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The current study examines the relationship between academic motivation, child care center professional development support, community college student support and academic success. The Academic Motivation Scale (AMS; Vallerand, Pelletier, Blais, Brière, Senécal, & Vallières, 1992) and a survey that assessed child care professional development support and community college student support was used in this study. Extrinsic motivation was found to be the most significant predictor of academic success as measured by GPA, whereas amotivation was found to be the most significant predictor of academic success as measured by academic progress. There was a significant relationship between working in a center that awarded education based raises and academic success as measured by early childhood GPA and academic progress. Similarly, working in a center with formal written salary scales was found to be positively correlated to early childhood GPA. A significant relationship was also found between working in a center that conducted regular staff evaluations and academic progress. Furthermore, the accessibility of an academic advisor at the community college was found to be related to early childhood GPA. Finally, required academic advisement and quantity of advisement were both found to be related to academic progress. Discussion of policy implications of the current findings and future research is included.

PREDICTING THE ACADEMIC SUCCESS OF T.E.A.C.H. EARLY CHILDHOOD®
PROJECT SCHOLARSHIP PROGRAM PARTICIPANTS:
A SOCIO-ECOLOGICAL APPROACH

by

Amy Duffy

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Committee Chair
Deborah J. Cassidy, Ph.D.

To my father, the late Valent Swierczewski who instilled in me the importance of education and the motivation for achieving your dreams.

APPROVAL PAGE

This thesis has been approved by the following committee of the Faculty of The Graduate School at The University of North Carolina Greensboro.

Committee Chair _____

Committee Members _____

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CHAPTER I

INTRODUCTION

Statement of Problem

Early childhood teacher education has become the subject of increased interest and study during the past decade. Changing demographics in work and family patterns have resulted in more women with young children entering the workforce and placing their children in early childhood education and care programs while they work (Early & Winton, 2001). Other developments include the increasing emphasis on school readiness in the political arena (Early & Winton, 2001) and scientific advances in brain research stressing the critical period of early childhood development. Thus, growing attention has been directed towards early childhood education and care settings and the determinants of quality environments for young children. Identified as one of the strongest predictors of child care quality, (Helburn, 1995; Bowman, Donovan, & Burns, 2000) early childhood teacher education has therefore become an important research area to explore.

Motivated by the recommendations from prominent studies and reports (Helburn, 1995; Bowman, Donovan, & Burns, 2000) suggesting that early childhood teachers with more formal education and/or specialized training in child development exhibit more appropriate teaching practices (Whitebook, 2003), advocates and policy makers have pushed for higher educational standards for early childhood teachers. As states develop, adopt, and enforce increased educational standards for early childhood teachers, more

teachers are expected to enroll in college in order to meet new standards. Therefore, to ensure positive and meaningful educational experiences for early childhood teachers, it is critical to explore the factors that contribute to their academic success. If early childhood teachers have difficulties succeeding academically, it is possible that the benefits associated with attained education will not be achieved and/or applied to practice

There has been extensive research on how early childhood teacher education is linked to child care quality, including an examination of the level (Bachelor's degree vs. Associate degree) and type of education (specialized child development vs. formal education not specific to child development) that provides optimal outcomes for child care quality (Whitebook, 2003). Leading reports that have been released over the past decade have presented a number of "strong and convergent conclusions related to the importance of professional development of teachers on young children" (Early & Winton, 2001, p. 286). Although the results of these studies have produced somewhat mixed results, most suggest, in general, early childhood teacher education leads to better outcomes. However, the primary focus has been on how education is linked to child care quality and child outcomes, not on what contributes to the individual success of early childhood teachers who are in the process of attaining education.

The current study explored the relationship between early childhood teachers' academic motivation (intrinsic, extrinsic, and amotivation) and academic success. Academic motivation has been shown to affect academic success throughout the adult education literature (Pintrich & DeGroot, 2001, Vallerand & Bissonnette, 1992, Goudas, Marios, Biddle & Stuart, 1995). Overall, the early childhood teacher population possesses

diverse educational backgrounds and abilities, as well as a varying commitment to the early childhood profession (Whitebook, 2003). Individuals hold differing beliefs about the importance of education and have different reasons for engaging in learning and educational activities. Thus, it was important to focus on individual academic motivation as a possible predictor of the academic success of early childhood teachers.

In addition, the study examined how the systemic factors of child care center professional development support and community college student support relate to the academic success of early childhood teachers. Early childhood teachers work in diverse settings with different auspices, missions, and philosophies, all of which would seemingly impact their educational experiences. In addition, early childhood teachers' work environments vary with respect to the child care center's level of support and the value placed on education. The early childhood work environment has been examined, however the focus has been more on demographic characteristics, structural components, and indicators of quality. As early childhood teachers begin to be held to higher educational standards, it is imperative to determine the optimal early childhood work environment for supporting their educational success. Therefore, this study also examined how the center climate and organization related to the individual educational success of child care center teachers.

Furthermore, the community college literature provided a springboard for examining early childhood teachers' academic success in the current study. The data regarding student persistence and success have driven the community college system to evaluate their retention and student success initiatives and to develop and implement

strategies that result in better student outcomes (McClenney & Waiwaiole, 2005). Specifically, course accessibility and relationships between students and faculty are areas of focus at the community college level. This information was useful in investigating early childhood teachers' academic success in the college environment. Although, there has been a recent emphasis on evaluating institutions that are delivering early childhood education to child care teachers (Early & Winton, 2001) and the National Association for the Education of Young Children (NAEYC) has launched an accreditation program for early childhood associate degree programs (Hyson, 2003), the unit of analysis has been on the institution and not the individual child care teacher. Institutional factors are certainly important to understanding academic success, however research linking those factors to individual student success with early childhood teachers is still needed.

A focus specifically on early childhood teachers was necessary in this study. The existing education literature that explores academic success in education programs primarily focuses on pre-service elementary and secondary teachers (K-12) preparing to work in public school settings. Early childhood teachers' experiences, however, are vastly different from their K-12 counterparts. Foremost, the demands and challenges in-service early childhood teachers face when pursuing increased education are unique. Early childhood teachers are a notoriously under-appreciated and underprivileged teacher population (Whitebook, 1984). While K-12 education students will receive professional status with their future teaching positions, many early childhood education students are involved in a teaching profession that is typically misunderstood and underestimated. They continue to struggle with societal perceptions that view them as "babysitters,"

instead of professional educators. These perceptions regarding the importance of the work they do may influence their own propensity towards pursuing a college education. Some of those early childhood teachers may even ascribe to the same beliefs, which makes it difficult for them to undertake increased education, much less succeed.

Furthermore, the low pay and lack of benefits (Child Care Services Association [CCSA] & FPG Child Development Institute [FPG], 2003) that early childhood teachers receive impact their ability to pursue more education and to succeed in those endeavors. Many have families to support and finding the finances to attend college on an early childhood teacher's salary is difficult, if not impossible. As opposed to pre-service K-12 teachers, in-service early childhood teachers enrolled in college are already working in the field and juggling work and family life. Thus, the challenges of finding the time and energy to attend classes, study, and maintain family and work roles are important concerns for early childhood teachers. In addition, investing the time and money in college may not be compelling for some early childhood teachers when there is no promise of compensation and/or advancement. For those who do decide to enroll in college, it may be difficult to continue towards degree attainment when compensation and career development issues continue to permeate the field.

Another unique issue with early childhood teacher education is the mixed messages that public policy and regulatory services send regarding early childhood teacher education. States instill differing educational requirements for early childhood teachers (Whitebook, 2003; Bellm, Burton, Whitebook, Broatch & Young, 2002), which sets the tone regarding the importance and value of early childhood teacher education.

K-12 teachers are held to fairly consistent educational standards, whereas early childhood teacher education requirements vary depending on the setting and the state (Bellm, et al, 2002). Furthermore, as opposed to K-12 teachers who must have a college degree in order to attain a teaching position, early childhood teachers can be employed as a teacher while pursuing a degree. The growing trend of increased educational standards will inevitably lead to more early childhood teachers enrolling in college courses. The ways in which these new standards relate to early childhood teachers' motivations for pursuing education may vary depending on the individual teacher and the context in which they are situated. Therefore, these regulatory issues were another important reason that the individual academic success of early childhood teachers was examined in this study.

Finally, individual and environmental factors within the early childhood teacher population distinguish them from K-12 teachers. These individual and work environment factors might provide an explanation for a recent study that found few associations between education, classroom quality, and child outcomes (Early, Bryan, Pianta, Clifford, Burchina, Ritchie, Howes, & Barbarin, 2006). The sample in the study was selected from state funded pre-kindergarten programs, which typically have higher educational standards for teachers. Thus, there may be less educational variability in the state-funded pre-kindergarten teacher population. It is possible that the greater variability in teacher education, classroom quality, and regulatory standards within the larger child care system, makes the connections between teacher education and positive outcomes more evident within the larger early childhood context (Early, et al, 2006). Furthermore, state

funded pre-kindergarten programs may operate more like an elementary school, and thus the findings are more consistent with elementary school research which has not found a significant relationship between teacher education and quality (Early, et al, 2003).

Because of these limitations, it is important to consider the individual early childhood teacher and the teacher's work context when studying the benefits of increased education. There is more at play than merely the level of education, and focusing on contributors to academic success may lead to better insights about the links between teacher education and positive child outcomes.

The current study is framed within a bioecological and socio-ecological perspective. In addition, social cognition theory provides the theoretical foundation for examining individual motivation to increase education. The literature review focuses on three levels of examination: 1) individual academic motivation, 2) the early childhood teacher's work environment, and 3) the community college context. Within the individual level of analysis, the literature on academic motivation is reviewed. The work environment is then discussed as it relates to the areas of professional orientation, instrumental supports for professional development, education and salary scales, and professional development planning and evaluation. Finally, the community college context is explored with a focus on accessibility of classes and the quality and quantity of academic advisement and student/faculty relationships. The literature review is followed by the methodology of the study and concludes with the presentation of results and discussion.

