07	Respond to difficult questions from your students
		OSTESIS08	Gauge student comprehension of what you have taught
	Engagement	OSTESSE01	Get students to believe they can do well in schoolwork
		OSTESSE02	Help your students think critically
		OSTESSE03	Help foster student creativity
		OSTESSE04	Help your students value learning
		OSTESSE05	Improve the understanding of a student who is failing
		OSTESSE06	Motivate students who show low interest in schoolwork
		OSTESSE07	Assist families in helping their children do well in school
		OSTESSE08	Get through the most difficult students

Table 8 Continued

Teacher Identity (Friesen & Besley, 2013)		IDTI01	I feel comfortable identifying myself as a teacher
		IDTI02*R	I find it difficult to see myself in charge of teaching a group of children/adolescents.
		IDTI03	I am a natural teacher
		IDTI04	I can easily see myself working with children/adolescents and helping them to learn and develop
		IDTI05	I see myself as a teacher (either currently or one day)
Gifted Identity (McCoach & Siegle, 2007)		IDGI01	I was or could have been in a gifted program in school
		IDGI02	Most of my family and friends consider me gifted
		IDGI03	I am gifted.
		IDGI04	People consider me gifted.
Opinions About the Gifted-Revised (McCoach & Siegle, 2007; Troxclair, 2013)	Needs	BENE01	Gifted children need special services to fully develop their talents.
		BENE02	Gifted children are unchallenged in regular classes
		BENE03	Gifted children need challenging learning experiences
		BENE04	The regular classroom experience hinders the development of gifted children
	Support	BESU01	Schools should offer special education services for gifted children.
		BESU02	To progress, society must develop talents of gifted children
		BESU03	Gifted children are valuable for society.
		BESU04	Gifted children will become tomorrow's leaders
FIT-Choice (Watt & Richardson, 2007)	Work with Children	DTCA01	I wanted to work in a child and adolescent-centered environment
		DTCA02	I wanted a job that involves working with children and adolescents.
		DTCA03	I wanted to help children and adolescents learn
	Intrinsic Value	DTIV01	I had always wanted to be a teacher.
		DTIV02	I was interested in teaching
		DTIV03	I like teaching
	Utility Value	DTUV01	Teaching offered me a steady career path
		DTUV02	Teaching was a secure job
		DTUV03	Teaching provided me a reliable income
	Social Utility	DTSU01	Teaching allows me to benefit the socially disadvantaged
		DTSU02	Teaching allows me to influence the next generation
		DTSU03	Teaching allows me to provide a service to society
		DTSU04	Teaching allows me to shape child/ adolescent values
		DTSU05	Teaching allows me to raise the ambitions of underprivileged youth
		DTSU06	Teachers make a worthwhile social contribution
		DTSU07	Teaching enables me to 'give back' to society
	Social Influence	DTSI01	My friends thought I should become a teacher
		DTSI02	My family thought I should become a teacher
		DTSI03	People I had worked with thought I should become a teacher
	Satisfaction	DTSA01	I am happy with my decision to become a teacher
		DTSA02	I am satisfied with my choice of becoming a teacher
		DTSA03	I have carefully thought about becoming a teacher

Note. *R: Item reverse coded

Procedures

Data collection. Participants completed a demographic questionnaire including questions about gender, age group, ethnicity, program progress/years of experience, major/subject taught, training in gifted education, and 67-item questionnaire in Qualtrics. The full version of the survey is presented in Appendix A. Invitations were sent out via teacher education programs and through national conferences listservs and Facebook pages (i.e., National Association for Gifted Children [NAGC]; American Education Research Association [AERA] Research on Giftedness, Creativity, and Talent SIG; and state level gifted education associations). The questionnaire included filter questions to discard preservice teachers who might not have been genuinely interested in gifted education or preservice teachers who might have not taught learners with gifts and talents. These questions were shuffled within the questionnaire. For preservice teachers, questions included "Are you interested in gifted education" and "Do you want to teach gifted learners." For inservice teachers, check included "Are you interested in gifted education" "Do you have experience teaching learners with gifts and talents" and "How many years of gifted education teaching experience do you have? Response entries with incongruent answers were not used in the analysis. To respond to construct items, participants were given a written prompt

> Please ONLY respond to each survey item based on your interest or experience in working with gifted, creative, and talented youth. According to the federal definition: The term gifted and talented, when used with respect to students, children, or youth, means students, children, or youth who give evidence of high achievement capability in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who need services or activities not ordinarily provided by the school in order to fully develop those capabilities. Terms or labels associated with this population vary across states, other denominations include high ability, exceptional ability, high potential, outstanding ability, high performance. (USDOE, 2002)

I also included five open-ended items related to goal orientations, teacher efficacy, teacher identity, beliefs about gifted education, and desire to teach. Open-ended responses were considered for qualitative data analysis. The five questions are presented in Table 9.

Table 9. Open-ended Questions

Construct	Open-Ended Item
Goal Orientations	What impressions do you want your students and colleagues to have about you as a teacher?
Teacher Efficacy	What makes you feel competent as a teacher of learners with gifts and talents?
Identity (Self-categorization)	How do you define yourself as a teacher of gifted learners?
Beliefs	What is the role of gifted and talented education?
Desire to teach	What determined your desire to teach learners with gifts and talents?

Participants who completed the online questionnaire were invited to participate in a follow up interview. I sent an invitation to 36 participants who indicated interest in the interview process. From this group, ten participants (6 inservice teachers and 4 preservice teachers) responded to my email and scheduled the interview. I conducted the interviews through Zoom. All participants consented to be audio recorded. The demographics of the ten interviewees closely resembled the demographics of the main sample. This group of participants was mostly homogenous in terms of gender and ethnicity: eight participants self-identified as White and seven self-identified as women. Table 10 shows the detailed demographics of the interview participants.

Table 10. Participants Qualitative Interviews

Name	Group	Gender	Age	Ethnicity Race	ID. GT	Level Taught	Training G. Ed.	Ex ED	Ex GT	Qualifications
Marie	I	F	35-44	White	Y	Ele Ed	Y	16	11	MA. Education.Gifted education certificate
Mara	I	F	45-54	White	Y	K-12	Y	26	25	MA. Education. Gifted education certificate
Katie	I	F	>54	White	N	K-12	Y	20	9	B.A. Psychology, MS Gifted Ed. Gifted education Certificate
David	I	M	25-34	White	Y	Ele Ed	Y	8	8	MA. Education. Gifted Education Certificate. Doctor of Education.
Daniel	I	M	>54	TMR	N	K-12	Y	40	15	BA. Social Studies. Conferences. Self
Andrea	I	F	45-54	Hispanic	N	Ele Ed	Y	28	5	MA. Education, STEM certificate
Samantha	P	F	45-54	White	Y	Ele Ed	N	<1	2	BA. Environmental Science
Matilda	P	F	21-24	White	Y	Ele Ed	N	<1	<1	BA. Elementary Education
Hannah	P	F	21-24	White	Y	Ele Ed	Y	1	1	Non-credential: Intro to gifted education, Socioemotional development. Underrepresented populations.
Elena	P	NB	21-24	White	Y	Ele Ed	N	<1	<1	BA. Psychological Sciences

Note: I=inservice, P=Preservice; F: Female, M=Male, NB=Non-Binary. ID. GT =Identified as gifted learner. Ele Ed=Elementary education. TMR= Two or more races. Ex.ED= years of experience general education. Ex.GT=years of experience in gifted education

I conducted interviews to expand and deepen my understanding of inservice and preservice teachers who desire to teach learners with gifts and talents. I interviewed the participants using a semi-structured protocol with six sections of questions: (a) Training and background (e.g., tell me about your qualifications and experience in gifted education), (b) beliefs and knowledge (e.g., Tell me about a child you think is gifted, how do you recognize their talent and how do you support them to succeed in your classroom?), (c) Goal orientation (e.g., Describe what makes you feel as a successful teacher), (d) Challenges and efficacy beliefs (e.g., Tell me about challenges you have faced while teaching gifted learners and how you overcome those challenges), (e) Identity development (e.g., Describe yourself as a teacher. Some people consider that gifted people can be good teachers of gifted learners, do you agree, why, why not?), and (f) recommendations for training and teacher programs (e.g., What recommendations would you provide to enhance training and teacher professional development in gifted education). The complete version of the interview protocols is presented in Appendix B. Each interview lasted between 45 and 90 minutes. With permission from participants, I audio recorded the interviews. After the interviews, participants received a $15 Amazon gift card for their participation.

Quantitative Data Analysis

Group Comparisons

To answer question one about differences between preservice and inservice teachers, I used multivariate analysis of variance (MANOVA) to test whether there were significant differences in the measures of motivation, identity, beliefs, and desire to teach variables. Because the MANOVA is an omnibus test, I used between subjects' test comparisons to determine what dependent variables scores were significantly different for preservice and inservice teachers.

I also studied whether there were differences in correlations among the variables across the two groups of participants. I used groupwise correlation in STATA to produce the correlation matrix for each group, then I used independent samples correlation comparison tests to identify differences in correlation coefficients between the preservice and inservice teachers (Lenhard & Lenhard, 2014).

Structural Equation Modeling (SEM)

Structural Equation Modeling is a statistical multivariate technique that allows researchers to model and test relationships among Latent variables and observed variables (McCoach et al., 2013). SEM estimates simultaneously measurement model and a structural component. The measurement model uses factor analysis to determine latent variable based o observed variables or indicators, while the structural model evaluates the relationships (direct and indirect effects) between latent variables (Kim, 2015; Kline, 2015). To model and test the relationships among motivation, beliefs, identity, and desire, I followed the steps outlined by Kline (2015): model specification, model identification, parameter estimation, model fit evaluation, and model modification. Model specification is based on the theoretical foundation of the model and hypothesized relationships among variables. Model identification determines whether the model has enough pieces of information (indicators) to perform parameter estimation. Model fit evaluation determines whether the hypothesized model matches the available data. Finally, model modification provides statistical changes to improve model fit and stability.

Sample size. In Structural Equation Modeling (SEM), sample size is an important requirement for model estimation. I followed the recommendations provided by Kim (2005) and Wolf et al. (2013) for sample adequacy dependent on model specification and construct reliability. An adequate sample size must consider the model specification: a priori determination of

relationships among variables based on theoretical foundations, available degrees of freedom, and variable to case ratio should be considered. My proposed model was overidentified with 7-first order latent variables with 31 observed variables. Each latent variable had at least three indicators. Additionally, I followed McCallum et al., (1996) estimation of sample size based on the Expected Root Mean Square Error of Approximation (RMSEA= .05 to .08), the number of available degrees of freedom ($df > 100$) for model fit comparisons. I used the R function to determine sample size based on RMSEA criteria (Preacher & Coffman, 2006). The resulting minimum sample size was a minimum of 178 participants for hypothesis testing of regression coefficients among latent variables. With a total of 236 observations, my sample was adequate for SEM.

Model Specification. The base structural model included seven latent variables and one observed variable: three Goal orientations: Mastery, Ability, and Relations; Self-Efficacy (comprised by Instructional and Engagement); Beliefs comprised by Needs and Support; two Identity variables: Teacher Identity and Gifted Identity; and a composite observed variable: Desire. These variables were created using the subscales presented in Table 8. With this structural model, I tested the following hypotheses:

Hypothesis 1. I hypothesized a significant positive relationship between Teacher Beliefs variables and Teacher Motivation. Positive beliefs are associated with teacher efficacy, as teachers who hold positive views of learners with gifts and talents have been found to influence teacher instruction effectiveness and instruction quality which are related to efficacy beliefs (Camci Erdogan, 2015; Matheis et al., 2017).

Hypothesis 2. I hypothesized a positive association between teacher beliefs and mastery goals, as teachers who have positive views of gifted children might engage in learning opportunities and training to better understand gifted children and provide them with better support (Gagne & Nadeau, 1991).

Hypothesis 3. I hypothesized an association between gifted identity and teacher identity, and a positive association between identity and motivation variables. Because teachers of gifted children have been found to be gifted themselves (McCoach & Siegle, 2007) self-understanding of gifted characteristics might affect how teachers develop efficacy beliefs and goal orientations for teaching learners with gifs and talents.

Hypothesis 4. I hypothesized a positive association between Teacher Identity and Teacher Beliefs, these two latent variables are assumed to be correlated as foundational components of identity inform what teachers' beliefs about their students and vice versa (Day, 2018; Richardson & Watt, 2018).

Hypothesis 5. Finally, I hypothesized that Teacher Desire was predicted by the main latent variables Motivation, Beliefs, and identity. Efficacy and Goals, Identity, and Beliefs are predictors of desire as ability beliefs and goal orientations are associated with task selection and task value (Chong et al., 2010; Garner & Kaplan, 2019; Muenks et al., 2018). Figure 2 shows the graphical representation of the hypothesized model.

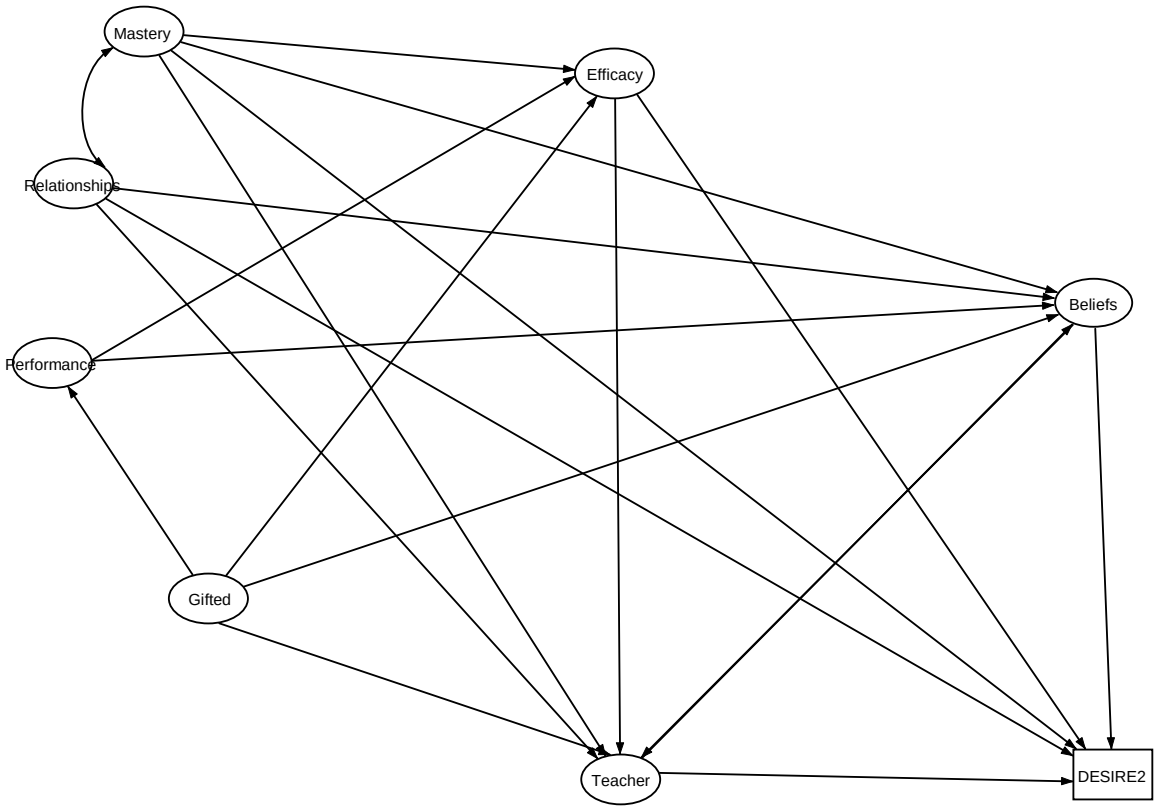

Figure 2. Hypothesized Structural Model

Measurement Model Identification. Model identification is the determination of pieces of information necessary to make parameter estimations based on latent variables, number of indicators, degrees of freedom, and relationships to be estimated. For adequate model

identification, Kline (2015) suggested the inclusion of at least three indicators per latent variable without correlated errors to achieve *df > 0*. Because several subscales had more than three items (e.i., Beliefs: 8 items, Efficacy: 16 items, and Desire: 22 items), I reduced the number of items per scale 3 to 6 items per construct. One way to reduce items is by parceling items into sets. Although this is a popular strategy, the procedure can be controversial due to threats to incorrect parameter estimates and misinterpretation of model fit estimation, especially in models with small sample sizes (Bandalos, 2002). Following Bandalos' (2008) considerations on item dimensionality, I reduced the number of items based on factor loadings of items per subscale/factor and total scale score averages for the Desire variable Items with factor loadings <.4 were removed for Beliefs, Efficacy, Teacher, Gifted Identity, and Relational goals. This procedure warrants more accurate estimations as item selection is based on unidimensionality of the scale and retains only items that are highly correlated with the constructs (Bandalos, 2008). The number of degrees of freedom available depends on the pieces of information minus the number of parameter estimates. The number of pieces of information available is calculated as b=[p*(p+1)/2], in which p is the number of indicators. My proposed model was overidentified with b = [31*(31+1)/2] = 496 total pieces of information. The parameters to be estimated are (31 indicator errors, 24 factor loadings after fixing 7 indicators as markers of variance 1 in each factor), structural parameters (5 errors, 14 beta links). Total parameters to be estimated equals 81 and the total available degrees of freedom (*df* = 415). All the pieces of information and parameters to be estimated are detailed in the measurement model in Figure 3.

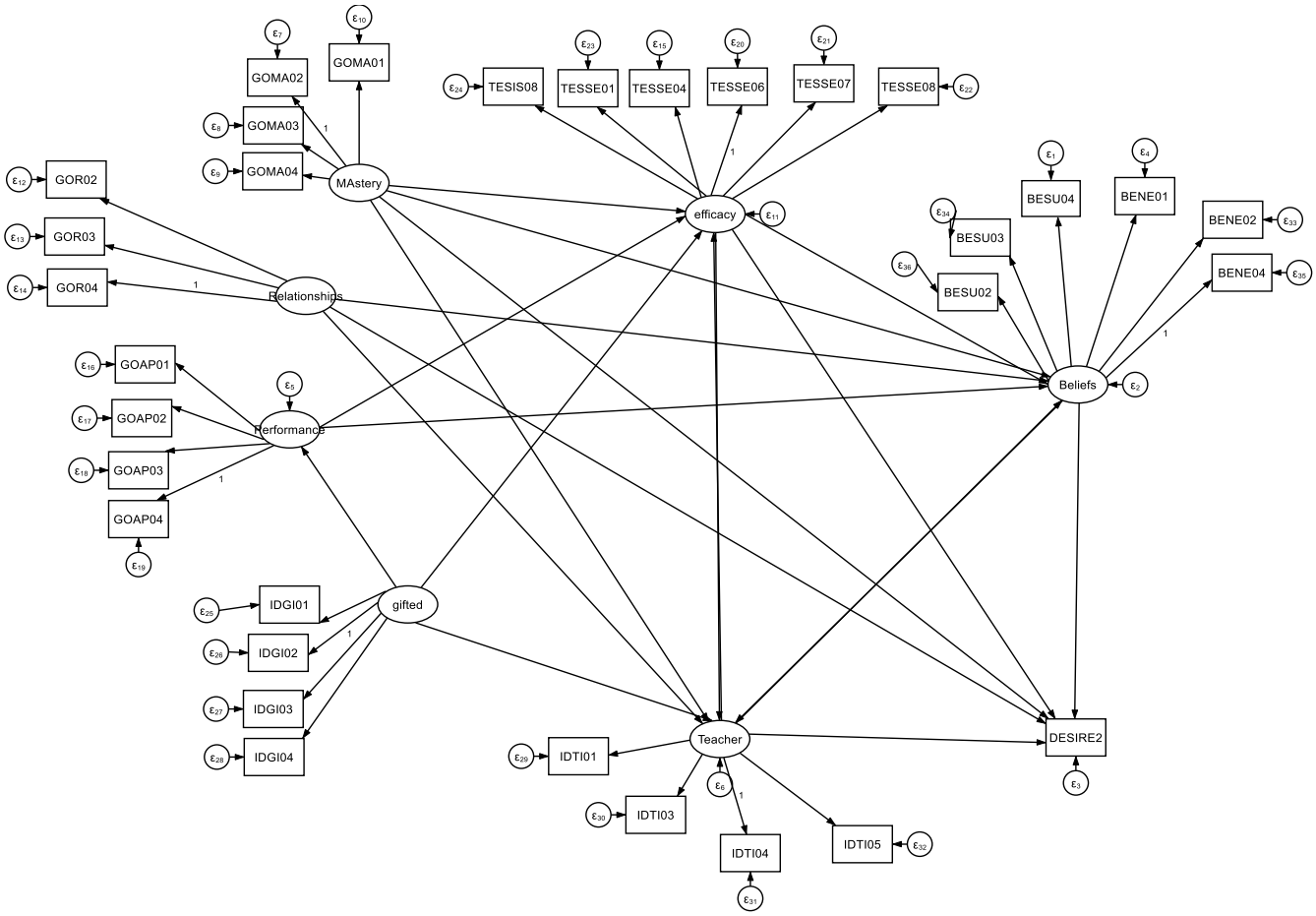

Figure 3. Measurement Model

Because my model was based only on theoretical assumptions, there might have been unexpected relationships among the variables that were not accounted for in the proposed hypotheses. In an endeavor to attain model convergence, exploration of modification indices and model modifications was expected. I performed the analysis in STATA 16.1 (STATACorp, 2019). I used the graphic user interface to draw the model. I used two estimation methods to produce parameter estimates: Maximum likelihood with missing values, and the Satorra-Bentler correction estimation method which is robust to non-normality.

Model Fit Indices. I used STATA's post-estimation goodness of fit commands to evaluate model fit. Because Model ChiSquare (χ^2) is sensitive to sample size, *p*-values less than .05 are not

necessarily an indicator of good fit when large samples are used. Therefore, I also used other model fit indices to evaluate my model. Model fit can be determined using well-established indices that are not sensitive to sample size and account for model specification (Kenny et al., 2015). The Non-Normed Fit Index (NNFI) also known as Tucker-Lewis Index (TLI) is an important measure of model fit because it requires correct model identification and penalizes the estimation of additional parameters. TLI values above .80 are considered adequate and above .90 excellent. Root Mean Square Error of Approximation is another common estimate used to judge model fit. The RMSEA index penalizes model complexity and misspecification. RMSEA values less than .08 are considered adequate and less than .05 excellent. The Standardized Root Mean Square Residual (SRMR) is another absolute measure of fit that penalizes model misspecification and small sample size. SRMR values below .08 are considered adequate and below .05 excellent. Finally, I used the Comparative Fit Index (CFI) to compare different models after model modifications (Kenny et al., 2015; Kline, 2015). CFI values above .80 are considered adequate and values above .90 are considered excellent. Model modifications were produced in STATA and applied according to relationships derived from motivation, beliefs, and identity theories.

Qualitative Data Analysis

I transcribed the interviews via Microsoft Transcription. Interviews were deidentified and names replaced with pseudonyms. Open-ended responses did not contain identifiable data. Then I organized open-ended responses and interview transcriptions in NVIVO 12. I imported an excel sheet into NVivo with the opened responses linked to demographic variables to create an overview of codes based on the sample characteristics and to classify responses independently for preservice and inservice teachers. I followed this approach to gain insight on how participants' responses differed based on the type of participant, their experiences in learning settings, and training and

qualifications. To analyze the data, I followed thematic analysis (Braun & Clarke, 2006). Thematic analysis has six steps: (a) I familiarized myself with the data by listening to the interviews, reading the transcripts and open-ended responses, and jotting down ideas of potential codes and patterns within the data, (b) using the questions as a starting point, I generated initial codes for all the data entries, (c) with another researcher who is a doctoral student in educational psychology with experience in motivational research, I revised the initial codes and began the search for salient themes, (d) the researcher and I discussed commonalities between themes in the participant interviews and open-ended responses, (d) we defined and named the themes within the theoretical foundations of the research project, (e) finally, I selected substantial quotes from the data to illustrate the themes and produce the results report.

Trustworthiness in Qualitative Research. Trustworthiness is an important part of qualitative thematic analysis, comparable to validity and reliability measures in quantitative analysis (Nowell et al., 2017). A variety of strategies can be used to add trustworthiness to a study. In this study, I utilized triangulation, member checks, dependability, and transferability (Harrison et al., 2001; Nowell et al., 2017). I used triangulation of data sources to establish connections among quantitative instruments, open-ended responses, and interviews. I asked an educational psychology researcher with experience in qualitative methods to support the thematic analysis. This was a source of researcher triangulation as it allowed me to brainstorm, discuss and make decisions about the coding and theme extraction. I met with this researcher over zoom for three hours on June 4, 2021.

Member checking is also an important part in the integrity of this analysis. I shared the themes with the participants and asked them to provide feedback. Two participants responded, and they agreed with the proposed themes. Triangulation and member checks provided evidence

supporting the credibility of the data analysis (Harrison et al., 2001). Dependability and transferability are related to the researcher's ability to provide accurate and thick descriptions about the research procedures and its implications (Braun & Clarke, 2006; Nowell et al., 2017). I have provided precise descriptions of methodological procedures and all details of this research are reported in the results sections.

CHAPTER 4: RESULTS

In this section, I present the results of my data analysis process. I present an overview of data management and analysis, followed by statistical and qualitative analysis.

Quantitative Data Analysis

Data Screening and Handling.

After compiling and cleaning the instrument data into a manageable set, I screened the data for missingness, outliers, normality, linearity, homoscedasticity, and multicollinearity. From the 236 observations, 92 observations had at least one missing value per observation. Presumably, missing values were due to the length of the questionnaire, meaning participants timed out of the survey or quit the survey prior to saving their responses. To address missing data, I used Little's Missing Completely at Random (MCAR) Test on STATA. This test permits identifying whether "missingness is independent of characteristics of either the observed data or the e unobserved values in the data set (Curley et al., 2019, p. 593). The non-significant chi squared test indicated that the data were MCAR ($\chi 2 = 108.3681$, $p = 0.806$), for which either multiple imputations or listwise deletions are recommended based on the percentage of available data. Because of the small sample size necessary to compute SEM, I retained variables with less than 20% of missing values. Table 11 presents the missing data summary.

Table 11. Missing Data

Variable	Missing	Total	Percent Missing
DTSU02	1	236	.004
DTSU03	6	236	2.54
DTSU04	11	236	4.66
DTSU05	14	236	5.93
DTSU06	27	236	11.44
DTSU07*	53	236	22.45
DTSI01*	78	236	33.05
DTSI02*	85	236	36.01
DTSI03*	92	236	38.98
DTSA01*	92	236	38.98
DTSA02*	92	236	38.98
DTSA03*	92	236	38.98

Note. * Variables removed from data set.

I screened the remaining data to verify the assumptions for structural equation modeling: normality, linearity, homoscedasticity, and no multicollinearity (Kline, 2015). I screened the data for extreme univariate and multivariate outliers using the STATA commands bacon and hadimvo. These commands use Mahalanobis distances to identify and flag extreme observations from item median and beyond three interquartile ranges (Weber, 2010). No extreme outliers were observed in the data set. Normality and linearity of the residuals were assessed using STATAs commands such as kdensity, qnorm and pnorm, see Figure 4. Distortions in the p-p and q-q plots indicated non-normality. Additionally, as confirmation, I conducted the Mardia's test of skewness and kurtosis to evaluate deviations from normality. Both tests were significant (Skewness = 2394.432, $\chi 2$ (37820) = 61097.82, $p < 0.001$; Kurtosis = 4317.477, $\chi 2$ = 1799.28, $p < 0.001$). This result indicated my data had a nonnormal distribution. Homoscedasticity is the assumption of

homogenous residual variances at different le of the variable. Homoscedastic data should display a uniform pattern of association between the residuals and the fitted values. Observing Figure 5, data exhibited heterogenous variances in low levels of the variable. Since this is a common occurrence when treating Likert scale variables as continuous variables, I ran the Breusch-Pagan / Cook-Weisberg test of heteroscedasticity ($\chi 2$ (1) = 2.09, p = 0.1482. The non-significant test result indicated that my data did not violate the homoscedasticity assumption.

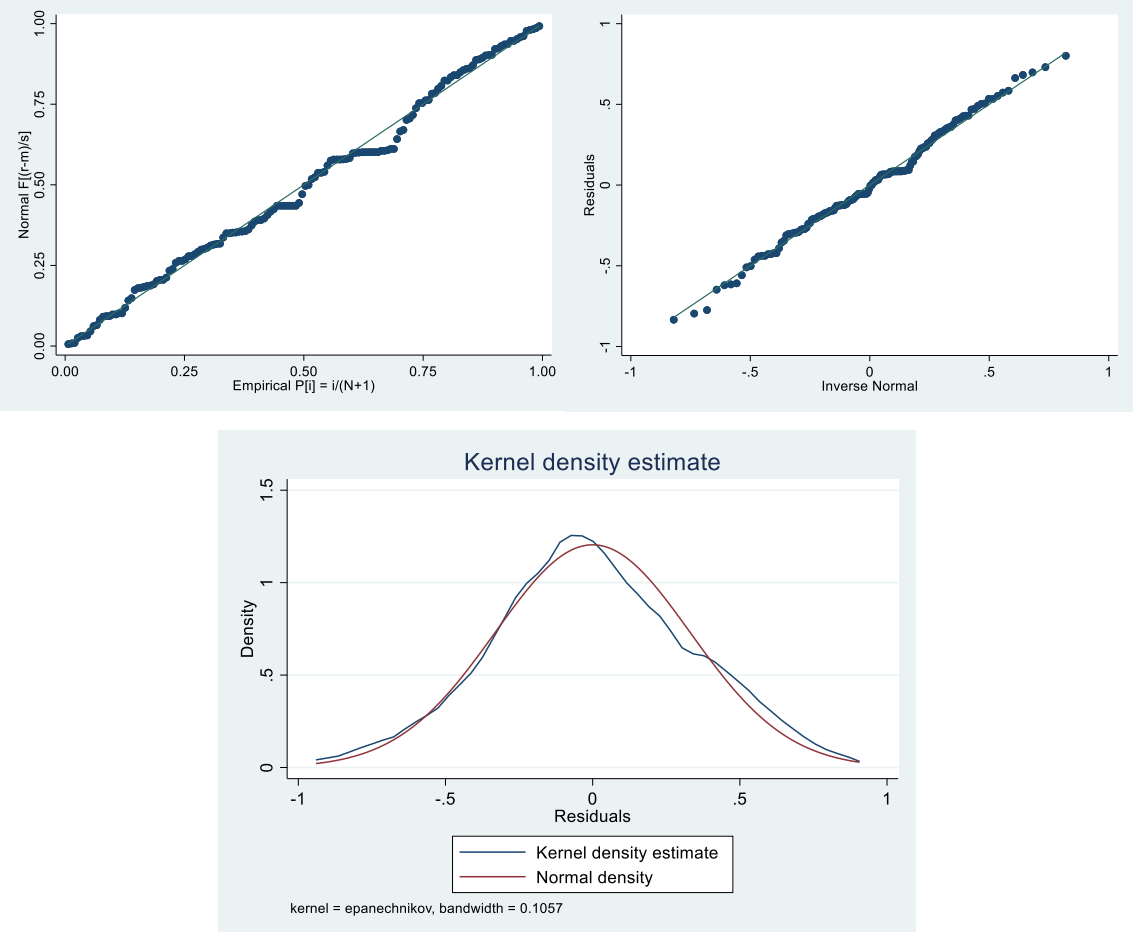

Figure 4. P-P, Q-Q Plots, and Normality Curve.

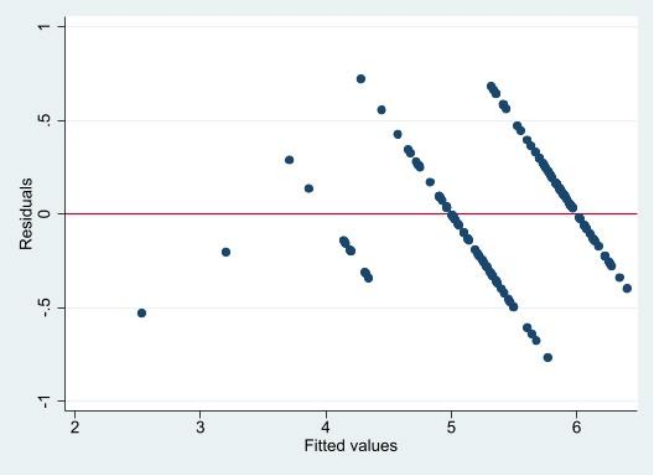

Figure 5. Homoscedasticity Plot

Finally, I conducted an analysis of multicollinearity through the Variance Inflation Factor (VIF) and tolerance (1-VIF). Multicollinearity is present if there is high correlation among independent variables, which is also an indicator of redundancy in the explanatory variables (Alin, 2010). Variables with VIF values above 10 are considered redundant. Table 12 shows VIF > 10 values for the set of variables that were redundant. Kline (2016) recommends either eliminating or parceling the redundant variables.

Table 12. Multicollinearity Values

Construct	Variable	VIF	1/VIF
Desire	DTCA01	37.37	0.027
Desire	DTCA02	28.06	0.036
Gifted Identity	IDGI04	16.50	0.061
Gifted Identity	IDGI03	12.89	0.027
Gifted Identity	IDGI02	11.65	0.036

Descriptive Statistics

Tables 13 through 17 show the descriptive statistics of each instrument I used. Participants rated each item on a 6-point scale (1=Completely Disagree to 6=Completely Agree). Overall participant responses show elevated levels of attribute in each construct. Regarding goal orientations (See Table 12), participants exhibited high scores for mastery goals (M = 5.28 to 5.49; SD = .75 to .87) and relational goals (M = 4.88 to 5.50; SD = .82 to 1.02), while moderately high scores for performance approach goals (M = 4.18 to 4.37; SD = 1.22 to 1.33). Items in relationships and performance approaches exhibited more variability than items in mastery approach.

Table 13. Descriptive Statistics Goal Orientations

Construct	Variable	Mean	SD	Min	Max	Skewness	SE	Kurtosis	SE
Mastery	GOMA01	5.34	0.78	2	6	-1.60	0.16	4.14	0.32
	GOMA02	5.28	0.79	3	6	-0.92	0.16	0.31	0.32
	GOMA03	5.45	0.75	1	6	-1.88	0.16	6.13	0.32
	GOMA04	5.49	0.89	2	6	-2.21	0.16	5.12	0.32
Relational	GOR01	5.50	0.82	2	6	-2.00	0.16	4.67	0.32
	GOR02	5.44	0.79	1	6	-1.77	0.16	4.79	0.32
	GOR03	4.97	1.01	1	6	-1.11	0.16	1.57	0.32
	GOR04	4.88	1.03	1	6	-0.80	0.16	0.39	0.32
Ability	GOAP01	4.37	1.22	1	6	-0.68	0.16	0.04	0.32
	GOAP02	4.29	1.27	1	6	-0.48	0.16	-0.45	0.32
	GOAP03	4.19	1.33	1	6	-0.63	0.16	-0.17	0.32
	GOAP04	4.18	1.25	1	6	-0.73	0.16	-0.03	0.32

N = 236

Participants displayed high scores in efficacy beliefs about their ability to deliver quality instruction (*M* = 5.08 to 5.47; *SD* = .71 to .95), and their ability to promote student engagement (*M* = 4.94 to 5.33; *SD* = .73 to 1.06), see Table 14.