CHAPTER II

THEORETICAL FRAMEWORK

Bioecological Perspective

Examining what factors contribute to the academic success of early childhood teachers enrolled in formal education can be understood from a bioecological perspective. Urie Bronfenbrenner (1979) described a set of interrelated nested ecological levels in which human development occurs that can be applied to early childhood teachers. The microsystem is the setting in which the individual is immersed at any given moment in time. It includes a pattern of activities, social roles, and interpersonal relationships that lead to more complex interactions with the environment (Bronfenbrenner & Morris, 2006). Early childhood teachers' microsystems may include their family, the work environment, and the college environment (if enrolled in coursework.) The mesosystem includes the set of microsystems comprising the individual's developmental position within a particular period of development. The microsystems in which early childhood teachers are enmeshed interact with each other and influence how the individual person develops and changes.

The system in which the individual is not directly involved, yet has influence on the individual's development is the exosystem. Examples of exosystems related to early childhood teachers may include their center administrators' and co-workers' microsystems apart from the center work environment and the microsystems of the

families and children in their classrooms. If enrolled in coursework, college advisors, instructors and fellow students bring the influence of their individual microsystems to early childhood teachers' experiences. Finally the macrosystem is the ecological level in which all systems are contained and includes the culture, government, and public policy. Child care teachers are affected by the macrosystem in the ways in which government agencies regulate early childhood programs and how public policy affects funding for early childhood programs and guides recommendations and requirements for practice.

Bronfenbrenner (1979) expanded his work and constructed a theoretical model to study human development that includes four interrelated components: person, process, context, and time (PPCT). In this model, the *person* (P) is the developing individual. Early childhood teachers possess individual characteristics that set them apart from others and influence their behaviors. For example, sex, race, socio-economic status, family background, current family structure, personal attitudes and beliefs, learning abilities, and educational background are individual characteristics of early childhood teachers that impact their development. Bronfenbrenner and Morris (2006) also identified dispositions, resources (skills, abilities, and knowledge) and demand characteristics as important person (P) characteristics that will affect the proximal processes of human development.

The *process* (P) component of Bronfenbrenner's model involves the developing person's interactions with other individuals, as well as with objects and symbols within the environment (Bronfenbrenner & Morris, 2006). Early childhood teachers engage in interactions with early childhood program administrators and co-workers; children (both in their classroom and within the larger program); and the parents and families of

children in the program. If enrolled in college, the processes (P) for early childhood teachers expand to interactions with college administrators, faculty, and fellow students. Teachers also interact with the philosophies and policies of the program in which they work and the colleges that they attend. Likewise, structural components of the work and school environments also impact these processes. These proximal processes are posited to result in either competence or dysfunction for the developing person (Bronfenbrenner & Evans, 2000), therefore the quality and outcomes of these interactions have implications for individual development.

The ecological systems that Bronfenbrenner first identified are considered to be the context (C) within the PPCT model. The microsystem, mesosystem, exosystems, and macrosystem independently and simultaneously exert influence on the developing person. As previously discussed, early childhood teachers are uniquely situated within these systems, and each system affects their development and behavior. The individual characteristics of the teacher; the quality of program administration and level of support for professional development; and the community college environment and student supports would affect early childhood teachers' academic success in this model.

Finally, the time (T) component of the model allows individual development to be understood by temporal factors. This time (T) component is known as the chronosystem in Bronfenbrenner's model and involves the duration of time. For example work experiences over time can influence individual development. If an early childhood teacher works in a program that does not support professional development for longer periods of time, it is possible that academic success can be compromised. Likewise, the

length of time that it takes an early childhood teacher to complete a degree may affect academic success. It is possible that early childhood teachers who take longer to complete degrees may experience less success, especially if they become discouraged or lose momentum for personal, academic, or work-related reasons. Length of time enrolled in college may also affect teachers in different ways. Newer students may need more supports than veteran students in order to foster academic success. Time can also be understood in terms of the historical time in which development occurs. The current licensing regulations and educational requirements will impact the developing early childhood teacher according to this theoretical perspective. Thus, developing teachers and their interactions with others, objects, and symbols within their environments occur within the various contexts over time, which can influence how well they do academically.

Socio-ecological Perspective

Paula Jorde-Bloom (1986) has applied a socio-ecological perspective to child care environments in examining teacher job satisfaction and work attitudes. It is believed that an interactionist model, focusing on the person and the environment and the dynamic interaction between the two, is instrumental to understanding human behavior and development (Jorde-Bloom, 1986). In this model, motivation is viewed as a thinking process that mediates between the individual and the environment and there is recognition that jobs differ in their demands and opportunities and that teachers differ in their needs and abilities (Jorde-Bloom, 1986). This model can easily be applied to the study of early childhood teacher academic success. Some classes may be more

challenging for some students. Likewise students possess different abilities, with unique strengths and weaknesses in academic skills. Similarly, work environments have differing educational requirements and teachers in those environments have varying levels of motivation to increase their education. Thus, it is necessary to take into account the individual, the environment, and the interaction between the person and the environment.

The socio-ecological model also acknowledges the “synergistic” (p. 171) relationship between components of the work environment; thus change in one component will affect other components (Jorde-Bloom, 1986). Jorde-Bloom (1991) further expanded her work and developed an organizational model that illustrates how the components of the child care work environment are interconnected and interdependent. People, structure and processes are interrelated components of a system embedded within the unique culture of the child care center. The child care center is considered an open system because it interacts with the external environment (i.e. families, the community). Outcomes in this model are related to the complex interactions of components within the system and/or the interaction of the system with the external environment. If the academic success of child care teachers is considered to be the outcome, the relationship between the individual person (i.e. the teacher), the structure of the child care center, the processes of interaction within the system, and the external influence of the outside world would all impact a teacher’s academic success. Any change to a component of the system will inevitably affect other components.

This model is useful in framing a study of early childhood teacher academic success, because it emphasizes that outcomes are not related to only one factor. Instead,

the desired outcome is a result of an effective combination of system components, meaning that change can only be successful when other components of the system support the change (Jorde-Bloom, 1991). Similarly, Buell and Cassidy (2001) argue that change in any one area of the child care system will impact other areas. For example, if a center is requiring a teacher to enroll in college, the academic experience of that teacher cannot be successful if other areas of her work life do not support that endeavor. Likewise, policy makers who work to increase educational standards must at the same time support initiatives that enable early childhood teachers to be academically successful and assist higher education system in meeting the demands of delivering the needed education. Overall, the foundation of socio-ecological perspectives can be useful in understanding the complex and interactive nature of the individual and the environment and how that interaction impacts academic success.

Social Cognition Theory

Motivation theory is the prevailing perspective in which academic persistence and achievement has been explored. However, motivation has proven to be a complex construct to operationalize, which makes it difficult to expound its underlying mechanisms (Semmar, 2006). Although there are many complex and diverse paradigms and perspectives that have explored motivation and academic achievement, social cognition is the common approach to examining this relationship in the motivation research (Goudas, Marios, Biddle & Stuart, 1995). Motivation is defined as the intentions and goals for engaging in a particular activity or task (Lerner, Theokas, & Bobek, 2005).

It is believed that individual motivation is shaped by internal mechanisms and their interaction with the external environment (Semmar, 2006).

It is important to recognize that motives may not be confined to one single goal or line of action, nor are they permanently fixed (Iphofen, 1996). Engaging in an activity for the purpose of achieving a desired outcome is *extrinsic motivation* (Guay, Marsh, Dowson, & Larose, n.d.). For example, better pay or advancement in the profession may motivate early childhood teachers to pursue a college degree. An individual could also be motivated by *intrinsic* reasons, which means they are pursuing the goal for no other reason than enjoyment, challenge, pleasure or interest (Lepper, Corpus, & Iyengar, 2005). In this case, the early childhood teacher enrolls in college coursework because of a desire to learn more about child development and appropriate practices for personal growth and satisfaction.

One must be cautious not to view intrinsic and extrinsic motivation as two opposite ends of a continuum, but rather recognize that individuals may possess differing and/or simultaneous degrees of intrinsic and extrinsic motivation (Semmar, 2006; Lepper, Corpus, & Iyengar, 2005). Therefore, individual early childhood teachers may be pursuing a degree for both intrinsic and extrinsic motivational factors. Interestingly, it has been proposed that intrinsic and extrinsic rewards may actually collaborate to motivate learning (Harter, 1981). For example an early childhood teacher may desire to do a better job in the classroom and believes that college will help in that area. This motivation may be intrinsic because of their own personal desire for competence, while at the same time

the extrinsic rewards of recognition and compensation that may come along with improved job performance may also motivate the individual to pursue an education.

Finally, *amotivation* is a third type of motivation orientation that has been defined by theorists interested in academic success. Individuals who do not possess the drive to engage in learning because they do not recognize the importance of the activity or fail to see the benefits of learning are considered to be amotivated. Early childhood teachers who do not believe that earning a college degree will benefit them may not be motivated to take classes. However, if forced to take classes due to job requirements, these teachers may struggle academically because of their amotivational tendencies.

Theoretically, motivation orientations derived from social cognition theory provide an interesting individual factor in which to explore academic success. Academic motivation for early childhood teachers very well may be influenced by the professional constraints of the child care industry that offer clear extrinsic rewards for education. The individual characteristics of early childhood teachers also affect motivation orientation, such as but not limited to personal interests, feelings of competence, or beliefs about the value of education. Perhaps early childhood teachers' academic motivations provide insights into the beneficial ways of encouraging and supporting teachers in their educational pursuits.