Table 14. Descriptive Statistics Efficacy Beliefs

Construct	Variable	Mean	SD	Min	Max	Skewness	SE	Kurtosis	SE
Instruction Efficacy	TESIS01	5.08	0.86	1	6	-1.09	0.16	1.88	0.32
	TESIS02	5.17	0.90	1	6	-1.89	0.16	6.11	0.32
	TESIS03	5.42	0.72	3	6	-0.91	0.16	-0.26	0.32
	TESIS04	5.11	0.95	1	6	-1.06	0.16	0.94	0.32
	TESIS05	5.31	0.81	2	6	-1.61	0.16	4.09	0.32
	TESIS06	5.47	0.71	1	6	-1.70	0.16	5.66	0.32
	TESIS07	5.36	0.72	2	6	-1.15	0.16	1.89	0.32
	TESIS08	5.33	0.74	3	6	-0.93	0.16	0.53	0.32
Engagement Efficacy	TESSE01	5.27	0.73	2	6	-0.80	0.16	0.73	0.32
	TESSE02	5.33	0.74	3	6	-0.87	0.16	0.18	0.32
	TESSE03	5.32	0.77	3	6	-1.12	0.16	1.14	0.32
	TESSE04	5.33	0.75	2	6	-0.94	0.16	0.81	0.32
	TESSE05	5.16	0.81	2	6	-1.13	0.16	1.82	0.32
	TESSE06	4.94	1.06	1	6	-1.01	0.16	0.89	0.32
	TESSE07	5.12	0.85	1	6	-1.04	0.16	1.82	0.32
	TESSE08	5.02	1.02	1	6	-1.13	0.16	1.28	0.32

N = 236

Scores were high for teacher identity (*M* = 4.80 to 5.67; *SD*=.61 to 1.73), item IDTI02 “I find it difficult to see myself in charge of teaching a group of children/adolescents” was reverse coded (*M* = 4.36, *SD* = 1.75). Gifted identity scores were moderately high (*M* = 4.33 to 4.81; *SD* =1.31 to 1.40). Both Teacher Identity and Gifted Identity showed high variability (See Table 15).

Table 15. Descriptive Statistics Identity

Construct	Variable	Mean	SD	Min	Max	Skewness	SE	Kurtosis	SE
Teacher Identity	IDTI01	5.46	0.91	1	6	-2.41	0.16	7.04	0.32
	IDTI02*R	2.71	1.74	1	6	0.58	0.16	-1.04	0.32
	IDTI03	4.80	1.18	1	6	-0.79	0.16	-0.07	0.32
	IDTI04	5.37	0.84	1	6	-1.71	0.16	4.05	0.32
	IDTI05	5.67	0.61	3	6	-2.04	0.16	4.34	0.32
Gifted Identity	IDGI01	4.81	1.37	1	6	-1.31	0.16	1.08	0.32
	IDGI02	4.51	1.31	1	6	-0.86	0.16	0.28	0.32
	IDGI03	4.38	1.40	1	6	-0.70	0.16	-0.23	0.32
	IDGI04	4.33	1.35	1	6	-0.77	0.16	0.08	0.32

N = 236
Note. *R: reverse coded item

Participants beliefs about children with gifts and talents were positive as shown by high scores on support towards gifted education (*M* = 5.00 to 5.42, *SD* = .80 to .95) and special needs of this population (*M* = 4.36 to 5.47, *SD* = .90 to 1.34). Beliefs about the needs of gifted children exhibited more variability than beliefs about support of gifted education (See table 16).

Table 16. Descriptive Statistics Beliefs About Gifted Education

Construct	Variable	Mean	SD	Min	Max	Skewness	SE	Kurtosis	SE
Support for gifted education	BESU01	5.39	0.89	1	6	-2.02	0.16	5.06	0.32
	BESU02	5.35	0.80	2	6	-1.16	0.16	1.09	0.32
	BESU03	5.42	0.82	2	6	-1.76	0.16	3.80	0.32
	BESU04	5.00	0.95	2	6	-0.96	0.16	0.66	0.32
Beliefs about the needs of gifted children	BENE01	5.29	0.96	2	6	-1.43	0.16	1.77	0.32
	BENE02	4.79	1.27	1	6	-1.18	0.16	0.92	0.32
	BENE03	5.47	0.90	1	6	-2.77	0.16	10.04	0.32
	BENE04	4.36	1.34	1	6	-0.59	0.16	-0.41	0.32

N = 236

Descriptive statistics for the desire to teach variables revealed moderate to high levels (*M* = 4.16 to 5.47, *SD* = .60 to 1.53). Intrinsic value, utility value, and work with children showed higher variability than did social utility and satisfaction (Table 17).

Table 17. Descriptive Statistics Desire to Teach

Construct	Variable	Mean	SD	Min	Max	Skewness	SE	Kurtosis	SE
Teach Youth	DTCA01	5.15	1.10	1	6	-1.46	0.16	1.62	0.32
	DTCA02	5.21	1.03	2	6	-1.67	0.16	2.52	0.32
	DTCA03	5.42	0.83	2	6	-1.91	0.16	4.46	0.32
Intrinsic Value	DTIV01	4.61	1.42	1	6	-0.93	0.16	-0.21	0.32
	DTIV02	5.11	1.03	1	6	-1.64	0.16	3.25	0.32
	DTIV03	5.59	0.60	2	6	-1.65	0.16	4.63	0.32
Utility Value	DTUV01	4.94	1.04	2	6	-1.33	0.16	1.68	0.32
	DTUV02	4.86	1.19	1	6	-1.18	0.16	1.17	0.32
	DTUV03	4.56	1.20	1	6	-0.91	0.16	0.73	0.32
Social Utility	DTSU01	5.00	1.10	1	6	-1.47	0.16	2.60	0.32
	DTSU02*	5.38	0.80	1	6	-2.04	0.20	7.16	0.39
	DTSU03*	5.33	0.85	2	6	-1.87	0.20	5.41	0.40
	DTSU04*	5.20	0.84	2	6	-0.90	0.20	0.59	0.40
	DTSU05*	5.06	0.94	3	6	-0.82	0.20	0.27	0.50
	DTSU06*	5.44	0.72	2	6	-1.24	0.20	1.35	0.40

N = 236

Note. *DTSU02 (N=235), DTSU03 (N=230), DTSU04 (N=225), DTSU (N=222), DTSU (N=209)

Evidence of Validity and Reliability

I performed independent confirmatory factor analysis (CFA) on each instrument to determine the structure and number of items to be retained for the SEM. I reduced the number of items based on factor loadings of items per subscale/factor. Items with factor loadings <.4 or cross loadings were removed. I calculated alpha reliability coefficients with the final number of items in each scale. Detailed results of CFA are presented in Tables 18 to 22.

Table 18.Confirmatory Factor Analysis Goal Orientations for Teaching

Variable	Mastery	Relational	Performance	Uniqueness	Alpha
GOMA01	.72			.50	.89
GOMA02	.79			.39	
GOMA03	.69			.52	
GOMA04	.67			.51	
GOR01*		-		.46	
GOR02		.76		.37	.86
GOR03		.89		.26	
GOR04		.85		.31	
GOAP01			.83	.31	.89
GOAP02			.78	.39	
GOAP03			.78	.39	
GOAP04			.89	.17	

Note. Only Mastery and Relational goals significant and positively correlated (*r*=.40)
*Item removed

Table 19. Confirmatory Factor Analysis Teacher Efficacy

Variable	Instructional	Engagement	Uniqueness	
TESIS01	.63		.70	.84
TESIS02	.72		.40	
TESIS03	.64		.42	
TESIS04	.68		.62	
TESIS05	.43		.62	
TESIS06	.48		.51	
TESIS07*	-		.62	
TESIS08		.66	.47	
TESSE01		.51	.57	.90
TESSE02*	.47	.58	.48	
TESSE03		.49	.48	
TESSE04		.66	.39	
TESSE05		.73	.45	
TESSE06		.95	.29	
TESSE07		.82	.40	
TESSE08		.77	.44	

Note. Instructional and Engagement Efficacy (*r* = .83)
*Item removed

Table 20. Confirmatory Factor Analysis for Identity

Variable	Teacher	Gifted	Uniqueness	α
IDTI01	.69		.53	.80
IDTI02	-.41		.84	
IDTI03*	.41	.41	.62	
IDTI04	.86		.24	
IDTI05	.75		.44	
IDGI01		.83	.30	.95
IDGI02		.94	.13	
IDGI03		.94	.14	
IDGI04		.93	.14	

Note. Teacher and Identity (r = .13)

**Item removed*

Table 21. Confirmatory Factor Analysis for Beliefs

	Two-Factor Solution			One-Factor Solution		
Variable	Support	Needs	Uniqueness	Beliefs	Uniqueness	α
BESU01	.62	-.40	.45	.60	.64	.85
BESU02	.78	-.31	.28	.78	.40	
BESU03	.70	.12	.49	.71	.50	
BESU04	.56	.33	.57	.55	.70	
BENE01	.83	-.14	.28	.85	.28	
BENE02	.64	.10	.57	.66	.57	
BENE03	.54	-.15	.68	.55	.70	
BENE04	.56	.64	.26	.50	.75	

Note. Data supported One-Factor solution for Beliefs.

Table 22. Confirmatory Factor Analysis for Desire to Teach

Variable	Youth	Intrinsic	Utility	Social Utility	Uniqueness	α
DTCA01	.98				.03	.94
DTCA02	.95				.07	
DTCA03	.78				.29	
DTIV01		.89			.19	.86
DTIV02		.81			.28	
DTIV03*		-			.56	
DTUV01			.85		.21	.89
DTUV02			.94		.13	
DTUV03			.55		.60	
DTSU01*				-	-.75	.87
DTSU02				.67	.35	
DTSU03				.77	.30	
DTSU04				.77	.38	
DTSU05				.67	.49	
DTSU06				.77	.41	

Note. Significant interfactor correlations: Youth and Intrinsic Value (r=.41), Intrinsic Value and Utility (r= .43), Utility and Social Utility (r = .37)

*Item removed

RQ1. Differences in Measures of Motivation, Identity, Beliefs, and Desire to Teach between Preservice and Inservice Teachers

Subscale Scores by Grouping Variables

I computed total subscales scores by averaging items in the same subscale resulting from CFA. I ran MANOVA to test for group differences on the multiple dependent variables. There was a statistically significant difference in the scores of the dependent variables by group of participants, Wilk's $\lambda = .69$, $F(12, 223) = 5.08$, $p < .001$, partial $\eta 2 = .30$. Therefore, I conducted univariate comparisons to further investigate group differences on the measures of motivation, beliefs, identity, and desire to teach. Table 23 shows a summary of mean scores per each group of participants.

Table 23. Subscale Total Scores Preservice and Inservice Teachers

		Preservice		Inservice		Comparisons		
Dimension	Variable	Mean	SD	Mean	SD	*F*	*p*	η2
Goals	Mastery	5.34	0.71	5.45	0.55	1.35	.25	.01
	Relational*	4.87	0.99	5.19	0.80	5.28	.02	.03
	Performance	4.13	1.07	4.28	1.12	0.63	.43	.00
Efficacy	Instruction*	5.10	0.66	5.32	0.50	5.67	.02	.04
	Engagement	5.25	0.75	5.03	0.71	3.49	.06	.02
Identity	Teacher*	4.77	0.80	5.41	0.73	28.70	.00	.16
	Gifted	4.23	1.21	4.61	1.37	2.73	.08	.02
Beliefs	Beliefs*	4.93	0.77	5.21	0.63	5.54	.01	.04
Desire to Teach	Teach Youth	5.18	0.99	5.21	1.02	0.05	.83	.00
	Intrinsic Value*	5.27	0.77	4.62	1.29	12.55	.00	.09
	Utility Value	4.74	0.85	4.71	1.05	1.35	.25	.01
	Social Value*	5.27	0.75	5.18	0.62	5.28	.02	.03

Note. *Significant differences in mean scores

Overall preservice and inservice teachers had similar mean scores in mastery and performance goals, perceived efficacy for classroom engagement, gifted identity, and utility value. Inservice teachers had significantly higher mean scores in relational goals, perceived efficacy for instruction, positive beliefs about the needs of children with gifts and talents. These differences had a small effect size. Inservice teachers also had significantly higher scores in teacher identity than preservice teachers; this effect was large. Preservice teachers had significantly higher mean scores in intrinsic value with a medium effect size, social influence than inservice teachers indicating a small effect size.

RQ2. Relationships among Variables

I computed Person correlations among the variables of motivation, identity, beliefs, and desire to teach. Some noteworthy correlations occurred between the most adaptive goal orientation,

teacher efficacy beliefs, teacher identity and positive beliefs about learners with gifts and talents, and desire to teach this population. Mastery was positively correlated with relational goals (r = .32), instructional efficacy (r = .62), efficacy to promote engagement (r = .50), positive beliefs (r = .43), teacher identity (r = .40. Relational goals were moderately correlated with efficacy for instruction (r = .38), positive beliefs (r = .36), and social value (r = .42). There was no association between mastery and performance approach (r = .04) or relational and performance goals (r = .08). The least adaptive goal orientation, performance approach, was only correlated with gifted identity (r = .34). There was a strong correlation between efficacy for instruction and engagement (r = .69), and positive beliefs (r = .43). Interestingly, gifted identity was only associated with performance approach. Table 24 shows the detailed correlation matrix.

Because in motivational theory teachers and preservice teachers have distinct motivation patterns, I disaggregated the correlation matrix by group of participants. I computed groupwise correlation using the Preservice/Inservice variable. As expected, there were significant differences in the correlation coefficients for preservice and inservice teachers (See Table 25). Overall, preservice teachers showed stronger correlations in motivation, beliefs, identity, and desire to teach variables than inservice teachers. Noteworthy differences were the correlations between efficacy for engagement and mastery goals: preservice (r = .68) and inservice (r = .38), efficacy for instruction: preservice (r = .78) and inservice (r = .44). The correlation between performance approach and gifted identity was significant for preservice teachers (r = .56) than inservice teachers (r = -.01).

Table 24. Correlation Matrix

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1 Mastery	1											
2 Relational	.32*	1										
3 Ability	.04	.08	1									
4 Instruction	.63*	.38*	.21	1								
5 Engagement	.50*	.48*	.03	.69*	1							
6 Teacher	.40*	.31*	-.05	.38*	.19	1						
7 Gifted	.07	-.10	.34*	.06	-.17	.04	1					
8 Beliefs	.43*	.22*	.09	.43*	.29*	.36*	.13	1				
9 Teach Youth	.28*	.40*	-.02	.26*	.40*	.34*	-.15	0.30*	1			
10 Intrinsic Value	.13	.11	-.01	.18	.41*	-.07	-.14	-.02	.39*	1		
11 Utility Value	.21	.09	.17	.18	.26*	.11	-.04	.14	.25*	.21	1	
12 Social Value	.42*	.26*	.06	.56*	.54*	.31*	.05	.327*	.42*	.21*	0.21*	1

** $p < .05$*

Table 25. Groupwise Correlation Matrix Preservice Versus Inservice Teachers

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1 Mastery		.23**	.06	**.44*** **	**.38*** **	.35***	.15	**.22** **	.26**	.13	.30***	**.24** **
2 Relational	.40***		-.02	.34***	.53***	**.12**	-.17	.19*	.37***	.24**	**-.01**	.29***
3 Performance	.01	.18		.22**	.17*	-.04	**.21** **	.15	-.01	-.03	.12	.20*
4 Instruction	**.78*** **	.37***	.18		.71***	.25**	-.01	**.27** **	**.13**	**.18***	.19*	**.37*** **
5 Engagement	**.68*** **	.52***	-.15	.78***		**.00**	-.12	**.11**	.22**	.45***	.23**	**.41*** **
6 Teacher	.43***	**.41*** **	-.14	.43***	**.59*** **		-.04	**.21** **	**.22** **	.04	.07	**.19***
7 Gifted	-.07	-.08	**.56*** **	.10	-.20	.03		**.21** **	-.11	-.11	-.02	.15
8 Beliefs	**.59*** **	.20	.01	**.52*** **	**.58*** **	**.42*** **	-.02		**.17***	.01	**-.06**	**.07**
9 Teach Youth	.32**	.45***	-.04	**.42*** **	**.67*** **	**.55*** **	-.21*	**.47*** **		**.53*** **	.16	**.22** **
10 Intrinsic Value	.24*	.08	.12	**.44*** **	.28**	.07	-.11	.11	.13		.15	.20*
11 Utility Value	.10	**.26** **	.28**	.21*	.32**	.21*	-.07	**.45*** **	.42***	**.40*** **		.25**
12 Social Value	**.60*** **	.27*	-.13	**.75*** **	**.70*** **	**.47*** **	-.09	**.58*** **	**.67*** **	.30**	.19	

*** $p < .01$, ** $p < .05$, * $p < .1$

Note. The lower left diagonal shows the correlation coefficients of preservice teachers (n=81), while the upper right diagonal is that of inservice teachers (n=155).

Bolded coefficients are significantly different for each group

Item Reduction for SEM

This procedure warrants more accurate estimations as indicator selection is based on unidimensionality of each subscale and retains only items that are highly correlated with the constructs according to CFA results (Bandalos, 2009). A detailed description of the reduction strategy is presented in Table 26. The final version of the instrument is included in Appendix C.