An individual's motivation is a driving force of academic success within social cognition theory. However, this can link back to Bronfenbrenner's person characteristic, which recognizes that the developing individual possesses unique motivational factors that influence their reasons for enrolling in college. Person characteristics of dispositions,

resources, and demand characteristics affect the direction and power of proximal processes (Bronfenbrenner, 2006). Proximal processes are influenced by the developing person's disposition, resources, and demand characteristics. An individual's disposition can either sustain or stunt academic success. Resources, which include the abilities, experiences, knowledge, and skills of an individual, can impact academic motivation and by extension academic success. Finally, demand characteristics elicit or discourage reactions from the social environment, which can either enhance or disrupt academic motivation and success. For example, an individual's demand characteristics can influence the encouragement and help extended from an advisor or instructor. Furthermore, the socio-ecological perspective and social cognition theory also describe motivation as a process that is influenced by the interaction of individual and environment. Thus, the theoretical framework discussed was important to this study by bringing focus to how the process of academic motivation and environmental factors of the child care center and community college relate to academic success of early childhood teachers.

CHAPTER III

REVIEW OF THE LITERATURE

The review of literature explores several areas of research. First, intrinsic motivation is presented as the leading motivation orientation found to be related to academic success throughout the literature. Secondly, extrinsic motivation is offered as an influential motivational factor specific to the early childhood field. Better pay and opportunity for educated teachers, regulations that promote early childhood teacher education, and compensation programs that reward education are examples of extrinsic motivators that are examined. Finally, child care center professional development support and community college student support are two other areas of research reviewed. The ways in which these support systems have been found to affect academic success are discussed.

Motivation Orientation

Intrinsic motivation. Adult education researchers have examined the characteristics of adult learners that are related to academic achievement. Pajares (1992) contends that there is strong empirical evidence suggesting that beliefs are the best predictors of individual behavior. Thus, the beliefs that child care teachers hold regarding the value of a college education and their motivation for pursuing an education would have some effect on their academic performance. The literature on motivation has suggested that intrinsic motivation is positively linked to learning outcomes. Several

studies in school children have shown positive correlations between intrinsic motivation and academic achievement (Lepper, Corpus & Iyengar, 2005). The adult education literature also supports a link between intrinsic motivation and achievement. Pintrich and DeGroot (1990) found that intrinsic motivation mediated the relationship between cognitive and self-regulating strategies and academic performance. Students in the study who were interested in learning the material for its own sake and who believed the material to be meaningful and important were more likely to employ cognitive and self-regulating strategies that positively influenced academic performance.

In a study of motivational orientations in a college setting, Vallerand and Bissonnette (1992) found that students were more likely to drop out when they had lower levels of intrinsic motivation and regulation and higher levels of amotivation. In an extension of this study, Goudas and colleagues (1995) reported that intrinsic motivation in a university physical education course for student teachers was a strong predictor of intention, meaning that student teachers who were more intrinsically motivated were more likely to want to take a similar course in the future. The authors discuss that fostering intrinsic motivation in students encourages continued involvement and behavioral persistence (Goudas, et. al., 1995).

Furthermore, studies by Ng (2002) and Gardner and Lambert (1972) found motivational goals to be related to learning outcomes. In Ng's (2002) study of distance learning in college, motivational goals were positively related to higher self-efficacy beliefs, and self-efficacy beliefs were found to be a strong predictor of academic achievement. In their research on French language learning, Gardner and Lambert (1972)

found that students who were motivated to learn French for instrumental reasons like getting a high paying job or traveling abroad were not as successful as students who were motivated to learn French for integrative reasons, as in wanting to interact or even become a part of the target language group.

Extrinsic motivators for early childhood teachers. Because the literature has suggested that intrinsic motivation is a strong predictor of success, it should be noted that there are some compelling reasons why early childhood teachers are more apt to be extrinsically motivated to attend college. Motivation to increase education may be linked to the promise of better pay, advancement, and more job opportunities. In a study of staffing and stability in pre-kindergarten programs, publicly operated programs required more teacher education and provided benefits and higher pay (Belm, Burton, Whitebook, Broatch, & Young, 2002). Early and Winton (2001) found that most states are currently providing early care and education funding and many of those initiatives require participating programs to employ college educated teachers. Furthermore, North Carolina child care workforce data has shown that increasing levels of education appear to be related to higher earnings and that higher level positions within child care centers earn more (CCSA & FPG, 2003).

Another extrinsic motivator in the North Carolina child care system is the availability and prevalence of salary supplement programs. These programs provide salary supplements to the lowest earning teachers based on the education level the teacher has reached on the salary supplement scale. Participants in these salary supplement programs earn a supplement annually by remaining employed at the child care program

for a particular length of time. These programs aim to increase early childhood teacher salaries based on the education and commitment of the participants at no expense to employing child care centers. Currently, the Child Care WAGE\$® Salary Supplement Program funded by local Smart Start partnerships and administered by CCSA is offered in 63 counties throughout North Carolina (CCSA, 2007). In some areas, local partnerships operate their own salary supplement programs. The existence of these programs serves as another extrinsic motivator in the examination of early childhood teacher education.

Due to regulatory developments, early childhood teachers will need to meet educational requirements in order to attain positions that offer better pay and benefits. Similarly, if they hope to advance in their profession, more education will be necessary. Salary supplement programs add another layer of motivation as oftentimes participants need to increase their education in order to move up the supplement scale and earn a greater amount, or in some cases to retain their supplement awards. For all these reasons, early childhood teachers may be more extrinsically motivated to take college classes. If early childhood teachers are motivated solely by extrinsic rewards and do not have the intrinsic motivation to attend college, their academic success could be compromised.

Early childhood teachers in North Carolina are beginning to feel external pressure to enroll in college coursework due to changes in the regulation and quality ratings of child care licenses that place a greater emphasis on staff education. Child care centers had previously been rated on program standards, staff education, and compliance history. Points were awarded in each of these areas, and total points in each component

determined the number of stars (1-5) awarded to the center. It is assumed that the higher the number of stars a center earns, the higher the quality of care provided by the center. A new licensing law that became effective in January 2008 has removed the compliance component of licensing, which means that program standards and staff education will each hold greater weight compared to the past licensing requirements (North Carolina Division of Child Development, n.d.). Compliance history was omitted from the star rated licensing in order to place more emphasis on staff education. As a result, some child care centers that had strong compliance scores but less educated staff may have their star ratings decrease.

Child care center administrators are motivated to earn higher stars in order to attract and maintain center enrollment. Parents will be more likely to seek programs with more stars to ensure quality child care experiences for their children. Furthermore, market rates for which child care costs are subsidized by the state for lower income families are higher for better quality centers resulting in more revenue for the program. In addition, many services and grant programs offered through North Carolina Smart Start partnerships and resource and referral agencies for quality enhancement are available only to child care centers with three or more stars. Because of these demands, many child care centers are encouraging, and in some cases requiring, their staff to attain more education so the center can earn more staff education points. It is important to note that individuals who are required by their employer to enroll in courses may not feel that it will benefit them or the children in their classrooms. Students who don't see the benefit of education may display negative attitudes toward learning, which may affect their

motivational level to actively participate in the learning process (Semmar, 2006). This most certainly would affect academic success; therefore it is important that early childhood teacher motivation for education is examined more closely.

Child Care Center Professional Development Support

Because early childhood teachers enrolled in college are already practicing, it is necessary to examine how the child care work setting impacts their academic success. Work environment surveys of child care teachers' and administrators' perceptions of working conditions have shed light on how child care work settings affect individuals. Issues related to the professional and educational development of early childhood teachers have been identified through these endeavors and are useful in promoting academic success. For instance, center characteristics, task characteristics, and salary and benefits were the focus of one such study that examined 40 child care workers' experiences and perceptions (Kontos & Stremmel, 1988). It was concluded that the general context of the child care setting, and not the work role or the center auspice, determined working conditions in the child care profession. By extending that idea specifically to professional and educational development in a child care work setting, the particular context in which the child care teacher is embedded will have bearing on any developmental or learning outcome.

Professional orientation. Professional orientation is a construct that reflects the attitudes and behaviors associated with professionalism (Jorde-Bloom, 1989) and provides evidence of the importance of certain types of support that relate to professional development. Proposed by Corwin (1965), it involves an individual's propensity toward

growth and change, acquisition of skills through knowledge, autonomous decision-making, a feeling of belonging to a reference group, achievement of goals, and a commitment to clients and professional associations (Jorde-Bloom, 1989). Professional orientation is more encompassing than staff education, however it is helpful in identifying indicators of child care center professional development support that are related to individual outcomes.

Recognizing that behavior is influenced by both individual background and the work context, Jorde-Bloom (1989) examined the relationship between the professional orientation of child care workers and their centers. Individual professional orientation was analyzed by measuring perceptions of work, involvement in formal education, and affiliation with professional organizations. Policies, practices, and activities that support professional growth were indicators of center professional orientation, along with teacher involvement in decision-making, and role clarity. It was reported that non-profit centers provided more activities and resources to promote professionalism and were found to have higher professional orientations than for profit centers. Individuals working in non-profit centers also scored higher on professional orientation and commitment scales. These findings suggest that professional development support from the child care center has a relationship to individual professional development, although the direction of that relationship is not clear.

Instrumental supports from the child care center. Child care teacher surveys and workforce studies have elucidated the types of professional development support a center should provide in order to promote the academic success of child care teachers. Financial

and temporal constraints impacting professional development and education may be ameliorated by a supportive child care work environment. Jorde-Bloom (1989) found that for-profit child care workers were less likely to receive financial support from their center for professional development and had lower professional orientations. It is possible that because a center's professional orientation involves financial obligations, like contributing to the cost of tuition for college courses or providing a professional library at the center, these kinds of activities conflict with for-profit center's fiscal management philosophies and cut into profit margins (Jorde-Bloom, 1989). This suggests that child care programs that financially invest in their staff's education and offer educational resources, may be more likely to have staff who engage in professional development and education.