Table 26. Item Reduction Strategy

Dimension	Original number of items	Decision	Rationale	Number of indicators
Mastery	4	No change	Adequate measure	4
Relational	4	Remove Item GOR01	Cross loading with Mastery	3
Ability	4	No change	Adequate measure	4
Instruction	8	Combine scales (Efficacy) and select items with higher factor loadings	High correlation between two subscales, shared error covariances	6
Engagement	8			
Needs	4	Combine scales (Beliefs) and select items with higher factor loadings	High correlation between two subscales, shared error covariances	6
Support	4			
Gifted Identity	4	No change		4
Teacher Identity	5	Remove Item IDTI02	Poor factor loading <.3	4
Work with youth	3	Compute total score. Remove items with more than 20% missing data.	Compute average total score for the scale as it is the outcome variable.	1
Intrinsic Value	3			
Satisfaction	3			
Social Influence	3			
Social Utility	7			
Utility Value	3			

Note: 67 items were reduced and parceled to 31 indicators.

Because the normality and homoscedasticity assumptions were not met, I used SEM maximum likelihood with robust estimation of standard errors. This method is robust to violation of assumptions of normality and homoscedasticity and allowed me to run the base model, obtain model fit indices, and modification indices. The base model yield poor model fit: $\chi 2$ (446, n = 236) = 1168.202, p <.001, *GFI* = .68, *CFI* = .77, *TLI* = .75, *RMSEA* = .103. Therefore, I estimated modification indices to improve model fit based on modifications that were theoretically sound. For example, in the first round of modifications, I only estimated covariance errors across indicators of the same construct. Correlating error variances is justifiable when the indicators share similar wording. For example, two indicators from the beliefs scale ("To progress, society must develop talents of gifted children" and “Gifted children are valuable for society."). After five iterative modifications I achieved acceptable model fit using the Sattorra-Bentler Correction. $\chi 2$ (433, n = 236) = 807.083, p < .001, *CFI* = .85, *TLI* = .83, *RMSEA* = .077. The SB Correction is robust to non-normality and aids in minimizing standard error for parameter estimates. Table 27 shows the summary of the model modification process.

Table 27. Model Modification Process

Modification	X^2	DF	RMSEA	GFI	TLI	CFI
1. Base Model	1168.20	446	.103	.67	.75	.77
2. Correlated errors Beliefs	1133.855	443	.101	.69	.75	.78
3. Correlated error Efficacy Beliefs	1091.467	439	.098	.70	.77	.79
4. Correlated error Teacher Identity	1062.003	436	.096	.71	.77	.80
5. Correlated error Goals Covariance relational and Mastery	1011.064	432	.095	.72	.79	.81
6. Remove nonsignificant bidirectional links between latent variables	989.490	433	.091	.73	.80	.82
Final model Satorra-Bentler Estimates	807.083	433	.077	NA	.83	.85

After fitting the model, I examined the standardized coefficients in the structural model (See Table 28). These coefficients showed the relationship among latent variables and whether the model supported the proposed hypotheses. Hypothesis one was not supported, the association between teacher efficacy and positive beliefs was non-significant and removed from the model in step five. There was support for hypothesis two via the effect of performance goals ($\beta = .12$, $p < .05$) and mastery goals ($\beta = .24$, $p < .01$) on positive beliefs. Hypothesis three was partially confirmed; there was a strong effect of mastery goals ($\beta = .98$, $p < .01$) and relational goals ($\beta = .60$, $p < .01$) on teacher's beliefs. However, the association between gifted identity and teacher identity was not supported. Hypothesis four was supported. There was a significant effect of

teacher identity on positive beliefs about learners with gifts and talents (β = .29, p < .01). Surprisingly, there was a strong negative association between teacher efficacy and teacher identity (β = -1.07, p < .01), meaning that at one standard deviation units increase in the mean score of teacher efficacy, there is a reduction of 1.07 standard deviation units in teacher identity mean scores. Additionally, there was a strong effect of gifted identity on performance approach goals (β = .42, p<.01).

Table 28. Structural Model: Standardized Coefficients

Standardized	β	SE	Z	P > z	CI [95%]	
Beliefs						
Teacher Identity*	0.294	0.101	2.910	0.004	0.096	0.492
Performance*	0.122	0.057	2.120	0.034	0.009	0.234
Mastery*	0.240	0.093	2.590	0.009	0.059	0.422
Relational	0.104	0.088	1.180	0.238	-0.069	0.276
Teacher Identity						
Efficacy*	-1.026	0.249	-4.120	0.000	-1.514	-0.539
Mastery*	0.984	0.153	6.430	0.000	0.684	1.284
Relational*	0.596	0.145	4.100	0.000	0.311	0.881
Performance						
Gifted*	0.418	0.059	7.030	0.000	0.302	0.535
Efficacy						
Teacher*	0.924	0.284	3.250	0.001	0.367	1.480
Performance*	0.273*	0.083	3.290	0.001	0.110	0.436
Mastery	0.097	0.196	0.500	0.620	-0.287	0.482
Gifted	-0.460	0.107	-4.280	0.000	-0.670	-0.249

Note. Robust standard errors estimated with Satorra-Bentler correction.

The main hypothesis of this study was the relationship of motivation, identity, beliefs with a person's desire to teach gifted and talented learners. Based on standardized coefficients, three

variables influenced desire to teach scores: teacher identity (β = .36 , $p < .01$), teacher efficacy (β = .73, $p < .001$), and relational goals (β = -.21, $p < .05$). A detailed list of the standardized regression estimates is presented in Table 29. The graphical representation of the fitted exploratory model is presented in Figure 6.

Table 29. Desire to Teach Gifted Learners Predicted by Variables of Interest

Standardized	β	SE	z	P>z	CI [95%]	
Desire to teach GT						
Beliefs	0.001	0.062	0.020	0.985	-0.120	0.122
Teacher Identity	0.362	0.084	4.320	0.000	0.198	0.526
Efficacy	0.732	0.104	7.000	0.000	0.527	0.937
Mastery	-0.146	0.104	-1.410	0.159	-0.349	0.057
Relational	-0.214	0.094	-2.280	0.022	-0.398	-0.030
_cons	8.448	0.468	18.060	0.000	7.531	9.365

Note. Robust standard errors estimated with Satorra-Bentler correction

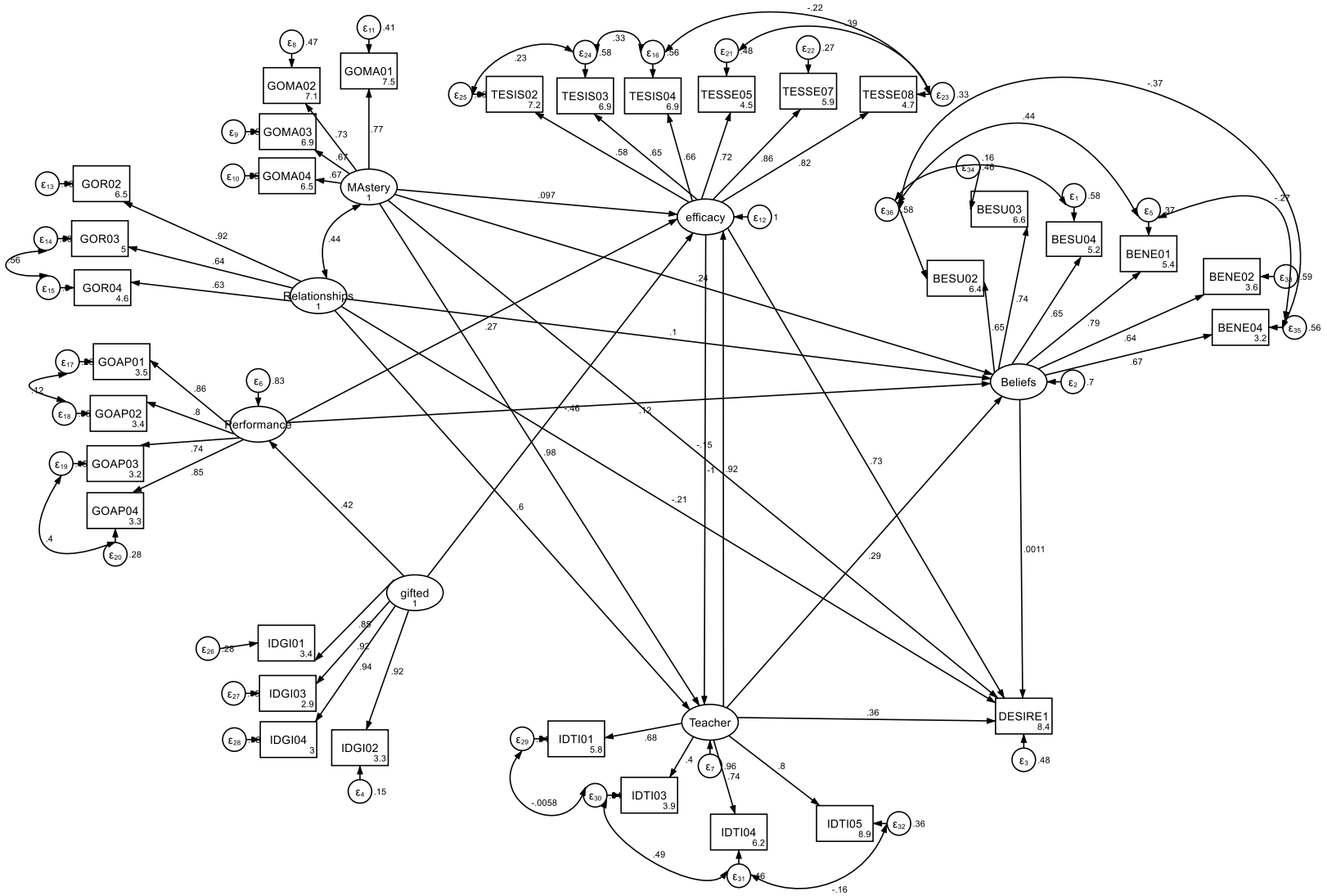

Figure 6. Model with Estimated Parameters and Standardized Regression Coefficients

RQ3. Perceptions and Experiences Influencing Participants Motivation, Beliefs, Identity, and Desire to Teach

Open-ended responses

The first step in the thematic analysis was to read and code the responses to the open-ended questions. There were five optional questions related to each construct of the questionnaire. I classified the survey participant responses as cases in Nvivo, which allowed me to make comparisons across groups and maintain the attributes of the sample. I included the following attributes: group (Preservice v. inservice), gender, age range, training level, and experience. From the 236 total participants, 98 participants answered all the open-ended questions. They were distributed as follows: 37 preservice teachers: 91% female, 62% ages 21-24, 72% had learned about gifted education in their undergraduate classes. There were 61 inservice teachers: 77% female, 86% with training in gifted education, years of experience (M = 9, SD = 7, Min = 1 Max = 37).

I used open coding to code about 30% of the open-ended responses. I use portions of recurrent responses to draw the first codes. Then I met with the second researcher to revise the codes and decided on the coding scheme for the remaining data. We reduced the original codes from 67 to 26 codes. This coding was used to code the remaining 70% of the data and the interviews. Table 30 shows the aggregate selective coding and the percentage of references by group of participants per each open-ended question.

Table 30. Themes and Selective Codes: Open-ended Questions

Selective Coding	Preservice Teachers	Inservice Teachers	Total
What is the role of gifted and talented education?			
Appropriate education	8	49	57
Support development of gifted children	8	66	74
Social value of gifted children	2	11	13
What determined your desire to teach learners with gifts and talents?			
Advocacy	1	22	23
Chance and opportunity	-	9	9
Help students adjust in society	1	3	4
Intrinsic value (Enjoy working with talented students)	6	18	24
Knew someone who was gifted	1	4	5
Parenting Gifted Kids	2	10	12
Understanding the complex nature of giftedness	-	9	9
What makes you feel competent as a teacher of learners with gifts and talents?			
Prior experiences	-	9	9
Promote challenge	-	21	21
Promote engagement and motivation	3	39	42
Promote higher order thinking	1	7	8
Promote meaningful learning for the students	1	5	6
Promote talent based on interests	-	11	11
Respect for individual differences	1	11	12
Teaching quality	7	11	18
How do you define yourself as a teacher of gifted learners?			
Gifted identity	5	29	34
Always wanted to be a teacher	25	66	91
Multiple characteristics	1	25	26
The teacher I didn't have	-	18	18
What impressions do you want your students and colleagues to have about you as a teacher?			
Knowledgeable, creative, and smart	6	8	14
Love of learning, self-improvement	12	39	51
Caring supportive	7	45	52
Total references	98	546	644

After aggregating the codes, I merged redundant and overlapping codes. Then I classified the main themes in five categories: (a) Positive beliefs: gifted education supports children with special learning needs, (b) I am competent because of my own experience and professional development, (c) Teaching identity fueled by self-perceptions of giftedness and experiences in school, (d) A successful teacher builds caring relationships, love of learning and will for self-improvement s, and (e) Teaching learners with gifts and talents was a stimulating and challenging experience.

Preservice and Inservice Teacher Interviews

Coding Scheme. To facilitate the analysis of the interviews, I used the same coding scheme derived from the open-ended codes as the starting coding guide. I coded all interviews using the preexisting codes and added new codes as needed. Then, I used NVivo profile analysis to cluster codes based on word similarities and content coded. This process helped me reduce and group the codes in meaningful clusters. I met with the second researcher to review the interview coding clusters. Together, we derived four main themes from the coding clusters: (a) From being a gifted child to teaching gifted learners, (b) Balance between beliefs and knowledge (c) Becoming the teacher I never had, and (d) recommendations for undergraduate and professional development programs. I developed these three themes to display how participants construed their identity as individuals with gifts and talents and gifted education practitioners. Table 31 presents the synthesis of qualitative themes and the relationships of constructs of identity, beliefs, and motivation, translated into participants desire to become teachers in general and educators of gifted children in particular.

Table 31. Integration of Qualitative Themes

Main Theme	Interview Themes	Open-Ended Question Subthemes	Preservice Teachers	Inservice Teachers	References
Adaptive conjunction of motivation, identity, and positive beliefs in teachers who desire to serve learners with gifts and talents	From being a gifted child to teaching gifted learners	Teaching identity fueled by self-perceptions of giftedness and experiences in school	31 (25)	106 (52)	137 (77)
			6 (4)*	12 (6)*	18 (10)*
	Balance between beliefs and knowledge	Positive beliefs: gifted education supports children with special learning needs	10 (37)	72 (61)	82 (98)
			4 (4)*	17 (6)*	21 (10)*
		Teaching learners with gifts and talents is a stimulating and challenging experience.	13 (11)	71 (49)	84 (60)
	Becoming the teacher I never had	I am competent because of my own experience and professional development	12 (10)	90 (51)	102 (60)
		A successful teacher builds caring relationships, love of learning and will for self-improvement	24 (21)	83 (47)	107 (68)
			11 (4)*	30 (6)*	41 (10)*
	Recommendations		4 (4)*	10 (6)*	14 (10)*
Total references			115	491	606

Note. Numbers in parenthesis indicate number of participants per theme.
*References from interviews

Qualitative Themes

Theme 1. From being a gifted child to teaching gifted learners.

Identity was the foundation for participants to develop beliefs about gifted education and learners with gifts and talents. Influenced by their identity and personal experiences participants made the decision to pursue a career in gifted education.

Teaching identity was fueled by self-perceptions of giftedness and experiences in school. When discussing the defining aspects of their teacher identity, participants self-categorized as teachers with multiple roles the classroom. Inservice and preservice teachers used words such as learner, guide, facilitator, instructor, helper, and motivator to describe themselves. These roles were related to participants perception of learners being highly talented, having potential, but needing support and direction. One participant addressed their role with a metaphor:

> I am more like their Sherpa - laying the ropes to scaffold their climb to the top of their Everest. I carry all the heavy equipment (administrative duties, curriculum, all the other stuff that we teachers juggle). I want them to reach their summit and enjoy the adventure! (Inservice teacher 7, 11 years of experience)

When speaking about the personal characteristics and qualities that defined them as teachers, preservice teachers described themselves as hard working, good communicators, intelligent, compassionate, amiable, and "willing to approach subject matter and questions from many directions, letting students lead" (Preservice teacher 6, senior). Inservice teachers defined themselves as caring, dedicated, knowledgeable, challenging, mastery-oriented, curious, and dynamic who can "instill in them [learners] the willingness to work hard and foster self-advocacy and to expand their view of the world (Inservice teacher 9, 5 years of experience).

Both groups of participants highlighted their identity as gifted learners as a factor that influenced their identity and motivation as teachers as exemplified in the following quotes: **"**As a

gifted student myself, and now as a parent of gifted students, I understand that gifted learners learn differently (not necessarily better or more effectively) and I'm comfortable navigating that." (Preservice teacher 11, senior). Another participant commented: "As a teacher of gifted learners who knows what it is like to be gifted and who did not have the best experience of schooling but who desires to ensure that his students do not encounter the same." (Inservice teacher 16, 2 years of experience).

The ten interview participants agreed that being a teacher of gifted and talented learners has been close to their identities and experiences. Identity development played an important role in informing participants' views about gifted education and teaching. Seven participants self-identified as gifted and talented learners. David, Mara, Marie, Hannah, Matilda, Samantha, and Elena were part of gifted programs through their K-12 education. Katie, Daniel, and Adriana were not identified as gifted due to the fact that their schools did not have identification polices or services when they were in the K-12 system, however, the three inservice teachers spoke of how they could have been gifted students. Katie expressed "I struggled with calling myself gifted, but as I went through the master's program, things about my childhood began to make sense. I think I probably would have been placed in a program if there had been one." Andrea added "I'm from Mexico, we didn't have gifted programs there, …but I was a weird kid. I was grade-skipped in 3rd grade to 4th grade." Daniel also added "I was certainly an 'undiagnosed' gifted child who had also had unsatisfying school experiences in the general classroom."