In a report of career development in early care and education, the high cost of classes, inadequate funding for professional training, and difficulty of attending classes are set forth as some challenges related to the child care work environment (Morgan, Azer, Costley, Genser, Goodman, Lombardi, & McGimsey, 1993). For example, it was found that early childhood teachers typically subsidize the cost of education and training. Even when funding was available, it was reported that it rarely covered the full cost associated with education and training (Morgan, et al 1993). These findings support the need for employer assistance with the cost of professional development. Providing other resources such as supplies, textbooks, and computer-access are other ways in which the work environment can financially support teachers' academic success.

Time is also a huge factor in academic success of teachers employed in child care centers. Jorde-Bloom (1989) found that half-day programs had higher professional orientations than that of full day programs. Likewise, individuals working in half-day programs scored higher on professional orientation and commitment measures. This illustrates that full-time teachers may have limited time and energy for professional development activities (Jorde-Bloom, 1989).

Academic success of the child care workforce cannot be fully understood without taking into account these time related issues. The demands of working full time and attending college is a balancing act for early childhood teachers, as a large proportion have children of their own (CCSA & FPG, 2003). Offering flexible schedules with release time for professional development activities, including college coursework, are ways in which the child care work environment can instrumentally contribute to early childhood teachers' academic success. Some classes are only offered during the day and some classes are only offered once every couple of semesters. Thus, child care centers should work to accommodate these situations when they arise in order to promote teachers' academic success.

Education and salary. Overwhelming evidence has demonstrated a relationship between early childhood teacher education and compensation (Belhm, et al, 2000; Whitebook, Sakai, Gerber, Howes, 2001; Helburn, 1995). It is logical to assume that child care teachers' motivation and success with education would be rooted in this relationship. Child care centers can support teachers' academic success through intelligent and purposeful administrative policies that establish salary scales linked to the

education level of the teacher. Child care centers should provide job descriptions that detail the educational requirements and salary to their staff. These practices reflect the center's commitment to education with the promise of advancement and higher pay. Morgan, et al (1993) acknowledged that it is difficult for individuals to be motivated to invest in education if it does not lead to better pay. Other policy recommendations support the linkage between education and pay. Without a "coherent wage and career ladder" (Whitebook, 2003, p. 19) in the child care system, the motivation for child care teachers to increase education may be diminished. The Washington State Early Childhood Education Career Development Ladder and San Francisco's Wages Plus program are examples of initiatives that promote the linkage between compensation and education (Whitebook & Eichberg, 2001), in addition to the Child Care WAGES® Project currently administered in several states (CCSA, 2007). It is possible that academic success can be enhanced when child care centers institute clear and logical salary and career scales.

Professional development planning. The evidence that links child care centers' and individual teachers' professional orientations indicates that child care centers need to be involved in their staff's professional development planning. It is possible that the child care center's professional orientation establishes standards and expectations for staff, thereby encouraging more professional behaviors and activities (Jorde-Bloom, 1989). Professional orientation involves the motivation for professional growth and setting professional goals, which can be influenced by the child care work environment. An individual teacher's desire for personal and professional growth may be motivation

enough to seek a college degree. However, child care centers may have to cultivate this motivation in staff that are not as inclined to go to school. Building in organizational mechanisms that enable staff to reflect on their performance is important (Jorde-Bloom 1989), however linking performance evaluations to professional development activities is critical to promoting staff growth and success. In a study of licensing regulations and child care quality, it was recommended that training requirements be part of staff development plans (Gallagher, Rooney, & Campbell, 1999). They should be comprehensive, linked to movement on a career ladder, and progress monitored by staff and administration (Gallagher, Rooney & Campbell, 1999). This practice allows the teacher and center to track the benefits of education as it relates to job performance and classroom quality. The setting and monitoring of educational and professional goals would seem to encourage increased education, especially when associated with higher pay and advancement opportunities. Greater success in on-going educational pursuits is better supported when the center plays a direct role in facilitating this professional development planning.

Center educational climate. The educational climate of the child care program would also seem to have some effect on an individual's academic success. Research has suggested that teachers are responsive to the educational levels of their colleagues, however Whitebook (2003) speculates that child care teachers in low quality child care programs or whose co-workers do not have sufficient professional preparation may not be able to apply the skills and knowledge gained from their education. Similarly, Cassidy, Buell, Pugh-Hoese, and Russell (1995) discuss that despite increased education, without

the support of co-workers and administrators teachers may not engage in developmentally appropriate practices. These possibilities may discourage and deter child care teachers from achieving a positive educational experience if they find that the knowledge and skills they are gaining are not valued or supported at their place of employment. Another possibility is that as teachers become more aware of the developmentally appropriate practices, they may experience personal conflict if they do not observe good practice at their center. Early childhood teachers may have difficulty resolving this conflict and could potentially experience academic problems. The degree to which the centers' educational climate and practice is in line with the individual teacher's educational progress is worthy of further investigation.

How teachers perceive the support, or lack thereof, that their work setting offers them with professional development may be related to their ability to succeed in college coursework. Centers that value and support teacher education would seemingly create work environments that motivate and make it easier for teachers to succeed academically. Financial assistance with tuition and books, release time to balance work and school, compensation for education, and intentional professional development planning linked to performance and career development are important ways in which child care work environments can contribute to academic success. Extending financial and emotional rewards for increasing education may also impact academic motivation and success of early childhood teachers. Bonuses, gift certificates, vacation time, or other such rewards provide encouragement to continue taking classes. Child care centers that communicate teachers' educational accomplishments to staff and parents demonstrate a commitment to

the importance of staff education. Center administrators who exhibit empathy and lend moral support to teachers who are taking classes establish a work environment that supports professional development.

These messages regarding the value of education and the rewards for attained education may relate to academic motivation and success. It is important to examine teacher perceptions of these support mechanisms because it sheds light on how the supports are introduced and administered to staff. Centers may provide these supports in theory, but if applied sporadically, inconsistently, and/or unfairly it is not likely to positively affect academic performance. Assessing if the level and type of support relates to the academic success of early childhood teachers is important to improving professional development philosophies and policies throughout the child care system

Student Success within the Community College System

A focus on determinants of successful early childhood teacher education should also involve the education delivery system for early childhood teachers. Current education systems for early childhood education are diverse and uncoordinated, and it is still unclear “how the amount, intensity, content, and quality of instruction impacts the effectiveness” of early childhood education (Whitebook, 2003). Regardless of these inconclusive findings and recommendations regarding early childhood education, many early childhood teachers’ best option for higher education is at the community college. For the past century, the community college mission has been to provide equal higher education opportunities for all Americans by offering open-door admission policies,

convenient campus locations, low tuition costs, and community service and continuing education programs (Floyd, 2003).

In North Carolina, early childhood teachers are likely to work towards an associate degree due to the affordability and convenience of the community college system. As mentioned previously, the diverse educational background and abilities of child care providers, as well as the financial and time constraints associated with their jobs, make the community college an ideal place to access early childhood education. The North Carolina Community College System (NCCCS) includes 58 different colleges across the state and uses a common course catalog within the Early Childhood Associate Degree program. A common course catalog describes courses and curriculum that are similar in content and credit across community colleges. Therefore, students who are pursuing a degree at their local community college can access the same courses at any community college throughout the state. Many of the colleges offer distance education options, with one college offering the Early Childhood Associate Degree fully on-line (Stanly Community College) and others scheduling more on-line course options.

Additionally, the North Carolina Early Childhood Professional Development Institute has developed a clear and graduated professional development pathway for providers working in the field that is in line with the established formal education delivery systems in North Carolina (North Carolina Institute for Early Childhood Professional Recognition, n. d.). The Early Childhood Associate Degree in Applied Science (AAS) is one of the higher levels on this scale, and thereby a popular goal for early childhood teachers interested in increasing their education. Statewide salary

supplement initiatives (Child Care WAGE\$®) have also energized child care providers to earn associate degrees, as they are awarded greater salary supplements for increasing their education.

Investigation into what educational experiences at the community college level contribute to academic success has been explored throughout the community college literature (McClenney & Waiwaiole, 2005; Derrick, 2003; Shugart & Romano, 2006; Ishitani, 2006; Kuh, Kinzie, Jillian, Schuh, Whitt, Elizabeth, & Associates, 2005) and can serve as a basis for studying early childhood community college students who are working in child care. Course accessibility, academic planning, and learning support are examples of what community college research has suggested are important to academic success.

Course accessibility. Although community colleges are typically more convenient than universities, access to courses may still be difficult for early childhood teachers. Location and scheduling issues are barriers to the accessibility of college courses. The amount of travel time and proximity to public transportation may affect early childhood teachers' willingness to attend training (Morgan, et al, 1993). Likewise, scheduling has been found to affect early childhood teachers' initial participation and persistence in training (Morgan, et al, 1993). Trainings offered during late afternoon, evening, or on the weekend improve early childhood teachers' access to training (Morgan, et al 1993). In addition to these scheduling constraints, psychological barriers may present themselves if early childhood teachers feel intimidated or uncomfortable with training offered at socially and culturally unfamiliar locations (Morgan, et al, 1993).

With advances in technology, distance education has become another option for early childhood teachers to access college coursework. Students, who may not have been able to attend traditional college courses because of physical disabilities, lack of transportation, or the demands of family and work, can take courses through their home computers with internet-access (Floyd, 2003). In addition, colleges offer a variety of different distance learning opportunities ranging from off campus instruction, satellite and video conferencing, audiotapes, correspondence, and independent and home study (Floyd, 2003). Course instruction takes place and assignments are completed at more convenient locations, during the most convenient times. Early childhood teachers' academic success could be influenced by the degree to which their college offers flexible scheduling and a variety of different forms of instruction delivery methods.