Participants spoke of the connection between their gifted identity and their career choice. This connection was direct for participants who thought of teaching as a first choice and indirect for those who did not choose teaching initially. Two preservice teachers (Matilda and Hannah), and three inservice teachers, Katie, Mara, and David chose teaching as their first choice due to

intrinsic interest in teaching and supporting the development of youth with gifts and talents. Matilda explained her motivation "I was in my school's gifted education program as a child, so I am very interested in being involved in a gifted program as a teacher." Katie went into gifted education because her children's needs were not being met in the regular classroom:

> I had been teaching before my kids were born. I was teaching preschool and kindergarten, so I knew what kids who were starting schools should be doing. I knew my kids were already doing that. So yeah, I think that's what helped me advocate for them and join the masters in gifted education.

Mara was enrolled in gifted programs in K-12 and in college was part of the honors program. She found her call when her local school district was defunded. Understanding the needs of the students, she and the districts' gifted coordinator created a mentoring program for schools gifted students. She explained why she became interested in teaching gifted learners:

> They [gifted children] need someone who understands them. Who lets them know that it's OK to be a little bit of an odd duck, that our world needs people who are different and have unique abilities. A couple of us also applied to present at the state gifted conference about our mentor program and so that was got my toes dipped into gifted education from the teacher's side.

David was identified as gifted when he was in fourth grade and saw his school experiences change after joining the gifted program. This influenced how he understands gifted and talented learners need for academic challenge:

> I was in a gifted and talented class in grades four and five and it was extremely formative for me. I wasn't really being challenged in kindergarten through third grade, and then when I went to the gifted program, it was eye opening. In my first report card I had a lot of areas to improve, and I was never told that before. A lot of people in education don't appreciate or like the population of students that are advanced or gifted or whatever you want to call it, whereas as a as an adult and as a professional, I think that I'm most effective in working with gifted students because I feel like I relate to them.

Hannah shared similar experiences. Prior to engaging in gifted classes, she felt bored and underchallenged

> I picked up on things super quickly so as soon as the teacher would say something, I'd be like yeah, whatever, and I'd get in trouble because I'd start talking to my neighbors. It is ironic now that I am a teacher, but that made me think about the students who are gifted like how they would feel in the room. That got me interested in gifted and special education.

Elena, Andrea, Daniel, Marie, and Samantha did not choose teaching as their first choice. These participants shared accounts on how their multiple talents and interests led them to confusion while deciding on a college major. However, life experiences and chance drove them back to education. Elena picked engineering, Andrea pursued a degree in law, Samantha had a career in environmental science, Daniel was a sociologist, and Marie changed majors five times before landing in education. Entering education and specifically gifted education started years of self-understanding and meaningful relationships with their learners. Marie explained "there were a lot of revelations about myself as a learner. I'm able to use a lot of that to connect to my students once I ended up teaching in gifted education." Elena shared a similar story:

> I actually found the gifted and talented master's program which led me to leave engineering and become an education major. I realized I'm really interested in gifted and talented education because I was a gifted and talented student and so, I know what it's like to be one of those kids.

After losing her job as an environmental scientist, Samantha found a teaching opportunity in which she felt competent using science to encourage students' critical and thinking. She also added how teachers who have been identified as gifted can support the development of learners with gifts and talents:

> I really enjoyed the challenge of the teaching. I was identified as gifted in early elementary schools, so I've been through a gifted program myself. I have my personal experience to reflect on how education systems worked for me. I think it's possible for a gifted teacher to be more empathetic toward gifted students, and I think it's likely that gifted teachers will be better at delivering the social, social, emotional development portion of that education.

Andrea quit law after the first year and found a job as a teacher aid. Enjoying the experience, she obtained a degree in bilingual education, an MBA, and then a master's in Education with emphasis in cognitive development. Andrea speaks five languages and has an IQ of 120 points. After 28 years of teaching in the general education classroom and international schools, she moved to Texas and joined a gifted program where she found her "niche" with students who often remind her about her school years. She said:

> For me it's amazing just to see this growth in students whenever they discover something. They go "Yay, I got it." I understand that and get them excited. I truly believe that I cannot make anybody do anything, but I can encourage them, be there for them when they do all the amazing things that they are capable of doing.

Finally, Daniel contemplated his transition from sociology to education. After months of unemployment, he applied for a teaching position in a rural school that did not require teaching qualifications. After 20 years of changing schools, he had a temporary contract working with gifted kids and found that it was suitable for him as it helped him understand his experience and his family's giftedness. After that he sought formal training in gifted education, independent study, and even started a doctoral program in gifted education. He explained how experiences and his identity combined to construct his teaching identity:

> I have two gifted sons who were not able to get into gifted programs and could see all the frustrations that were happening for them. I was never tested. My wife was never tested, but it's pretty clear to me that both of us were underserved, unidentified. So, a mix of personal, academic, and practical experiences got me into gifted education. Those practical life experiences helped me understand what's happening with gifted kids. Looking back when you hear somebody say "this is

> boring, or I already know this" and I already heard that from my own kids. Or like me, I didn't like school when I was a student. And it was for the same reasons "Why am I doing this? This is boring. This is terrible." So, then you start to look how else can I challenge the student? What does it mean to be challenged?

Theme 2. Developing a balance between knowledge and beliefs.

The second theme encompassed codes about knowledge and beliefs about characteristics of gifted and talented learners. Although participants had in general positive views about gifted education, they were also aware of the necessity to continuously advance their foundational knowledge and skills to teach. Based on their beliefs and expectations, participants saw gifted education a stimulating and challenging field to grow professionally and personally.

Positive beliefs: gifted education supports children with special learning needs. Participants' identity and experiences in school were foundational in their transition to gifted education. The lived experience of gifted individuals who become teachers facilitates their understanding of the characteristics and needs of learners with gifts and talents. However, this is just one aspect of what it takes to teach learners with gifts and talents and is not sufficient to appropriately serve this student population. Katie offered a transition from the formation of identity to the formation of beliefs and knowledge:

> I don't think you need to be gifted to teach gifted. But I do think that you have to have some understanding about giftedness. In a traditional education program, you don't learn that stuff. You have to be open to not knowing and exploring. For example, when my younger son was in middle school, he had a teacher and if he noticed a mistake, like if she was teaching a math lesson and she would make a mistake, he would say "excuse me. I think that this is what the answer is." She would get angry. You don't correct the teacher. The following year, he had a math teacher and he would say excuse me and the guy would go "Oh, you are absolutely right." If he asked a question that the teacher couldn't answer, the teacher wouldn't get mad and say "well, that's not what we're talking about. He would say, well, let's figure that out."

Similarly, in the written responses preservice and inservice teachers discussed their conceptions about the role of gifted education and positive views of gifted children. For these participants, gifted education is an extension of special education with the goal of enhancing the abilities of students who show elevated levels of talent or potential for academic success. Gifted children were described in terms of special needs related to academic challenge and socioemotional adjustment. Forty-nine inservice teachers and eight preservice teachers highlighted "gifted and talented education serve as a special education program for students whose needs are not being met in their general education classroom (Preservice teacher 1, senior)." Participants also mentioned differentiated instruction, specialized curriculum, and teaching strategies that are tailored to students' high intellectual abilities and creativity, as well as their socioemotional development. One inservice teacher indicated "gifted education provides students with acceleration, social emotional guidance, and adequate learning experiences that will challenge them in and out of the classroom" (Inservice teacher 1, 5 years of experience). When asked about the social role of gifted education, most participants supported nurturing individual development and personal growth. One participant wrote:

> I'm not familiar with data showing whether gifted children go on to make contributions to society at higher rates than others, so I typically view my job as meeting the needs of these children, not necessarily serving some larger societal goal (Inservice teacher 2, 16 years of experience)

To contrast, 11 teachers and two preservice teachers did make a connection between gifted education and a greater social purpose, for example, fostering innovation and leadership. One participant wrote:

> Gifted students need to learn tools for critical thinking, creativity, innovation as well as strategies for dealing with their socioemotional differences. This way, they can live satisfying lives using their talents for the good of humanity (Inservice teacher 3, 2 years of experience).

Although participants beliefs about gifted children were highly influenced by their personal experiences and their identity, participants also acquired knowledge throughout their educational experiences and professional development. Except for Samantha, three preservice teachers Hannah, Elena, and Matilda described gifted learners in terms of high abilities and potential in specific subject areas, and who possess high levels of motivation. Elena learned about gifted education in the inclusive classroom course in her undergraduate program. She mentioned how this class only included one chapter about giftedness and intelligence, from which she described gifted learners as students "who quickly finish their work and who would always be engaged in class or love reading." Hannah has engaged with learners with gifts and talents in summer camps and during her student teaching year. Additionally, she has learned about giftedness though training workshops. She added "gifted learners are above their normal peers, but even then, it might only be in areas like math, and they might be lower at reading, they're more curious as well." Matilda has substituted in gifted education classrooms since 2020. She shared a similar account "because a child could be gifted in maybe mathematics but not necessarily in reading or maybe in art." She also argued that lack of interest and behavioral issues can be indicators of giftedness when students are bored with the content. She also showed concern for emotional adjustment of the students. The three preservice teachers are concerned with their limited professional development experiences and understand they need to learn more about gifted education practices to better serve their students. Matilda expressed her discontent with her undergraduate program not including content about gifted learners:

> We have targeted classes for ELLs and students receiving special services. But we don't have anything directly for gifted. We already have so many requirements that we have to make. Maybe out of everything we have to do, they [program administrators] thought that was least important in their eyes, so maybe that's why. Or maybe they thought we wouldn't be encountering gifted students as much, so they focused on other areas. I don't agree with it because I'm really interested in gifted education.

Samantha does not have a teaching license but has experience teaching general elementary education during the last two years. Currently she is a preservice teacher in a science education program teacher and aspires to teach her own gifted classroom. She described herself as an avid reader, which has helped her consume content about gifted and talented learners. Samantha described gifted learners in terms of learning differences and needs:

> In general, they their brains feel different. They're reaching out in different ways. They're approaching problems from a different direction. They're comfortable with approaches that some other students who are not gifted might find uncomfortable. Some gifted students need a lot of support because they feel like they are poor learners because they learn differently. the standard classroom systems don't serve them as well as they do a neurotypical child. Some of them are bored. So, I include giftedness under the special education heading because it's all just a different way of learning. If we're going to serve these children well, we need to have really strong systems in place to do that and come.

Experienced teachers have negotiated their beliefs and knowledge through professional development. Learning differences took a significant place in these teachers' perceptions of gifted learners. Teachers like Marie and Andrea described gifted and talented learners as unique, not fitting in a box, with great academic potential, divergent thinking, and sometimes, behavioral problems. Andrea has taught gifted learners for five years and has endorsement in gifted education, she explained: "Gifted learners are the students that finish everything super-fast or are

daydreaming. There are so many different types of giftedness. Academic intellectual giftedness, it's their curiosity. Sometimes these students get in trouble for the things they say."

Marie has a master's in education and is certified to teach gifted and talented children. She added:

> Giftedness is definitely a spectrum. I'm always kind of noticing those kids who think of things a little bit differently or two steps ahead of their teacher, and we've been able to identify a lot of students that qualify for special education, and it turns out that they are also highly gifted, but their behaviors often will be the first things that teachers are looking at instead of really recognizing the talents.

Inservice teachers such as Mara, David, Katie and, and Daniel explained how their learning and working experiences helped them understand the unique and complex characteristics of gifted children beyond their own conceptions. Mara who has been involved in state and national associations, also has a master's degree in gifted education. For her:

> Giftedness is a learning difference that's markedly different from the norm." Gifted children's learning pace is often faster, deeper, farther than others. They are in tune with the world more deeply, they pick up on and notice things that others may not pick up on and may not notice they can go faster, farther, and deeper than others their age. With gifted kids, there's always a heaping extra dose of all the curiosity and creativity. Since not everybody is that way, at some point they start to realize that there's something different about them.

David has a masters and a doctoral degree in education with certification in gifted education. As he put it, he follows a classical conception:

> I follow the three components of creativity, ability, and task commitment. I think that all three are very important. I also like the notion from Tanenbaum that especially when working with younger students, that is not necessarily that their gifts have to be apparent. They are still kids. So, we are looking at the potential for giftedness.

Katie has a BA in psychology and a masters in gifted education. She was concerned by the limited training general education teachers have about learners with gifts and talents. She

emphasized the necessity of forming relationships with the students and truly getting to know them to identify their talents. She believes giftedness manifests through students' persistence:

> when they're interested, sometimes it could be their lack of interest, when it's something they could not care less about, even though they need to learn. But mostly for me it's the different way they look at stuff. The more I get to know the child, obviously the easier it is. Sometimes it's just the interesting way they look at things. A different perspective that which is just I don't know. They just keep me on my toes. I love that.

Daniel has more than 20 years in gifted education programs and explained how his conception changed over time due to his open-mindedness while interacting with gifted and talented learners. His experience illustrates how self-awareness and mastery orientation help combat common misconceptions and myths:

> I had a poorly formed concept of what that meant. I thought giftedness meant you are really bright, you catch on to things quickly, you know lots of stuff. But once I got into the gifted program and started to see a cohort. The it became much clearer. So, I realized the limitations of focusing on giftedness just in terms of capacity. This definition was missing something important because the focus on capacity often translates into a focus on how we make them achieve. We had kids that were very, very bright but were not achieving. Taking a look at those individual cases that we were dealing with, there were kids who had IQs of 165 but were struggling with other issues. I'm starting to realize giftedness was a much more complex.

These participants are highly motivated professionals who seek for self-actualization through training and professional conferences. Their interest in gifted education pushed them to expand their visions of what it means to be gifted and talented. Such openness and mastery goal orientation translated into seeking the preparation to become better teachers in the stimulating but challenging world of gifted education.

Teaching learners with gifts and talents was a stimulating and challenging experience. Thirteen preservice and forty-one inservice teachers chose a career in teaching motivated by a combination of values and beliefs about education, personal connections to learners with gifts and

talents, and identity motives combined with a desire to improve gifted education via advocacy. Six preservice teachers and eighteen inservice teachers expressed intrinsic value due to their enjoyment of teaching and engaging with learners with gifts and talents. Responses such as "love and passion for education," "joy of teaching," and "teaching was a dreamed job" showed participants interest in teaching this student population. Nine inservice teachers indicated how they had not initially planned to teach gifted learner. However, once given the opportunity to lead a gifted education classroom, they found that teaching learners with gifts and talents was a stimulating and challenging experience. A participant wrote "I enjoyed the challenge of working with children of higher thinking skills and questioning skills" (Inservice teacher 39, 3 years of experience). Another participant shared a similar experience:

> During my undergraduate preservice interning I thought I wanted to teach Title 1. My last semester of interning was in a gifted 3rd/4th combo class that moved right into my spring student teaching. I found my passion. I was hired into the gifted program in my district and 17 years later I'm still in gifted education (Inservice teacher 27, 17 years of experience).

Fourteen inservice and three preservice teachers manifested an interest in gifted education due to personal experiences and close relationships with learners that had been identified as gifted and talented. An inservice teacher wrote:

> A good friend had a profoundly gifted child above 180 IQ, and we kept trying to figure out correct placements for her -- she ended up being homeschooled, and I ended up with a career in gifted education and with working with homeschoolers on the side for the past 37 years. (Inservice teacher 33, 37 years of experience)

From this subgroup, ten inservice teachers and two preservice teachers were also parents of children with gifts and talents. They engaged in gifted education to support their beloved ones. A preservice teacher wrote "I have a gifted son and husband, I want to support their hopes and dreams" (Preservice teacher 23, senior). An inservice teacher added: "Gifted education is my

passion. I understand these kids from a parent perspective, I have two gifted kids" (Inservice teacher 43, 8 years of experience). Another inservice teacher elaborated on the challenges that children with gifts and talents face in the general classroom:

> I was a gifted student, but it wasn't until I became the parent of a gifted student that I began thinking about teaching gifted students. Watching his academic needs NOT being met led to a lot of reading on the topic and frustration with his teachers, so I decided that I should get my degree in gifted education to be able to help kids like him. (Inservice teacher 51, 4 years of experience).

The main reason for teachers to choose gifted education was related to their identity and personal experiences. The pursuit of a professional career in gifted education was seen as a good fit for their talents and characteristics. A participant explained how their identity helped them understand and serve other learners with gifts and talents

> I was a GT kid all the way back to kindergarten. These are my people. I know them. I went to school with them. I am them. I know their challenges and their strengths. I can help them in ways a non GT teacher couldn't. (Inservice teacher 52, 12 years of experience)

Teachers were concerned on how general education may neglect the learning needs of students who qualify for gifted and talented education services. A sentiment of inconformity led them to pursue professional development and attempt to do gifted education the "right way" while advocating for adequate services for learners with gifts and talents. A participant wrote their reason to go into a gifted education certificate program "realizing how poorly trained we educators are to meet their needs" (Inservice, 17 years). A preservice teacher wrote "it is an area that I feel a lot of school systems and teachers lack knowledge in, even though it should be just as widespread as any other special education service" (Preservice, senior).

A heightened sense of advocacy stemmed from inconformity with general education and poorly implemented gifted education programs. Twenty-five inservice and two preservice chose

their profession to combat social injustices related to misconceptions and structural problems in gifted education. These participants went into education to serve a population of students that "are highly misunderstood, underserved, and always misrepresented" (Inservice teacher 16, 3 years). One participant with 16 years of experience described gifted education as a "broken system" that neglects "special populations of gifted learners: Twice-exceptional (2e) and English Language Learners (ELL)." Other participants showed concern about how misconceptions about gifted education can hurt the already limited opportunities learners with gifts and talents have: "The push right now in New York City to cancel gifted programs as being "racist" makes me want to fight to keep it" (Inservice teacher 60, 2 years of experience). One participant expanded on the consequences of misunderstanding learners with gifts and talents:

> I grew up in a GT program in a large school district. I saw my GT peers grow up in families that were focused on perfectionism and being the best all the time. At times, it could be very unhealthy. I also saw deficiencies in the GT education programs, specifically in identification and retention of twice exceptional students and highly creative students. My goal is to create new environments for gifted and talented students that support whole-child development. (Inservice teacher 55, 1 year of experience)

Theme 3. Becoming the teacher I never had.

The third theme was a collection of codes related to teacher's efficacy beliefs and perceptions of the role of gifted education and caring gifted teachers.

I am competent because of my own experience and professional development. Preservice and inservice teachers conceptualized their efficacy and competence as confidence and ability to recognize and understand the students' needs and support student's development via meaningful relationships. Needs were broadly contextualized in terms of academic needs for challenge, meaningful learning, motivation to learn, and socioemotional adjustment. Support for development was defined as teachers' planned accommodations to nurture students' academic

abilities via instruction and engagement, and to promote healthy social and affective dynamics inside and outside of the classroom. Furthermore, teachers understood the role of gifted education to prioritize learners' wellbeing, instead of learners' contributions to society.

Participants wrote multiple examples of what makes them feel competent as teachers for learners with gifts and talents. Sources of efficacy varied for inservice and preservice teachers. Inservice teachers' efficacy was based on qualifications and training, as well as prior learning and teaching experiences. Overall, the 61 teachers had between 1 and 37 years of experience teaching learners with gifts and talents. Fifty-four teachers had certifications or endorsement in gifted education, and 21 participants had graduate degrees in gifted education. One teacher wrote:

> My entire career has been working with gifted students in a self-contained setting. I've spent years learning as much as I can about the unique social emotional and academic needs of my unique student population. I teach children, not curriculum. I believe in student voice and choice and have created a learner centered community. I am comfortable innovating inside the box and I'm not afraid to try new things and take risks (Inservice teacher 4, 17 years of experience)

Preservice teachers, however, focused on their confidence in promoting student motivation, meaningful learning, and understanding students' individual needs based on their personal experiences as gifted students. One participant expressed how their self-awareness helped them understand their students "I was a gifted learner, and I know what my school program lacked, and I can bring that and provide my students with experience." (Preservice teacher 5, senior).

Both groups shared quality of instruction as an area of competence, indicating aspects such as "providing high quality instruction in engaging ways that will facilitate the student's understanding of the skills/concepts" (Inservice teacher 6, 20 years), "the quality of curriculum created" (Preservice teacher 3, senior), and "by planning and implementing evidence based

instructional strategies to engage students and excel in learning" (Inservice teacher 7, 11 years of experience).

For interview participants, teacher efficacy beliefs had a connection with teachers' mastery and relational goals. Over time, teachers sought to increase their knowledge and skills via training and learning from their past experiences and interactions with students. This mastery orientation was demonstrated through open-mindedness, positive attitude towards challenges, and growth mindset. All preservice teachers expressed their confidence in their ability to teach and support students but were cautious of being overconfident and not humble. Daniel offered a deep and thorough reflection of his efficacy beliefs:

> I believe that competence is a dynamic balance of a variety of factors which include personal characteristics, acquired skills, and contextual variables. I may be more competent in some circumstances than in others. For example, I would do better in an institution guided by a broad definition of giftedness than one which was guided by the belief that giftedness should be focused on achievement. Competence means admitting my own limitations but expecting myself to push those boundaries in the interests of becoming a better teacher. Every gifted student I taught helped me to become a better teacher because they broadened the range of experiences that I brought to understanding new students. Over the years, I developed strong teaching skills, especially in my ability to personalize instruction and to assess learning. I became quite knowledgeable about the nature of giftedness and even began doctoral studies in the field. I learned to apply the concept of Vygotsky's zone of proximal development quite effectively in the context of regular curriculum, trying my hardest to place authentic challenges in front of my students. Why would I want them to do what we both knew they could already do... it is in playing at the edge that learning really takes place.

Marie, Andrea, Mara, and Katie expressed confidence in their ability to challenge and motivate the students to learn. These teachers saw optimal challenge as a critical step to advance and foster students' talent beyond the classroom. In this sense, the goal of teaching is twofold, scaffold students' learning via optimal challenge and promote motivation concepts of interests, mastery, and growth mindset. Mara elaborated:

> I feel competent as a teacher of gifted students when I hear them say, "This is hard!" When they let me know something is challenging and when I see them increase their ability to apply themselves to a challenge. I know that I have been successful as a teacher of the gifted. There are many other areas, too... Seeing them "find their passion," seeing them go out into the world after graduation and take on grand intellectual and academic and creative adventures, and simply hearing from them what a difference my class made in their lives.

Although competence was an important attribute in these teachers' development, participants felt humility was necessary to relate to the students and help them develop their own growth mindset and mastery orientation. Five participants highlighted that humility and willingness to learn from mistakes was essential to support their students. Marie explained "you have to let go over your ego, and you have to be confident in yourself and what you do know and comfortable with what you don't know when you work with them." Katie added "I own my mistakes and what I don't know." Preservice teachers Hannah and Matilda focused on fostering an environment where making mistakes is okay and welcome. Samantha mentioned that "embracing mistakes are an opportunity to grow and key to promote student perseverance." Hannah added "I've made it very clear to my students that I am not perfect and there are even times that I make mistakes on purpose to show them it's okay to learn from your mistakes." Matilda expanded on her strategies to engage students in critical thinking when she does not know a topic:

> That happens all the time. Kids ask crazy things and if I don't know I say I don't know. I would also go further telling them "What can we do to find the answer? Whether that's look it up in a book, look it up on a reliable source, on the Internet, ask an expert. Ask someone else. Let's kind of research it together and have that as a little project for the class.

A successful teacher builds caring relationships, love of learning and will for self-improvement. Along with self-efficacy beliefs**,** teachers' goal orientations guide teachers to create a sense of success and to create reasons to engage in teaching as an activity. Participants' goal orientations were divided into three categories: mastery, relational, and performance orientations.

Inservice teachers had more occurrences of relational goals (45 references) than mastery goals (39 references), and performance approach (8 references). Preservice teachers showed more occurrences of mastery goals (12 references) than relational goals (7 references) and performance approach (6 references). Participants with mastery goals conceptualized their success as developing effective methods and materials to teach gifted and talented learners, enhancing their teaching skills to help their students learn and advance their talents, and promoting love of learning, acceptance of mistakes, and student feedback. One teacher indicated "I feel successful and excited about sharing knowledge with them so that they can learn and enjoy learning new things even if they are difficult" (Inservice teacher 15, 8 years of experience), another teacher mentioned "I want to inspire them to have the same love for learning as I do" (Inservice teacher 13, 9 years of experience). A preservice teacher added "My classroom is safe to fail... my students are prepared for the next level... they grow as a learner" (Preservice teacher 7, senior).

Participants who developed relational goals mentioned the importance of forming relationships and trust with their learners. These preservice and inservice teachers experience success and are motivated by interacting with their students and showing them that they profoundly care for their wellbeing and learning. A preservice teacher said, "I want to be a teacher that is seen as caring about all student even the ones some teachers don't like." An inservice teacher extended their caring goal to the general education classroom teachers "I care about gifted students and their needs and that I'm available to help general education teachers meet the needs of the gifted students" (Inservice teacher 23, 3 years of experience). Confirming the strong relationship between mastery and relational goals, one teacher mentioned:

> I want my students to know that I care about them as people. Their education is important, but so is being a terrific human. I want them to watch me make mistakes and learn from them. I want my colleagues to know that I am dedicated and have never stopped working to be a better teacher. I want them to know that I support them. (Inservice teacher 19, 4 years of experience).

Participants with ability goal orientations feel successful when others praise the because of their achievements and qualities. Performance oriented teachers are highly competitive and seek for recognition from peers and students. Preservice and inservice teachers with this goal orientation felt successful when others express admiration for their intelligence, knowledge, and teaching skills. A teacher wrote "I want to be seen as confident in my knowledge and skilled at my delivery. I want my students to enjoy their time with me and walk away feeling perplexed sometimes" (Inservice teacher 41, 3 years of experience). A preservice teacher indicated "I want others to know that I am a capable, intelligent and a good teacher" (Preservice teacher 24, junior). One teacher also expressed their ability goal orientation making emphasis on their perception of giftedness as superior academic potential:

> I am successful because I'm smart and that I challenge students. I'm good at my content. I teach students who were identified to have superior potential academically. That is the population for which I'm the best fit. (Inservice teacher 38, 8 years of experience).

Mastery and relational goal orientations were crucial for participants to seek for joy and professional growth in teaching. From this notion, I identified a subtheme that connects goal orientations with the decision to choose a demanding and rewarding career. Interview participants agreed on their role as facilitators of academic and talent development but called special attention to the socioemotional wellbeing of learners with gifts and talents. Katie explained "to really meet their needs, I do think you need to put the social-emotional into the classroom.

That's got to be there." Marie talked about students underachieving due to socioemotional causes, to which teachers must be able to understand and address:

> Teachers need to identify what is blocking the students. It could be social emotional concerns. It could be their own ideas of success and fear to fail. Clear up whatever is going on…if we do push kids where they're going to hit a point of frustration. I just tell them that's my job. We have to have that kind of conversation and create a culture in our classroom where we are going to hit a point of struggle. But I think the most important piece is identifying what that struggle is, whether it's motivation or a social, emotional piece and then help them.

Andrea elaborated on how responding to students' social emotional needs is a sign of respect and a way to build trust:

> GT students that are that are emotionally stressed, or they have disabilities. For instance, I have GT with autism. So, balancing those two is quite a challenge. I have a conversation with these kids. I look at them in the eye and say I respect you. We're going to work. We're going to learn; we're going to grow. Obviously, I don't want to change anything about you because I respect you.

Matilda spoke of support of the social adjustment of learners with gifts and talents. Based on her own experience, she rejects the misconception of giftedness as being better than other student populations. She pointed out that the label carries implications for the adjustment of the students to social settings:

> Growing up as a gifted student can feel alienating, and as teachers, you don't want that to happen, you don't want them to be alienated from the other kids. I went through it myself. They think they're the smartest and that makes them the leaders of the school. I think they'll have a lot of social issues like fitting into social contexts and making friends if they have that mindset. So I want them to learn to be humble. Everyone has their talents. Everyone has the things that they are really good at, and everyone has things that they're not so good at.

Interview participants discussed the role of gifted education and implications for society. All the participants agreed that the main goal of gifted education was to meet the individual needs of each learner and provide opportunities for students' success. Hannah, Elena, and Samantha saw

gifted education as an intervention to help students. Samantha shared her view "gifted students often feel disconnected, and they can carry that forever if we don't give them the tools to use their giftedness. Both SEL and in-depth subject exploration need to be happening." Katie added "The role of gifted education is to provide an educational experience appropriate to the needs of the gifted individual." Andrea concurred saying "we provide students with acceleration, social emotional guidance, and adequate learning experiences that will challenge them in and out of the classroom." Marie explained how she sees gifted education as a question of rights: "it's their right to free and appropriate education. All students actually have that right and need to be challenged. I use the example of special Ed law with people trying to understand and express the necessity of gifted programs." Daniel expressed his concern with the current role of gifted education and whether it is "really" planned to serve students special needs:

> What is the role or what should the role be? What I currently see is a slide toward seeing gifted education as talent development. Talk about social-emotional needs seems to be relegated far too often to a concern about how these impact the students' abilities to achieve. What gifted education should be is much broader.... it should be about helping these students with qualitatively different relationships with the world to develop as fully as they can. It's about providing the holistic supports they need to develop into the beings that they can become.

Only David mentioned students' potential to make contributions to society. David said "gifted and talented learners need to develop their talents to solve the problems of tomorrow." However, other participants shared strong views about societal expectations, reminding me that the role of gifted education as part of special education is to meet the individual needs of each student. For example, Marie elaborated:

> I think that all kids have the potential to do world changing things when they grow up, not just our gifted population. I think sometimes we put it a little much to pressure out on them, but I think really encouraging them in whatever field they choose to be in is best for them and best for them. I think it's especially beneficial

> and students are able to hone into an area of interest and are given that choice and that freedom to be able to make choices about not only what they're learning about, but how they do it, how they show what they know so that they can go further.

Mara agreed with this vision, and expressed that gifted education is about "today's child and today's needs" adding:

> I think that they should be inspired to Excel in whatever field they want to be in. My role is finding and challenging and meeting the needs of today's kid. Whatever they do with that, whatever they do with their talent, that's their decision. That's the kids' choice. The kid gets to decide what he's going to do with his talent, which area he's going to pursue. That's not my role. My role is meeting their needs today.

To exemplify her view, Mara spoke of students who are underachievers. She realized that overemphasizing academic and social expectations can hurt student's development: "underachieving gifted kids need an opportunity to find and pursue their own passion, their own interests." Mara uses her talents to write grant projects and support students interest explorations. She added "I tell them it has to be legal. It has to be appropriate to school. It has to have academic value. Beyond that, the sky's the limit." She recalls one of her students' journey through gifted education:

> I've had students who told me that had it not been for that opportunity, that they would have dropped out. One student in 8th grade decided she wanted to learn about mushing dog sledding. We used the grant money to buy a kit where she built the sled and she found a local musher who kind of mentored her. She used her 4H money to buy some more dogs. She started competing in races. She did some breeding with her dogs to add to her team. As part of her project in my class, she went to Alaska and competed in the junior Iditarod. She's now in college, studying wildlife biology and still competing in dog sledding.

Mara's story was a powerful message to gifted educators. Her student today is remarkable and makes important contributions to society. She excelled not because this was an intended goal, but because she received the support that she needed to develop her potential. I named this theme "Becoming the teacher I never had" because participants shared and expressed their inconformity

with the current state of gifted education. Participants are constantly engaged with the k-12 system. Through their personal trajectories and their students experiences, participants are aware of the problems in the field of gifted education. The teacher I never had is a teacher like Mara, Daniel, David, Katie, Andrea, and Marie with high levels of efficacy, commitment, and sense of justice**.** The teacher I never had is predicted in the potential of preservice teachers like Matilda, Hannah, Samantha, and Elena, who are willing to walk the extra mile to nurture and support their learners.

Recommendations

Recommendations for undergraduate programs. The last theme I developed from participants interview was related to aspects that need urgent attention in teacher education programs. Preservice and inservice teachers shared the recommendations to better prepare teachers who may encounter learners with gifts and talents in the general classroom, or teachers who have an interest in gifted education. This theme was informed by participants experiences in general education college programs and gives account of foundational topics that would benefit any student population.

Preservice teachers reflected about the lack of access to content related to the populations of learners with gifts and talents and opportunities to interact with them. Hannah, Elena, and Matilda explained their frustration with the limited content they learned in their majors. Hannah expressed disappointment as professors undermined students with gifts and talents:

> In classes we didn't really dive too deep into gifted Ed. just because it is a smaller population is what our professors always told us." I think if there was one course to be added to our list of classes as undergrad it would be complete and total gifted education course: how to identify them how to read the data, how to advance stuff for them. This is something I've really struggled with and had to do my own research for, so that would have been extremely helpful in college.

Elena explained how the lack of training represents more challenges for starting teachers who might be left with limited knowledge to support their students:

> I wish there were more classes and field experiences to meet and understand gifted children. So, by the time I get to student teaching my last semester, I'm not thrown into the deep end without having learn to swim. I also wish I had learned how to teach students who are bored in class, whether it be because they're not feeling challenged or because they already know it.

Matilda also spoke of the importance of including curriculum and instructional strategies:

> I would like to learn more about curriculum and resources. What resources should I be looking for? How exactly should I be differentiating for students? Should they still be following along with my whole group instruction if I'm teaching general education? Should I still be including them in my whole group instruction? Where this where they may be getting bored? They may be disengaged They may be acting out behaviorally because they're so bored. Or is there another strategy I should be using?

Samantha explained that it would be extremely useful to give gifted education the same importance that is given to special education for students with disabilities:

> It would be logistically more practical for us to move gifted education somehow into the special education bucket. If we recognize that gifted students exist all over, and that this is something that you will encounter as a teacher. It's not something unusual. These students aren't rare. Then we would do well to educate all teachers about how to recognize giftedness and how to work best with gifted students. Just like we would teach a student or teach a prospective teacher how to deal with dyslexia or with autism, or with anything else that you know you will encounter in the classroom.

Inservice teacher recommendations. All inservice teachers shared the importance of including more content and advocated for addressing myths and dismantling negative attitudes towards gifted education. Andrea sees gifted education as a right, she is concerned because children need the opportunities gifted education has to offer "So general educators need to understand it's their right. It's not more work for teacher and it's not a luxury for the students. it's

not a luxury. No, it's a right." When speaking about prospective teachers, she suggested pairing up preservice teachers with experienced gifted teachers and providing talent development based on the teachers' willingness to support the children:

> It's just willingness. It's very important in determining if you are going to implement those strategies in the classroom. There are millions of strategies that I'm not going to use because I'm not open to it. So, it's just this willingness to understand. I do teacher training at the end of the year to have these conversations open and I debunk all these myths. Every year we have new teachers coming to the profession from all ages because they're switching careers. This is their second wave at work. We need to provide the teachers experiences in which they can internalize how important these things are, place the teacher in the students' shoes. I tell them what would you feel if you sit through a teacher conference or a staff meeting where everything that we're talking about you already know? What would you feel like?