Academic planning and learning support. Another way in which to promote community college student success is to have advisors, mentors and counselors available to students (McClenny & Waiwaiole, 2005). Advisors are important because they put the student at ease, guide them in the appropriate direction, assist with the development of academic plans that are based on their work and family demands, while “clearly delineating their pathways to success and the key milestones along the way” (McClenny & Waiwaiole, 2005, p. 40). Innovative college advising programs have been shown to promote student success (Shugart & Romano; McClenny & Waiwaiole, 2005). These programs provide a unified and integrated system for career and educational planning that includes accessible advisors and comprehensive on-line access to student records and school information.

Furthermore, research has suggested that college's efforts to connect students and faculty is also linked to student retention (McClenny & Waiwaiole, 2005). Because higher education can be an intimidating experience with many students not knowing how to navigate (McClenny & Waiwaiole, 2005), it is important that child care teachers establish a relationship with a college advisor. The advisor plays a critical role in encouraging and promoting success. It would seem that early childhood teachers would be more likely to have positive academic experiences if they regularly meet with an advisor for educational planning, and if advisors offered convenient and flexible office hours and appointments. Likewise, computer access to general school information, academic catalogs, and student records, as well as on-line registration opportunities are other practices that encourage participation in the planning and advisement process and support student success.

Colleges can provide learning support that extends beyond the classroom to enhance student success. Virtually all colleges have libraries and offer access to computer labs. Many colleges offer tutoring programs that involve study groups, online and face-to-face tutoring, computer services, foreign language labs, and academic strategy seminars (McClenny & Waiwaiole, 2005). However, students' initiative to take advantage of these resources and programs may vary. Early childhood teachers have diverse backgrounds and skill sets, which have implications for the effectiveness of learning support. Colleges that inform students of educational resources and encourage students to take advantage of the available supports create an enriching learning environment. Monitoring student progress and offering academic and learning support

when needed are other ways in which community colleges have been shown to promote academic success. The community college system is instrumental in fostering student success. With flexible course scheduling and diverse instructional methods early childhood teachers have a better chance to succeed. Furthermore, effective academic advisement and strong relationships between students and faculty are important to early childhood teachers educational progress. Finally, the resources and services that colleges provide to students, especially to those students who are struggling, may influence student persistence.

CHAPTER IV

STUDY PURPOSE AND RESEARCH QUESTIONS

The overarching goal of this study is to better understand the relationship between ecological factors and the academic success of participants of the T.E.A.C.H. Early Childhood® Associate Degree Scholarship Program for Child Care Center Teachers. The T.E.A.C.H. Early Childhood® Project, developed and administered by Child Care Services Association, is a comprehensive early childhood professional development initiative that offers scholarships to child care providers already working in the field. The T.E.A.C.H. Early Childhood® Project was first launched in North Carolina and is currently licensed and administered in 22 other states.

The Project's main goals are to improve child care quality by addressing the low education levels of child care teachers, the low pay and lack of benefits of the child care workforce, and high teacher turnover rates. Seeing the issues of education, compensation and retention as interrelated, the vision of the Project is to not only affect change in the individual teacher through education and professional development, but to yield change within the larger child care system by advancing a comprehensive model of teacher development that recognizes the importance of child care employers' investment in teacher development and the linkage between education and salaries. Furthermore, the Project strives to improve the infrastructure of existing formal education delivery systems through the funding of scholarships that increase enrollment.

The T.E.A.C.H. Early Childhood® Project is aligned with the socio-ecological perspective, which provides the theoretical foundation for this study. For example, the philosophies of the Project support the proposition that change in one part of a system will affect other parts of the system. Hence, the strategy of improving child care quality through teacher education can only be effective when teachers are sufficiently compensated. After all, the benefits of teacher education will not be sustained in child care if teachers are forced to leave the field for higher paying jobs. Additionally, the Project informs this study by providing a basis for assessing child care center professional development. Contribution towards education costs, paid release time for school, and compensation based on education level are a few examples of scholarship components that exemplify child care center professional development support. These can be considered as the proximal processes from Bronfenbrenner's perspective (1979) within child care centers and will help guide the study.

Applying theories about individual academic motivation specifically to early childhood teachers is the first step towards understanding their academic success, especially considering the unique professional issues that pervade the field. Current research in early childhood teacher education has not attempted to investigate individual academic motivation, instead focusing mostly on the linear relationship between teacher education and child care quality and child learning outcomes. The earlier part of the equation, which involves the educational experience of the teacher, is not central to these investigations. The person characteristic of Bronfenbrenner's model (1979) is central to the idea of individual academic motivation. Early childhood teachers' attitudes and

beliefs about the value of education and the driving reasons for furthering their education would seemingly affect their academic performance. Likewise, chronosystem factors from Bronfenbrenner's perspective (1979) will be explored by looking at differences between scholarship participants who have varying lengths of scholarship participation. College experience and the amount of time enrolled in college may have differing effects on academic success. Thus, this study aims to elucidate individual differences in academic success by examining the academic motivation orientations of participants of the T.E.A.C.H. Early Childhood® Associate Degree Scholarship Program for Child Care Center Teachers. See Figure 1 for the Academic Motivation Model.

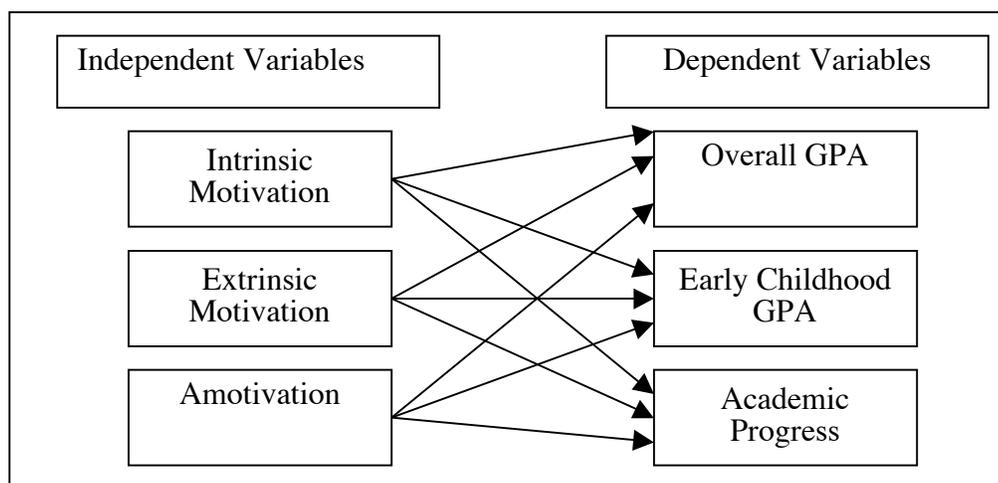


Figure 1 Academic Motivation Model

Another goal of the study is to expand the scope of individual academic success by looking at the systematic effects of early childhood teachers' work and college environments. Focusing on multiple ecological factors and the interrelated relationships between systems is essential to advancing an integrative approach to early childhood

teacher education and success. The data gathered from demographics studies of child care work environments and child care teacher surveys have helped to identify elements of the work environment that enhance teaching experiences and professional development. The information gained from these previous studies provides a framework for assessing childcare center professional development support. Thus, the study focused on instrumental supports provided by the child care center (i.e. flexible scheduling, access to textbooks, computers, and other learning resources), salary, evaluation and development policies, and educational climate. See Figure 2 for the Child Care Center Support Model

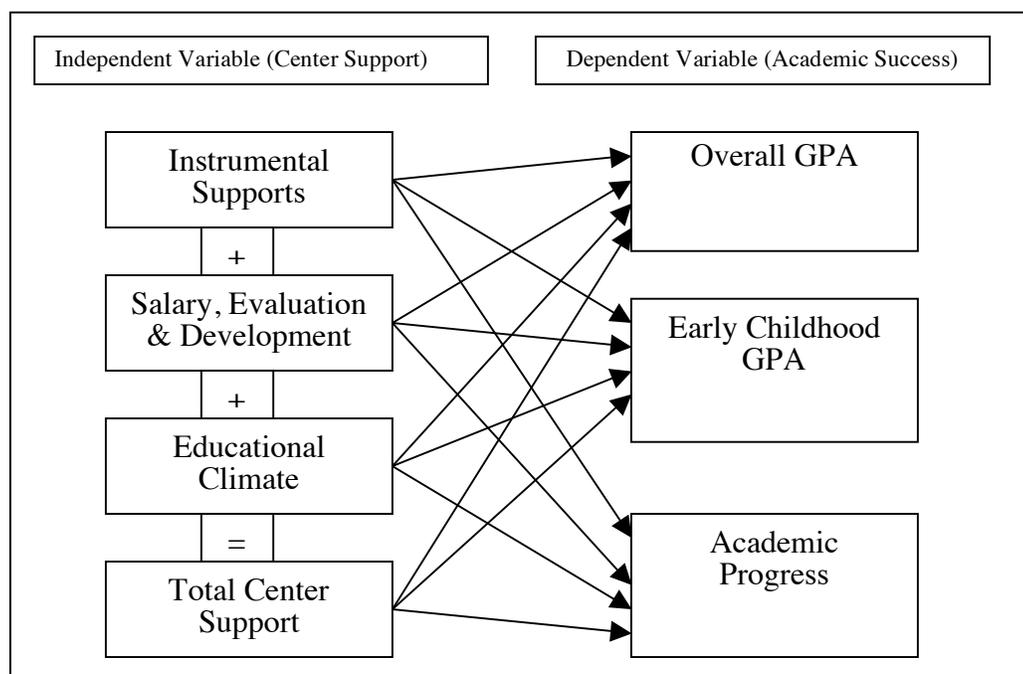


Figure 2 Child Care Center Support Model

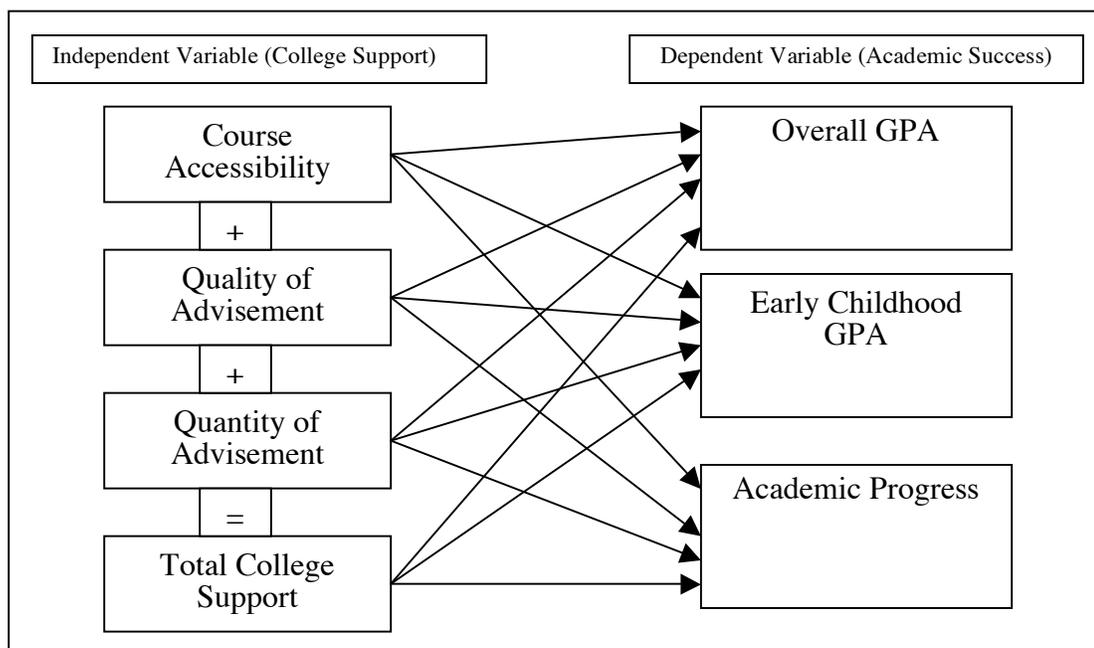


Figure 3 College Support Model

Likewise, the level of student support the community college offers to students is another area that deserves attention in the study of early childhood teacher academic success. The community college literature highlights strategies and programs that enhance student success as a whole. The information gained from this body of work is the basis for examining the third level of analysis in the current study. Applying what is already known about community college student success to early childhood students who struggle with unique professional issues and multiple demands can be helpful in understanding the complexities of their academic success. As such, this study concentrated on course accessibility and academic advisement quality and quantity. As rooted in theory, early childhood teacher academic success requires support from all systems. Therefore, it is imperative that child care center professional development

support and community college student support be operationalized and their relationship to academic success be analyzed. See Figure 3 for the College Support Model

It is a complex and huge undertaking to fully understand the ecological factors that contribute to academic success. However, targeting the individual, the work environment and community college setting offer a good starting point for understanding this phenomenon. This study therefore aims to test the individual relationship between the academic motivation and academic success of T.E.A.C.H. Early Childhood® Associate Degree Scholarship Program for Child Care Teachers participants; child care center professional development support and academic success; and community college student support and academic success.

College academic success is a complex process, involving operations at many different levels. From school age children to adult learners, researchers have studied and identified many factors that predict academic success. Early childhood teachers face unique challenges when taking college classes, therefore extending what is already known about adult learners and support systems available to them can benefit the entire early childhood system. As the number of early childhood teachers entering college increases due to regulatory and professional changes, promoting their academic success is a target area of concern. A focus on the individual teacher's academic experience may eventually lead to more consistent findings regarding the impact of early childhood teacher education on classroom quality and child outcomes.

Also, if increased educational standards is the direction in which the profession is moving it is imperative to inform child care centers on how to best support their staff who

need to increase education. Child care centers cannot be omitted from the equation, as it is suspected that they play a pivotal role in early childhood teacher academic success. Similarly, if a relationship between certain community college support and academic success is found, strategies for promoting student success among early childhood teachers can be recommended to community college educators. Thus, this study intends to inform practice by offering evidence for the importance of supporting early childhood teacher academic success as a whole.

Research Questions and Hypotheses

Academic Motivation and Academic Success

Research Question 1. What is the relationship between academic motivation orientation as measured by the AMS and the academic success of T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants as measured by a) grade point average (GPA) and b) the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime?

Hypothesis 1a. It is hypothesized that higher levels of intrinsic motivation as measured by the AMS will have a significant positive correlation to the academic success of T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants as measured by GPA. A Pearson r correlation will be used to test this relationship.

Hypothesis 1b. It is hypothesized that higher levels of amotivation as measured by the AMS will have a significant negative correlation to the academic success of

T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants as measured by GPA. A Pearson r correlation will be used to test this relationship.

Hypothesis 1c. It is hypothesized that higher levels of intrinsic motivation as measured by the AMS will have a significant positive correlation to the academic success of T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants as measured by the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime. A Pearson r correlation will be used to test this relationship.

Hypothesis 1d. It is hypothesized that higher levels of amotivation as measured by the AMS will have a significant negative correlation to the academic success of T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants as measured by the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime. A Pearson r correlation will be used to test this relationship.

Research Questions 2. Which type of academic motivation is the strongest predictor of T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by a) GPA and b) the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime?

Hypothesis 2a. It is hypothesized that intrinsic motivation will be the strongest predictor of academic success as measured by GPA. Multiple regression analysis will be used to test this prediction.

Hypothesis 2b. It is hypothesized that intrinsic motivation will be the strongest predictor of academic success as measured by the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime. Multiple regression analysis will be the used to test this prediction

Child Care Center Instrumental Supports and Academic Success

Research Questions 3. What is the relationship between child care center instrumental supports (i.e. flexible work schedules, textbooks, and computer usage) and T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by a) GPA and b) the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime?

Hypothesis 3a. It is hypothesized that child care center instrumental supports (i.e. flexible work schedules, textbooks, and computer usage) will have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by GPA. A Pearson r correlation will be used to test this relationship.

Hypothesis 3b. It is hypothesized that child care center instrumental supports (i.e. flexible work schedules, textbooks, and computer usage) will have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child

Care Center Teachers participants' academic success as measured by the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime. A Pearson r correlation will be used to test this relationship.

Staff Salary, Evaluation and Development Policies and Academic Success

Research Questions 4. What is the relationship between staff salary, evaluation and development policies of child care centers and T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by a) GPA and b) the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime?

Hypothesis 4a. It is hypothesized that staff salary, evaluation and development policies of child care centers will have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by GPA. A Pearson r correlation will be used to test this relationship.

Hypothesis 4b. It is hypothesized that staff salary, evaluation and development policies of child care centers will have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime. A Pearson r correlation will be used to test this relationship.

Educational Climate and Academic Success

Research Questions 5. What is the relationship between the child care center's educational climate as measured by the number of staff education points in the center's star rated license and T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by a) GPA and b) the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime?

Hypothesis 5a. It is hypothesized that child care centers' educational climates as measured by the number of staff education points the center received on its star rated license will have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by GPA. A Pearson r correlation will be used to test this relationship.

Hypothesis 5b. It is hypothesized that child care centers' educational climate as measured by the number of staff education points in the star rated license will have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime. A Pearson r correlation will be used to test this relationship.

Child Care Center Professional Development Support and Academic Success

Research Questions 6. What is the relationship between the total level of child care center professional development support as measured by a) instrumental supports from center, b) staff salary, evaluation and development policies, and c) the educational climate of the center and T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by a) GPA and b) the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime?

Hypothesis 6a. It is hypothesized that the higher levels of child care center professional development support as measured by a) instrumental supports from center, b) staff salary, evaluation and development policies, and c) the educational climate of the center will have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by GPA. A Pearson r correlation will be used to test this relationship.

Hypothesis 6b. It is hypothesized that the higher levels of child care center professional development support as measured by a) instrumental supports from center, b) staff salary, evaluation and development policies, and c) the educational climate of the center will have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by the percentage of the maximum number of credit hours

sponsored by the scholarship program completed during the scholarship participation lifetime. A Pearson r correlation will be used to test this relationship.

Community College Course Accessibility and Academic Success

Research Questions 7. What is the relationship between community college course accessibility and T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by a) GPA and b) the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime?

Hypothesis 7a. It is hypothesized that higher levels of community college course accessibility will have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by GPA. A Pearson r correlation will be used to test this relationship.

Hypothesis 7b. It is hypothesized that higher levels of community college course accessibility will have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime. A Pearson r correlation will be used to test this relationship.

Research Questions 8. What is the relationship between both the quality and quantity of community college academic advisement measured individually and T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center

Teachers participants' academic success as measured by a) GPA and b) the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime?

Hypothesis 8a. It is hypothesized that higher levels of both community college academic advisement quality and quantity measured individually will have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by GPA. A Pearson r correlation will be used to test this relationship.

Hypothesis 8b. It is hypothesized that higher levels of both community college academic advisement quality and quantity measured individually will have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime.