Daniel focused on learning developmentally appropriate instruction and changing the focus from achievement to meeting developmental needs. To do this, he suggests revising the role of disciplines and reexamining how content is taught in schools because giftedness and creativity are essential in all aspects of student learning:

> The question of what is needed to be developmentally appropriate for gifted students would be a more natural outcome. I think we need to shift away from the focus on achievement. Achievement is a is an important element but focusing on achievement and scores and testing has gotten in the way of discussing about learning. I think we need change the school system that we have and in changing now, I think it would you open up so gifted education will no longer be this little edition that's tucked away in either a school division or pull up program. It's like the creativity class in which you're going to be creative on Fridays from 10 until 11 in the morning.

David agrees with the idea that all teachers need to be exposed to gifted education. He added: "I think that the on the teacher preparation programs need to have a requirement to have if not a course a certain number of hours in gifted education as I believe is the case for special education." He also added that as gifted education topics can be good for all types of learners,

general education teachers can benefit from specialized curriculum for gifted children, inclusion, and advocacy:

> One of the classes is curriculum and instruction for gifted learners and learning models like the Renzulli's Schoolwide Enrichment Model. They need to understand that learning for gifted students needs to be purposeful and transdisciplinary. The fact that gifted students come from all backgrounds. The difference between bright versus gifted. Making sure that gifted education is equitable and knowing how to advocate for gifted programs.

Katie and Marie emphasized the role of mastery and personal motivation when entering gifted education, willingness to keep challenging and learning constantly. Katie said "new teachers have to be willing to learn with their students. They need to be willing to not always be right." She recommends undergraduate programs to include gifted education seminars and support teachers who are willing to learn to seek resources from gifted education associations and conferences. For undergraduate programs she said "I think that there should be a minimum of one entire course specifically on gifted education, identification, instructional strategies like differentiation and personalized learning to meet their needs because it absolutely can be done in a general education classroom."

Finally, to support new teachers, Mara recommended finding mentors within the districts who can guide them, attending state conferences and building personal connections with the students, with parents, educators, and administrators as soon as possible.

> Talk to the kids and get their perspective. Find out from the kids you know what's happening in class. Where do you need to be challenged? What's working? What's not working? The job involves the kids, the teachers, the parents. Collaborating with them on what to do and meeting with parents and helping the parents understand their kids facilitates the transition.

For undergraduate education programs, she mentioned the importance of infusing gifted education within the curriculum and field experiences. However, she remains skeptic because many education professors do not understand giftedness.

> I'd love to see a minimum one credit undergraduate course focused just on gifted education. For all of them, but the reason so few of them do that is because they already have so many other things that are already required that they don't want to add more. It would be a good idea to infuse it with in all the other courses, but again then you need professors who know about gifted education and have that training themselves. And most of them don't.

Finally, Mara and Katie shared an idea for gifted education associations to close the professional development gap by reaching out to colleges of education and providing access to preservice teachers

> Our association offers a significantly discounted rate to current college students to attend our state conference. It’s like gateway drugs, so to speak, into the world of gifted education, so that might be one way if they're not going to get the training through their college education courses, finding other opportunities to give them that training.

Summary of Findings

Quantitative and qualitative results provided evidence of participants’ high levels of motivation, positive beliefs, and emerging identities as teachers of learners with gifts and talents. The structural model showed how self-efficacy, identity, and mastery and relational goals influenced pre-service and inservice teachers’ desire to teach learners with gifts and talents. Mean scores showed differences between preservice teachers are related to high initial levels of motivation in preservice teachers, positive beliefs, and elevated enthusiasm, due to potential idealization of the job. Inservice teachers displayed high levels of mastery and relational goals, high efficacy, and positive views of gifted learners informed. Qualitative themes helped me illustrate differences between the two groups of participants and relationships among the

constructs of interest that were not revealed through SEM. Although for inservice teachers, the role of teaching identity, efficacy, and beliefs and knowledge affected their desire to teach this student population, the rationale for choosing teaching was different for preservice teachers. Preservice teachers highlighted how their gifted identity played a key role as it permitted their understanding of learners needs via self-reflection on prior experiences in their K-12 trajectories. For inservice teachers, identity contributed to developing goal orientation for mastery and for relationships and efficacy to become better teachers.

CHAPTER 5. DISCUSSION OF FINDINGS

In this chapter, I discuss and contrast the study results with literature in gifted education and educational psychology. My findings support findings of previous studies about the motivations and beliefs of teachers of learners with gifts and talents. This study expands the study of relationships among motivation, beliefs, and identities in teachers and preservice teachers who are highly interested in gifted education. This study also attempts to model the relationships among variables influencing participants' desire to teach learners with gifts and talents. Quantitative and qualitative methods confirmed three of the five hypotheses proposed in this study. Finally, I address limitations, future research directions, and the implications of the study findings.

Measuring the Constructs of Interest and Identifying Differences between Preservice and Inservice Teachers

As confirmed by factor analysis, the instruments I used in this study yielded adequate evidence of validity and reliability to measure participants levels of goal orientations, efficacy for teaching, teacher and gifted identity, beliefs, and desire to teach learners with gifts and talents. Given the evidence of reliability and validity found in my data, it is adequate to interpret participants scores on each of the attributes measured. Although both groups of participants had high scores in measures of motivation, beliefs, identity, and desire to teach, there were significant differences that have been previously pointed out by comparative studies on the differences between preservice and inservice teachers.

Modeling a Combined Perspective

The structural equation model allowed me to simultaneously test the relationships among motivation, beliefs, identity, and desire to teach. The hypothesized model had acceptable fit to my data, the assessment of regression coefficients did not support all the study hypotheses that were grounded in motivational and gifted education theories. In this exploratory attempt, two of the five hypotheses were not supported. Hypothesis one: the quantitative data did not support a positive association between efficacy beliefs and beliefs about gifted learners portrayed by Camci Erdogan (2015) and Matheis et al., (2017). For hypothesis three, a positive association between gifted identity and teacher identity was not supported by the model. When revising the standardized coefficients, the model indicated a significantly negative association between teacher efficacy and teacher identity, which contradicts identity theory that puts self-efficacy at the center of teacher identity development (Kaplan & Gardner, 2018). The model did support hypotheses two, four, and five. The hypothesis between teacher goal orientations and teacher identity was confirmed by the data. According to the standardized coefficients, teacher identity, relational goals, and teacher efficacy were significant predictors of participants' desire to teach learners with gifts and talents.

These mixed results warrant further investigation of the structural model. For example, although the sample size was adequate to estimate a model for the combined sample of preservice and inservice teachers, the low number of participants did not allow me to test for invariance of the parameter estimates of the model or to test separate models on each subsample. However, to screen for potential differences in the relations among the variables, I used group-wise correlations and independent samples correlations comparisons. Results indicated that several correlation coefficients were significantly higher for preservice teachers than for inservice teachers. This is an indicator of a potentially different underlying model structure for each population. Although quantitative results did not support all the hypotheses, the qualitative themes offer a detailed view

of the relationships between gifted identity and teacher identity, as well as the role of self-efficacy in teacher identity development. These findings are discussed in the following sections.

The Importance of Goals in Gifted Education

My study included relational goal orientations which have not been studied in gifted education. Considering the relevance of socioemotional development of learners with gifts and talents and teachers' wellbeing, my results showed that preservice and inservice teachers with high desire to teach in gifted education are also motivated to establish meaningful and supportive relationships with their students. Consistent with Butler (2014), relational goals have the potential to strengthen teachers' and students belonging and meaningful relationships in the gifted and talented classroom. Qualitative results showed that participants were committed to creating positive learning dynamics and create bonds with their students. Mastery goals and relational goals are important in gifted education because teachers with these goal orientations welcome mistakes and embrace learning perspectives that are essential for the academic development of learners with gifts and talents. Therefore, professional development programs can benefit from identifying and promoting adaptive goals structures in teachers. According to Butler and Shibaz (2014), relational goals can also enhance the adoption mastery goals because teachers who promote belonging and trust encourage interest exploration, risk-taking, and help-seeking.

A surprising finding was the strong significant positive relationship between gifted identity and performance approach goals. Researchers in teachers' achievement goals have not examined the relationships between this type of goal and other constructs. However, performance goals have been related to perfectionism, extrinsic motivation, and fear of failure in learners with gifts and talents (Neumeister, 2004). This association warrants future research on the negative aspects of performance approach and avoidance goals which have been linked to depersonalization of

teaching, overemphasis of academic achievement, and promotion of maladaptive goal structures in the classroom (Benita et al.,2019: Butler, 2007).

Teacher Efficacy, Experiences, and Positive Beliefs

Overall, preservice teachers high scores on measures of intrinsic value and social value of teaching are supported by studies on preservice teacher motivation. Klassen et al., (2011) and Watt and Richardson (2010) have indicated that high levels of motivation in preservice teachers are based on unrealistic expectations about the personal and professional rewards of teaching. When situating my findings in the context of gifted education, my study confirms that on average inservice teachers showed high levels of instructional efficacy and beliefs about gifted education and gifted learners. These findings resonate with Hong et al. (2011) who studied the motivational characteristics of gifted education teachers. Inservice teachers self-reported and discussed strong self-efficacy beliefs and positive views of learners with gifts and talents.

Consistent with Matheis et al. (2017), preservice teachers' low scores on instructional self-efficacy may indicate low confidence to teach learners with gifts and talents, often due to lack of professional development and training experiences. Qualitative findings showed that preservice and inservice teachers build their efficacy based on opportunities for self-actualization and experiences with gifted learners. Additionally, inservice teachers' high levels of instructional efficacy and relational goals can be associated with the accumulated experience, knowledge, and skills in gifted education exhibited by some of my participants. The benefits of adaptive forms of motivation have been reported by Butler (2012) and Miele et al. (2019) as predictors of teacher engagement, effectiveness, and retention. Therefore, professional development programs can develop effective training programs that strengthen both efficacy and base knowledge in gifted education.

Qualitative data analysis allowed me to deepen my understanding of participants' experiences and confirm that preservice teachers showed high levels of interest and enthusiasm towards teaching learners with gifts and talents. Conversely, inservice teachers had a realistic perception of the profession and used their experiences and preparation to face the challenges of the job. Inservice teachers also showed significantly higher levels of positive beliefs and support for learners with gifts and talents. Qualitative themes indicated that participants adopted positive views due to their shared identities and prior learning experiences. Although participants have developed views of gifted education based on their own experiences, participants negotiate their beliefs while acquiring best-practice knowledge through professional development. This finding was similar to Heyder et al. (2018) whose findings showed a positive association between epistemological knowledge of gifted education practices and attitudes towards learners with gifts and talents. Whereas my study relied on self-reported measures of perceptions and beliefs, interviewees showed high interest in professional development, joined professional associations, and held a variety of certifications and credentials in gifted education at the time of the interview.

All the interview participants spoke of the unique intellectual and socioemotional characteristics of gifted learners. Qualitative data supported previous findings that what teachers feel or think about gifted students influences their teaching practice and support towards students' needs (Lassig, 2015; Siegle & Powell, 2004). My participants held positive views and explained that advocacy is necessary in gifted education. Participants described their interest in underrepresented populations who need more opportunities in gifted programs. These inservice teachers spoke of advocacy for special populations, twice exceptional students, ELLs, and students from diverse backgrounds. Preservice teachers held positive views but expressed lacking strategies and knowledge to provided services in the classroom. Consistent with previous studies

(Chamberlin & Chamberlin, 2010; David, 2011; Moon & Brighton, 2008), participants considered field experiences and mentoring opportunities key to truly understanding the characteristics of learners with gifts and talents and implementing effective instructional strategies.

Positive and negative beliefs, attitudes, and perceptions have the potential to govern motivational changes (Dixon et al., 2014). Preservice teachers focused more on the cognitive abilities of their prospective students. Accounts about quick learners, deep academic interests and high performance resonated with previous studies on implicit beliefs about intelligence and giftedness (García-Cepero & McCoach, 2009; Moon & Brighton, 2008; Olthouse, 2014). Preservice teachers showed confusion about the behaviors exhibited by gifted learners. Therefore, it is possible that these highly motivated preservice teachers still equate giftedness with high performance due to lack of opportunities to learn gifted education curriculum and instructional strategies in their undergraduate programs.

Gifted Identity and Teacher Identity development

Inservice teachers had significantly higher teacher identity scores than did preservice teachers. This was an expected finding because teachers' identity also has a significant positive association with measures of teacher efficacy, teacher mastery goals, positive beliefs about learners, desire to teach youth, and perceived social value of education. Consistent with teacher identity studies, identity development is a function of a variety of personal, cultural, and environmental factors and experiences (Gardner & Kaplan, 2019). My participants were dynamic individuals who were certain about their professional career choice and were comfortable identifying as teachers.

Although there was not a correlation between teacher identity and gifted identity, qualitative data from open-ended responses and interviews indicated that several participants chose

gifted education because they had been identified as gifted and had participated programs. Other participants showed confidence about their eligibility for services, but explained they had not been identified because their schools did not offer gifted education services. These participants explained how being identified as gifted and talented influenced their educational experiences, their beliefs about education, and even their career choices. One study in gifted education (McCoach & Siegle, 2007) assessed the relationship between self-perceptions as gifted with attitudes towards gifted education. The researchers did not find evidence of such association but suggested a connection between self-perceptions as gifted and self-awareness produced by professional development and learning experiences. I do not claim that gifted identity is a precursor of teaching identity in gifted education. However, participants' lived experiences as gifted and talented learners contributed to explain complex and dynamic social, cognitive, and affective process in their career choice as teachers (Garner & Kaplan, 2019; Perez et al., 2014). These processes encompassed personal attributes, beliefs, skills, knowledge, and experiences that continuously evolve in their teaching practice (Kaplan & Garner, 2018; Richardson & Watt, 2018). For these participants, their gifted identity enhanced their understanding of affective and intellectual characteristics of gifted learners. Then, their teacher identity adds in the representation of these characteristics as learning differences and needs to be addressed by specialized gifted education practices.

Teachers responded to their students' needs based on the conception of shared identity, which lead to sentiments of relatedness and belonging in the gifted classroom. Participants who had difficult experiences in gifted education and perceived their needs unfulfilled were also the participants who showed high concern with their student's well-being, building relationships, and advocating for student opportunities. These findings bring attention to teachers' lived experiences

and identity because those experiences and identity have implications for their practice (Friesen & Besley, 2013). For example, preservice and inservice teachers reported using their self-awareness as gifted individuals to enhance their practice based on personal experiences and beliefs about themselves as gifted individuals.

Self-awareness and self-understanding of the characteristics of learners with gifts and talents may help participants relate to the special needs of other learners with gifts and talents. However, caution is recommended when depending on relational approach and the notion of shared identity. Providing educational services based on one's familiarity with giftedness can negatively impact the extent of best-practice support teachers must give to their students. For example, students who might not be perceived as relatable could be neglected. Because of the complex nature of identity development and its influence in the teaching practice, teacher education programs and teaching experiences must pay close attention and support to preservice teacher identity formation (Alsup, 2018).

Desire to Teach Learners with Gifts and Talents

The Expectancy Value Theory (EVT) (Eccles & Wigfield, 2000) is the foundation of the FIT-Choice instrument (Watt & Richardson, 2007, 2014) that I used to measure participants' desire to teach learners with gifts and talents. The results indicated participants had high levels of interest in working with youth, high levels of intrinsic value, and social utility value. In the EVT model, task choice is influenced by perceptions of ability and values. Consistent with prior studies (Jacobs et al., 2002; Muenks et al., 2018), the study participants found gratification and enjoyment in teaching (intrinsic value) and in the social implications of teaching (social utility value) such as advocating for students needs and providing opportunities. The strong correlations between values

and efficacy beliefs for instruction, engagement, mastery goals and relational goals, showed how participants were confident in their abilities to teach and succeed as teachers.

Limitations

There are several limitations to this study. Further investigation of the psychometric properties of the instruments for populations of teachers of learners with gifts and talents was necessary, and included removing, replacing, and designing new items. Second, statistical analysis were affected by small sample size for the analysis. Although SEM is a robust method to estimate relationships among variables, my sample was not large enough to perform separate analysis for preservice and inservice teachers. Given differences in correlation matrices, testing for invariance of parameter estimates is recommended. Third, there were several cases of variables with missing data due to the length of the survey. This can be ameliorated by producing a parsimonious instrument with fewer items. Fourth, my study focused only on preservice and inservice teachers with high interest in gifted education, who were identified or believed could have qualified for gifted and talented services. Therefore, this study does not inform the views of teachers who might approach gifted education for reasons other than their interest and who might not self-identify as gifted and talented. The qualitative sections of this paper were informed by highly talented and motivated participants, therefore some of the results and conclusions might not transfer to other populations of teachers with less adaptive motivational attributes.

Future Directions

Producing an adaptive model of teacher desire to teach entails more iterations of data collection, modeling, and hypothesis testing. The next phase in my study is to collect data from a larger sample and test additional relationships based on the qualitative findings. Additionally, it is

necessary to further investigate the underlying structure of the model for preservice and inservice teachers. Second, it is important to guarantee transferability of the model across different educational systems and cultures in which gifted and talented services are implemented. Once I finalize the model, I will attempt to study its components to identify teachers' strengths and weaknesses. Additionally, to provide evidence of external validity, I can engage in further study of teacher practices via observations. Finally, interventions based on the model components can be powerful ways to promote adaptive teacher development in teacher education majors and professional development programs, not only for gifted education but also for general education teachers.