Total Community College Student Support and Academic Success

Research Questions 9. What is the relationship between the total level of community college student support as measured by a) course accessibility, b) quality of academic advisement, and c) quantity of academic advisement and T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by a) GPA and b) the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime?

Hypothesis 9a. It is hypothesized that the higher levels of community college student support as measured by a) course accessibility, b) quality of academic advisement, and c) quantity of academic advisement will have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by GPA. A Pearson r correlation will be used to test this relationship.

Hypothesis 9b. It is hypothesized that the higher levels of community college student support as measured by a) course accessibility, b) quality of academic advisement, and c) quantity of academic advisement will have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime. A Pearson r correlation will be used to test this relationship.

Strongest Predictor of Academic Success

Research Questions 10. Which variable (intrinsic motivation, extrinsic motivation, amotivation, child care center professional development support, community college student support) is the strongest predictor of academic success as measured by a) GPA and b) the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime?

Hypothesis 10a. It is hypothesized that intrinsic motivation will be the strongest predictor of academic success as measured by GPA. Multiple regression analysis will be the used to test this prediction.

Hypothesis 10b. It is hypothesized that intrinsic motivation will be the strongest predictor of academic success as measured by the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime? Multiple regression analysis will be the used to test this prediction.

CHAPTER V

METHODOLOGY

Procedure

The T.E.A.C.H. Early Childhood® Project recognizes that education is important to child care quality and that child care teachers need support to attain the recommended education. Therefore, scholarships are awarded to child care providers who are already working in licensed child care programs and who are making less than a rate of pay comparable to public school teachers' salaries (about \$14.60 per hour.) The scholarship pays a large percentage of tuition and books and provides a travel stipend each semester the scholarship participant is enrolled. In addition, the sponsoring center agrees to schedule paid release time to help scholarship participants balance work and school demands. Scholarship participation also includes counseling services to assist participants with navigating the scholarship program and the broader professional development system. These provisions target the individual early childhood teacher as they follow their professional development path.

In an effort to instill the importance of child care center investment in teacher education, scholarships are based on a *partnership principle* requiring the employing child care program to sponsor the teacher's scholarship by contributing towards the costs of formal education leading towards a credential or degree in early childhood education or child development (i.e. tuition and fees, books, and in some scholarship models, paid

release time.) The scholarship program contributes a large percentage towards tuition and books and reimburses the center for release time granted to scholarship participants, helping child care centers to meet increased educational standards for licensing. Without scholarship assistance either the center or the teacher, who are already financially strapped, would have to pay the full amount of educational costs.

Addressing the connection between education and pay, the scholarship partnership also requires the child care center to compensate scholarship participants as they reach set education levels by providing a bonus or a raise. Scholarship participants agree to complete a set amount of credit hours and to remain employed for a set commitment period in exchange for scholarship assistance and compensation. The commitment component of the scholarship is another strategy to counteract the issue of turnover, which has been shown to negatively impact child care quality. In essence, if child care centers invest in teacher education and compensate teachers for increased education, they are more likely to attract and retain the highest quality teachers. In addition, if teachers make a commitment to the child care centers that are supporting their professional development and compensating them adequately, there is a greater chance that educated teachers will be able to stay in the field. Consequently, young children are more likely to receive more appropriate and consistent care and education and child care teachers establish their place as educated and committed professionals within the child care system.

T.E.A.C.H. Early Childhood® Associate Degree for Teachers scholarship recipients who participated on the scholarship program during the 2005-2006 academic

year, had education no higher than a high school diploma or GED at the time of the initial scholarship award, and remained employed at their sponsoring center through the Summer 2006 semester were the target recruitment group in which to investigate early childhood teachers' academic success. This group had varying lengths of participation time, with some participating for several years and others participating on their first scholarship year during the 2005-2006 academic year. It was decided that scholarship recipients who had already attended college prior to the start of scholarship participation would be excluded from the recruitment group. The assumption was that students who have had prior college experience would be more likely to enjoy academic success because of increased opportunities for navigating college life. Thus, using a sample of students who started scholarship participation with no prior college experience would help to eliminate this bias. Scholarship recipients who had left their sponsoring center prior to Summer 2006 were excluded because the scholarship ends when there is a separation of employment and college activity is no longer tracked.

Scholarship recipients in the recruitment group were mailed a packet that included a letter explicitly detailing the purpose and scope of the study (Appendix D), a consent form for permission to use existing T.E.A.C.H. data, the AMS, and a survey designed to assess the level of child care center professional development support and community college student support (Appendix E) that participants experienced during their scholarship participation. Because the researcher was the T.E.A.C.H. Early Childhood® Project Manager, the letter included specific language that assured respondents that their participation was strictly voluntary and agreement or refusal to participate would have

absolutely no bearing on their scholarship participation. The letter also explained that any data collected would not be shared with any other scholarship staff, besides the researcher. Likewise, any data from the T.E.A.C.H. database that was used for the purposes of this study would be kept confidential, as all findings would be presented as group data and no individual names or identifiers would be attached to the data. Permission to access and utilize scholarship recipient addresses and data had been granted by CCSA (Appendix C).

The AMS and survey instrument were assigned random numeric identifiers when they were mailed. A list of numeric identifiers matched to mailing addresses was kept in a separate location for follow-up purposes only. When the AMS and survey instruments were returned, the researcher marked the survey as received on the master list. The data collected from the completed AMS and survey was coded at a different time from when it was returned and entered on the master list as received. This measure was intended to ensure confidentiality and reduce the possibility of researcher bias, as the researcher did not know who completed the survey at the time when the data was coded because there was no identifying information other than the randomly assigned number. Return of the signed consent form and completed AMS and survey instrument served as formal consent to participate in the study. Self-addressed stamped envelopes were enclosed in an effort to encourage participation. In addition, respondents were informed that they would be entered into a raffle drawing for a gift certificate as further incentive to participate.

Participants

Initially the target recruitment group included 579 T.E.A.C.H. Early Childhood® Associate Degree Scholarship recipients who were mailed an invitation to participate in the study. The initial response rate was 77 returned surveys. Of the 502 who had not responded, 175 were removed from the target recruitment group because they had either moved with no forwarding address or withdrew from the scholarship program. One scholarship participant returned an empty envelope and indicated a refusal to participate. A follow-up postcard mailing was sent to 327 remaining participants who had not yet responded. Of that group 57 more had moved with no forwarding address or had withdrawn from the program decreasing the target recruitment group to 270. An additional four surveys were returned in response to the follow up mailing. Three surveys were removed from the analysis because the surveys were incomplete and another was omitted because the numeric identifier was removed from the survey by the respondent making it impossible to match with the outcome data. At the end of data collection the final sample resulted in 77 scholarship participants resulting in a response rate of 29%. Of the sample, respondents attended 35 of the 58 North Carolina community colleges and worked in 71 different child care programs in North Carolina.

Measures

Academic Motivation Scale. Individual motivation orientation was measured through the Academic Motivation Scale (AMS) developed by Vallerand and associates (1989). This measurement has proven to have good psychometric properties for college students (Guay, et al, n.d.). The measure consisted of 28 items that asked students to

respond to the question stem “Why are you going to college?” and consisted of seven subscales with four items each (Fairchild, Horst, Finney, & Barron, n.d.). The items are rated on a scale of 1 to 7 (1 = does not correspond at all and 7 = corresponds exactly). A high score on a subscale indicated a high endorsement of that motivation orientation (Fairchild, et al, n.d.). An example of an intrinsic motivation item was “because I experience pleasure and satisfaction while learning new things”, and an extrinsic motivation item example was “because with only a high-school degree, I would not find a high paying job later on.” An example of an amotivation question was “I don’t know; I can’t understand what I’m doing in school.”

Five additional motivation items that were specifically designed for the purpose of the study were added to the AMS to determine if incentives specifically related to the early childhood field served as motivators and predicted academic success. An example of one of these items was “because I can earn a higher salary supplement by taking more classes.” Salary supplements are available to many child care teachers in North Carolina and are awarded based on the education level of the individual. These particular items were rated on a likert Scale of 1-7 with 1 not corresponding at all and 7 corresponding exactly. A high score on this subset of questions indicated that these incentives induced a high level of motivation to take classes.

Child Care Center Professional Development Support. Child care work environment supports were collected through survey questionnaires especially developed for the purposes of this study. Some of the child care center items were inspired by items on *An Assessment of Professional Context with the Child Care Setting* developed by

Cassidy and Buell. The work environmental support questions gauged if centers provided instrumental support to participants, which included resources that supplement staff education (i.e. computer and internet access, textbooks) and flexible scheduling. Items asked respondents to rate their agreement by a likert scale (1-7) on statements such as, but not limited to, “The child care center that sponsored my T.E.A.C.H. scholarship schedules my work hours around my classes” and “The child care center that sponsored my T.E.A.C.H. scholarship provides access to a computer at my work site to complete assignments.” Scores for each of the questions involving instrumental supports were added together to reflect a total score for instrumental supports provided by the child care center. Higher scores indicated that the center provided a higher level of instrumental support to participants. Lower scores meant that the child care center provided a low level of instrumental support.

In addition, the professional issues of salary and career development were addressed by asking about professional development planning and education based salary scales at the child care center of employment. Examples of questions that assessed these types of professional development support were “Does your center have a written salary scale that reflects how starting salaries and increases are determined?” or “Is there a written plan for professional development growth activities (conferences, classes, workshops, advocacy opportunities) that you and the director of the center that sponsored your T.E.A.C.H. scholarship jointly develop each year?” An answer of “Yes” to either of these questions scored 1 point and an answer of “No” scored 0. Scores were added together for each of the questions related to child care center salary, evaluation and

development policies to reflect a total score for this area. A higher score in this area indicated a center that has a high level of staff salary, evaluation and development support, whereas lower scores indicated lower levels of support.