Conclusions

Towards an Adaptive Model of Teacher Identity and Motivation

This mixed methods study indicated that participants held adaptive attributes such as identity development, high levels of motivation, teacher relational and mastery orientation, high efficacy, growth mindset, and social and personal value for education. These adaptive forms of motivation can catalyze the effects of teacher preparation and professional development and lead participants to higher teacher effectiveness and positive student outcomes. Teacher motivation and teacher beliefs about learners are part of dynamic and complex systems. My study situates teacher identity as a vital component of that complex system, in which motivations, beliefs, and personal attributes enhance the desire to teach.

This study is one effort to understand the complexity of the three constructs: beliefs, motivation, and identity. In this study, I attempted to disentangle the combined effects among teacher motivation and beliefs. Contrary to previous studies with general education preservice and

inservice teachers (e.g., Matheis et al., 2017, 2020), my study shows an adaptive and healthy vision of gifted education based on the experiences of participants who identify as learners with gifts and talents and who are highly interested in contributing to gifted education. Osman and Warner (2020) argued that teacher motivation was the missing link in the translation of teacher preparation to teacher effectiveness. To this claim, I add that identity, motivation, and positive beliefs also can explain why people choose to become effective educators of learners with gifts and talents. Figure 7 shows the model in progress.

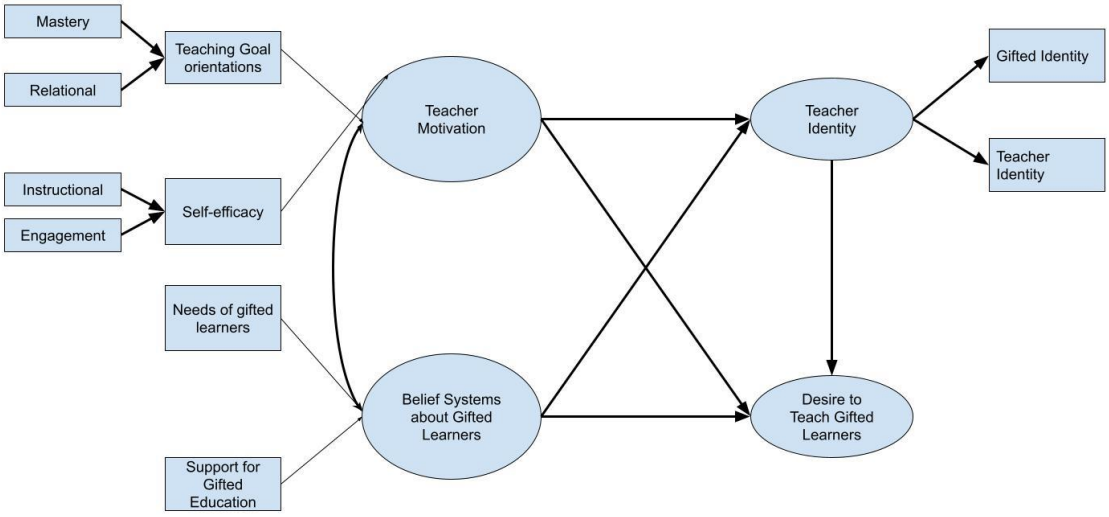

Figure 7. Adaptive Model of The Teacher of Gifted and Talented Learners

By addressing motivation and identity, misconceptions and myths can be effectively disbanded and positive change in practice effected. Consequently, these components when understood and actively nurtured have the potential to enhance teacher education programs and preservice teacher support geared to produce more competent teachers in gifted education.

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APPENDIX A SURVEY

Do you have an interest in teaching learners with gifts and talents

Yes (Continues to survey)

No (End of survey)

I am a

Pre-service Teacher (Undergraduate student) (1)

Teacher (2)

>>Display informed consent form

Do you agree to participate in this research**?**

Yes>>Continue to demographic and instrument

No>>End survey

What is your gender?

Male (1)

Female (2)

Other. Specify (3)

What is your age?

Younger than 21 (1)

21-24 (2)

25-34 (3)

35-44 (4)

45-54 (5)

54 or older (6)

Check here if you prefer not to answer (7)

Choose one or more ethnicities that you consider yourself to be:

▢ White (1)

▢ Black or African American (2)

▢ American Indian or Alaska Native (3)

▢ Asian (4)

▢ Native Hawaiian or Pacific Islander (5)

- ▢ Two or more races (6)
- ▢ Other (7)
- ▢ Please Check here if you prefer not to answer (8)

In which state do you currently reside?

Dropdown.

If Inservice Teacher Display

What is the highest level of school you have completed or the highest degree you have received? If currently enrolled, highest degree received.

- Bachelor's degree (1)
- Master's degree (2)
- Doctoral degree (3)
- Professional degree (4)

How many years of general education teaching experience do you have?

What school level are you teaching?

- Elementary School (1)
- Middle School (2)
- High School (3)

What subject matter(s) are you teaching? Choose all that apply.

- ▢ Elementary- every subject (11)
- ▢ Math (1)
- ▢ Science (2)
- ▢ Social Studies (3)
- ▢ Language Arts (4)
- ▢ Foreign language (5)
- ▢ Art (6)
- ▢ Music (7)
- ▢ Physical Education (8)
- ▢ Special Education (9)
- ▢ Other. Specify (10)

What type of school best describes your school?

- Public School (1)

Private School (2)

Other. Please specify (3)

Which type of community best describes your school community?

Rural (1)

Town (2)

Suburban (3)

City (4)

Gifted education

Have you received any training in gifted education?

Yes

No

What level of training in gifted education have you received? (select all that apply)

Gifted and talented endorsement

Gifted and talented certification

Gifted and talented licensure

Non-credentialed professional development

Undergraduate courses

Workshops

Presentations

Other: Specify

What types of content about gifted education and gifted children has been covered these training experiences? Select all that apply

The nature of giftedness and talent

Cognitive characteristics of gifted and talented learners

Socio-emotional characteristics of gifted and talented learners

Identification of gifted and talented learners

Acceleration

Enrichment

Differentiated instruction

Underrepresented and underserved populations in gifted

Other: Specify

Do you have experience teaching learners with gifts and talents?

Yes

No

How many years of gifted education teaching experience do you have?

Yes

No

Does your current school have a high ability program or advanced program?

Yes

No

Are you currently teaching in the high ability program or advanced program?

Yes

No

What types of classes for gifted and talented children do you teach? (Select all that apply)

Differentiation in the general classroom

Enrichment (Resource Room)

Acceleration

Full time cluster classrooms

Part time cluster classrooms

Honors/ advanced coursework

Advanced Placement

College credit

Summer programs

Out of school programs

Magnet Programs

International Baccalaureate

Other:_____

If Preservice Teacher (Undergraduate student)

What year are you in college?

Freshman (1)

Sophomore (2)

Junior (3)

Senior (4)

What is your major? Choose all that apply.

- ▢ Special education (1)
- ▢ Elementary Education (2)
- ▢ General Education (3)
- ▢ Social Studies Education (4)
- ▢ English Education (6)
- ▢ Mathematics Education (7)
- ▢ Physics Education (8)
- ▢ Chemistry Education (9)
- ▢ Biology Education (10)
- ▢ Agricultural Education (5)
- ▢ Engineering Education (12)
- ▢ Other. Specify (11) _____

Do you have teaching experience?

No (1)

Yes, Please describe. (2)

Have you completed coursework in educational psychology (learning, motivation,)

Gifted Education

In your undergraduate programs have you received any content about gifted and talented children?

Yes

No

How has this content about gifted education been delivered? (select all that apply)

A class devoted to gifted education

A special education class

An inclusive classroom class

Guest lectures

Workshops

Presentations

Other: Specify

What types of content about gifted education and gifted children has been covered these experiences? Select all that apply

The nature of giftedness and talent

Cognitive characteristics of gifted and talented learners

Socio-emotional characteristics of gifted and talented learners

Identification of gifted and talented learners

Acceleration

Enrichment

Differentiated instruction

Underrepresented and underserved populations in gifted

Other: Specify

Have you considered teaching in a high ability program or advanced program?

Yes

No

Unsure

Explain your answer:

What types of classes for gifted and talented children would you like to teach? (Select all that apply)

Differentiation in the general classroom

Enrichment (Resource Room)

Acceleration

Full time cluster classrooms

Part time cluster classrooms

Honors/ advanced coursework

Advanced Placement

College credit

Summer programs

Out of school programs

Magnet Programs

International Baccalaureate

Other:_____

A mixed methods Investigation of Identity, Motivation, and Beliefs Systems in Preservice and Inservice Teachers: Desire to Teach Students with Gifts and Talents.

Please respond to each survey item based on your interest or experience in working with gifted, creative, and talented youth.

The federal definition establishes that "The term gifted and talented, when used with respect to students, children, or youth, means students, children, or youth who give evidence of high achievement capability in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who need services or activities not ordinarily provided by the school in order to fully develop those capabilities. Terms associated with this population vary across states, other denominations include high ability, exceptional ability, high potential, outstanding ability, high performance, etc."

There are no right or wrong answers. Please read each item separately and indicate your level of agreement with each statement. Rate your response by selecting one choice from these 6 options (1=Completely Disagree, 2=Disagree, 3=Slightly disagree, 4=Slightly Agree, 5=Agree, 6=Completely Agree).

I. Goal Orientations

I would feel that I had a successful day in school if:

- I learned something new
- Something that happened in class made me want to learn more about teaching
- My students made me think
- I saw that I was developing as a teacher and teaching more effectively than in the past
- I saw that I was developing closer and better relationships with students in my classes
- As a teacher, building relationships with students is most important for me
- My main goal as a teacher is to show my students that I care about them
- More than anything, I aspire to create deep personal relationships with each and every student
- I was praised for having higher teaching abilities' than other teachers
- My classes did better on an exam than those of other teachers
- I was recognized as one of the best teachers in the school
- My lessons were rated as the best lessons

II. Teacher Efficacy

On a regular basis as a teacher, I can:

- Use a variety of assessment strategies
- Adjust your lessons to the proper levels for individual students
- Provide appropriate challenges for very capable students
- Implement alternative strategies in your classroom
- Craft good questions for your students
- Provide an alternative explanation or example when students are confused
- Respond to difficult questions from your students
- Gauge student comprehension of what you have taught
- Get students to believe they can do well in schoolwork
- Help your students think critically
- Help foster student creativity
- Help your students value learning
- Improve the understanding of a student who is failing
- Motivate students who show low interest in schoolwork
- Assist families in helping their children do well in school
- Get through the most difficult students

III. Teacher Identity

- I feel comfortable identifying myself as a teacher
- I find it difficult to see myself in charge of teaching a group of children/adolescents. (reverse coded).
- I am a natural teacher
- I can easily see myself working with children/adolescents and helping them to learn and develop
- I see myself as a teacher (either currently or one day)
- I was or could have been in a gifted program in school
- Most of my family and friends consider me gifted
- I am gifted.
- People consider me gifted.

IV. Beliefs about gifted education and gifted children

- Schools should offer special education services for gifted children.
- To progress, society must develop talents of gifted children
- Gifted children need special services to fully develop their talents.
- Gifted children are unchallenged in regular classes
- Gifted children need challenging learning experiences
- The regular classroom experience hinders the development of gifted children
- Gifted children are valuable for society.

- Gifted children will become tomorrow's leaders

V. Desire to teach learners with gifts and talents

I chose to become a teacher because

- I wanted to work in a child and adolescent-centered environment
- I wanted a job that involves working with children and adolescents.
- I wanted to help children and adolescents learn
- I had always wanted to be a teacher.
- I was interested in teaching
- I like teaching
- Teaching offered me a steady career path
- Teaching was a secure job
- Teaching provided me a reliable income
- Teaching allows me to benefit the socially disadvantaged
- Teaching allows me to influence the next generation
- Teaching allows me to provide a service to society
- Teaching allows me to shape child/ adolescent values
- Teaching allows me to raise the ambitions of underprivileged youth
- Teachers make a worthwhile social contribution
- Teaching enables me to 'give back' to society
- My friends thought I should become a teacher.
- My family thought I should become a teacher.
- People I had worked with thought I should become a teacher
- I am happy with my decision to become a teacher
- I am satisfied with my choice of becoming a teacher
- I have carefully thought about becoming a teacher

Qualitative items (Open ended response, text box format)

In a few sentences describe:

1. Choice: What determined your desire to teach learners with gifts and talents?
2. Goals: What impressions do you want your students and colleagues to have about your teaching skills/abilities?
3. Efficacy: What makes you feel competent as a teacher of learners with gifts and talents? (Consider instruction quality, student engagement, and belonging)
4. Mindset: How do you feel about making mistakes when teaching learners with gifts and talents?
5. Beliefs: What is the role of gifted and talented education? (for gifted children, society, you)
6. Identity: How do you identify as a teacher of gifted learners?

End Survey

Redirect to new survey link

Both Preservice and Inservice teacher

1. Would you like to be entered in a drawing to win 1 of 20 ($10) Amazon gift cards.
   Yes

   No

   Enter your email:

2. Would you like to participate in a follow up interview and receive a $15 Amazon gift card?
   Yes

   No

   Enter your email:

APPENDIX B INTERVIEW PROTOCOL

Participant Code:_____ State:_____

University where you completed [will complete] your undergraduate studies:_____

Preservice: _____ Year: _____ Subject: _____ Age Group: _____

Inservice: _____ Years of Experience: _____ Subject: _____ Age Group: _____

1. Explain how you decided to become a teacher. What was your motivation?
2. Describe your perception of gifted and talented children.
3. Do you consider yourself a gifted and talented individual? Explain.
4. Tell me about experiences that influenced your interest in gifted education.
5. **Preservice:** Have you had experiences in gifted education or interacting with gifted children? If so, describe them.

   Inservice: What experiences in gifted education or interacting with gifted children do you have?
6. Describe how your undergraduate program has influenced your desire to teach gifted children.
7. What gifted education knowledge and skills have you obtained from your undergraduate program that will help you become a teacher for gifted and talented children?
8. What knowledge and skills have you obtained from outside your program that will help you become a teacher for gifted and talented children?
9. Please talk about your perceived strengths and weakness about teaching gifted children.
10. **Preservice:** What gifted education experiences do you expect to be involved with once you graduate your undergraduate program?

    Inservice: Describe experiences in gifted education you plan or expect for the near future?

What recommendations, if any, do you have for programs that prepare future teachers of gifted children?

APPENDIX C FINAL INSTRUMENT

Construct	Item ID	Descriptor
Mastery	GOMA01	I learned something new
	GOMA02	Something that happened in class made me want to learn more about teaching
	GOMA03	My students made me think
	GOMA04	I saw that I was developing as a teacher and teaching more effectively than in the past
Relational	GOR01	*Item removed*
	GOR02	As a teacher, building relationships with students is most important for me
	GOR03	My main goal as a teacher is to show my students that I care about them
	GOR04	More than anything, I aspire to create deep personal relationships with each and every student
Performance	GOAP01	I was praised for having higher teaching abilities' than other teachers
	GOAP02	My classes did better on an exam than those of other teachers
	GOAP03	I was recognized as one of the best teachers in the school
	GOAP04	My lessons were rated as the best lessons
	TESIS01	Removed
	TESIS02	Adjust your lessons to the proper levels for individual students
	TESIS03	Provide appropriate challenges for very capable students
	TESIS04	Implement alternative strategies in your classroom
	TESIS05	Removed
	TESIS06	Removed
	TESIS07	Removed
	TESIS08	Removed
Efficacy	TESSE01	Removed
	TESSE02	Removed
	TESSE03	Removed
	TESSE04	Removed
	TESSE05	Improve the understanding of a student who is failing
	TESSE06	Removed
	TESSE07	Assist families in helping their children do well in school
	TESSE08	Get through the most difficult students
Teacher Identity	IDTI01	I feel comfortable identifying myself as a teacher
	IDTI02*R	Removed
	IDTI03	I am a natural teacher
	IDTI04	I can easily see myself working with children/adolescents and helping them to learn and develop
	IDTI05	I see myself as a teacher (either currently or one day)
Gifted Identity	IDGI01	I was or could have been in a gifted program in school
	IDGI02	Mt of my family and friends consider me gifted
	IDGI03	I am gifted.
	IDGI04	People consider me gifted.

Construct	Item ID	Descriptor
Beliefs	BENE01	Removed
	BENE02	Gifted children are unchallenged in regular classes
	BENE03	Gifted children need challenging learning experiences
	BENE04	The regular classroom experience hinders the development of gifted children
	BESU01	Schools should offer special education services for gifted children.
	BESU02	To progress, society must develop talents of gifted children
	BESU03	Removed
	BESU04	Gifted children will become tomorrow's leaders
Desire to Teach	DTCA01	I wanted to work in a child and adolescent-centered environment
	DTCA02	I wanted a job that involves working with children and adolescents.
	DTCA03	I wanted to help children and adolescents learn
	DTIV01	I had always wanted to be a teacher.
	DTIV02	I was interested in teaching
	DTIV03	Removed
	DTUV01	Teaching offered me a steady career path
	DTUV02	Teaching was a secure job
	DTUV03	Teaching provided me a reliable income
	DTSU01	Teaching allows me to benefit the socially disadvantaged
	DTSU02	Removed
	DTSU03	Teaching allows me to provide a service to society
	DTSU04	Teaching allows me to shape child/ adolescent values
	DTSU05	Teaching allows me to raise the ambitions of underprivileged youth
	DTSU06	Teachers make a worthwhile social contribution
	DTSU07	Removed
	DTSI01	Removed
	DTSI02	Removed
	DTSI03	Removed
	DTSA01	Removed
	DTSA02	Removed
	DTSA03	Removed

Note. Items with factor loadings below .6 were removed from the SEM model.

Desire to teach was computed as an average of items DTCA01 through DTSU06