Educational Climate of Child Care Center. A final child care center work environment area that was explored was the educational climate of the child care center. Educational climate was measured based on the number of staff education points awarded to the child care center for licensing purposes. Staff education points are earned based on the percentage of educated teachers employed at the center and the levels of education of staff. Higher staff education points signified a child care center with a strong educational climate, whereas lower scores in staff education reflected child care centers with weaker educational climates. Study participants were linked to the license number of the child care center that was sponsoring their scholarship and staff education points were obtained from the North Carolina Division of Child Development for this measure.

Scores assigned in each area of a) instrumental supports and b) staff salary, evaluation and development policies and c) educational climate of the center were added together to represent the total score reflecting the total level of child care center professional development support. Higher scores indicated that the child care center provided a higher level of professional development support to participants. Child care centers that offered a low level of professional development support would have lower scores when scores from each individual area were added together.

Community College Academic Support. Community college student supports were measured by responses to survey questions developed specifically for this study, which involved course accessibility and the quality and quantity of academic advisement. Examples of questions intended to assess community college course accessibility included, but were not limited to, “The community college you attend offers an adequate amount of on-line classes” and “The community college you attend offers an adequate amount of evening classes.” Academic advisement quality was assessed through questions like “My community college advisor is helpful in planning what classes to take.” These areas were measured through the scoring of responses on a 1-7 likert scale for a total score for each area. Respondents were also asked to report how many times they met with an academic advisor over the past academic year to assess academic advising quantity. Community college academic support was then measured by adding the total number of points scored in the areas of course accessibility and quality of academic advisement for a total score.

Outcome Measures. Academic success was measured in two ways, grade point average (GPA) and the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime, which represented academic progress. Because GPA measures course mastery through rigorous evaluation methods it is a strong indicator of success, and therefore was used as a measurement of academic success. Reliable outcome data was available from the scholarship database where all grades entered were verified with college issued grade reports or transcripts and matched with respondent data from the AMS and survey. This

provided more accurate outcome data than self-reporting measures. GPA was calculated by first converting numeric grades into quality points by multiplying the number of credit hours by the numeric value of the grade earned for each individual class. GPA was then calculated by dividing the total number of credit hours completed into the total number of quality points earned. GPA's were rounded off to the nearest one hundredth percent. Furthermore, academic success based on the types of classes completed was also explored by looking at the GPA in early childhood (EDU) courses and overall GPA as separate outcomes. It is important to note that North Carolina Community Colleges use a straight grading system, therefore there are no plus or minus grades, which may affect the variability of GPA measures.

Finally, the completion of remedial classes was considered. Remedial courses are required to be taken by some students based on the outcomes of placement tests for English and mathematics. If students earn low scores in these placement tests, they may be required to complete certain remedial courses. Students enrolled in these courses do not earn college credit, nor are the grades received in these courses factored into college GPA's. Therefore, these courses were not included in the GPA calculations.

Although GPA is a good indicator of academic success, academic persistence and progress towards a degree is also important to assessing academic success. Therefore, another outcome measure for academic success was determining the percentage of the maximum number of credit hours sponsored by the scholarship program that the scholarship recipient completed during the scholarship participation lifetime. Scholarship participants are awarded yearlong scholarship contracts that allow up to 12 semester

hours per year. The total number of contracts that the scholarship recipient participated through Summer 2006 was multiplied by the maximum number of contract hours allowed per year (12) to determine the maximum number of credit hours scholarship program allowed the participant to complete. The number of actual credit hours the scholarship recipient completed was divided by the maximum number of contract hours they were provided. This value was rounded off to the nearest one hundredth percent and reflected the percentage of the maximum credit hours the scholarship recipient completed, representing persistence and progress towards a degree.

Because participants were recipients of a scholarship program contract requiring the same range of credit hour completion, they had the same chance of completing up to the maximum credit hours allowed per contract year. It was expected that there would be variability in the percentage of maximum credit hours completed because not all scholarship recipients complete the minimum number of credit hours allowed per year (9), despite the scholarship requirements for compensation to be awarded. Others completed the maximum allowed, and in some cases completed more than the maximum. Other scholarship recipients completed somewhere in between these amounts. Because some participants may have not been able to exceed the maximum credit hours available on their scholarship due to center budget constraints, the maximum percentage of credit hours completed used during analysis was 100%, even for those who may have exceeded the maximum allowed.

CHAPTER VI

RESULTS

An explanatory correlational research design was used in this study. The goal of the study was to measure the direction and degree of relationship between certain predictor variables and the outcome variables that were used to define academic success. Preliminary analysis using descriptive statistics was first conducted on participant demographics. In addition, descriptive statistics were run on each predictor variable (Table 1) and outcome measure (Table 2), which included the range, mean score, standard deviation, and skewness of each measure. Cronbach alphas were run on each variable to determine the scale reliability and are also reported in Table 1. Because the data for independent and dependent variables were not normally distributed, scores were transformed to z scores and analysis was run on the converted score instead. The Pearson r correlational statistic was used to test the relationship between each individual predictor variable and each outcome variable. However when the variable involved categorical data, a Spearman correlation statistic was run instead. Furthermore, multiple regression analysis was used to determine which predictor variable was a stronger predictor of academic success within the sample.

Academic Motivation Scale Statistics

Intrinsic Motivation Scale. Analysis was conducted on the 77 completed AMS Surveys. A subset of 12 items on the AMS Survey assessed respondents' intrinsic

motivation to attend college. The scores for each set of items were added together to represent a total intrinsic motivation score that could range from 12 to 84. The internal consistency of the intrinsic motivation scale was acceptable ($\alpha = .93$). Respondents total intrinsic motivation scores ranged from 23 to 84 ($M=63.4$; $SD=14.75$) and were negatively skewed (-0.857). Intrinsic motivation scores were transformed into z scores in order to center the data. See Figure 4 for graph of distribution (Appendix B)

Extrinsic Motivation Scale. The AMS scale also included 12 items intended to measure a respondents' level of extrinsic motivation for attending college. The 77 completed AMS surveys were analyzed. The scores for all 12 items were added together to determine respondents' total level of extrinsic motivation that could range from 12 to 84. The internal consistency of the extrinsic motivation scale was acceptable ($\alpha = .90$). The scores for respondents ranged from 27 to 84 ($M=69.69$; $SD=13.63$) and were negatively skewed (-1.2). In order to center the data and run analysis, extrinsic motivation scores were transformed into z scores. See Figure 5 for graph of distribution (Appendix B)

Amotivation Scale. The level of amotivation reported by recipients was also measured with the AMS Survey. Again, the 77 completed AMS Surveys were used for analysis. Four items assessed amotivation levels for respondents who may be disillusioned or confused about why they are attending college and could have ranged from 4 to 28. The scores for amotivation ranged from 4 to 22 ($M=6.05$; $SD=4.10$) in the sample. The internal consistency of the amotivation scale was acceptable ($\alpha = .73$). A lower amotivation score represented low levels of amotivation and a higher score

indicated a high level of amotivation. Amotivation scores were positively skewed (2.511) indicating that respondents' did not experience high levels of amotivation. Because of the distribution, amotivation scores were converted into z scores before correlational analysis. See Figure 6 for graph of distribution (Appendix B).

Early Childhood Motivators. Five additional items were added to the AMS Survey to assess motivators specifically related to the early childhood field in North Carolina. The purpose of these items was to measure motivators that are currently available in the early childhood field. Salary supplement programs and compensation for increased education, as well as licensing requirements for child care centers that emphasize staff education are examples of these motivators which might have some bearing on an individual's motivation to attend college. The internal consistency for this scale was acceptable ($\alpha = .80$). Scores for these items ranged from 5 to 35 ($M=26.18$; $SD=7.3$) and were negatively skewed ($-.737$). This indicated that respondents reported being more likely to attend college because of these motivators as more of their scores occurred toward the upper end of the scale. These scores were also transformed into z scores before running correlations.

Child Care Center Professional Development Support Measures

Instrumental Supports. The respondents of the survey were asked questions related to the perceived supports that they receive from their employing child care center in the areas of scheduling around class time and instrumental benefits such as access to computers and textbooks. In the area of scheduling respondents were asked to rate five statements on a likert scale (1-7). Additionally, four items on the survey asked

respondents to rate the perceived level of instrumental support from the child care center on a likert scale (1-7). These two scores were added together to capture the perceived level of instrumental supports that child care centers offered respondents. The scores ranged from 9 to 63 ($M=37.25$; $SD=16.29$) and were negatively skewed ($-.107$). The scores for this variable were converted into z scores. The internal consistency of the instrumental support scale was acceptable ($\alpha= .85$).

Staff Salary, Evaluation, and Development Policies. The survey also includes six items that assessed the employing child care program's salary, evaluation and development policies. These items asked respondents yes or no questions as to whether the center had formal salary scales linked to education and engaged in staff evaluation and development activities. The items on this scale were tied together by the idea that staff development, evaluation and salaries are interrelated. Child care centers that have written salary scales which are linked to teacher education and that engage in regular performance reviews that include professional development planning and follow up would seemingly motivate staff to increase education. It was of interest to find out if these types of policies would predict academic success. The overall internal consistency of this scale was acceptable ($\alpha=.70$). Respondents' scores ranged from 0 to 6 with a mean of 3.75 ($SD= 1.70$) and were negatively skewed ($-.637$). Scores for this variable were also transformed into z scores. See Table 3 for the distribution of each individual item on this measure.

Educational Climate. The educational climate of the respondents' child care program was measured by obtaining the total number of staff education points awarded

by the child care programs licensing consultant. The Division of Child Development (DCD), the agency that licenses child care programs in North Carolina, rates the level of staff education and assigns the program points based on those education levels. Scores from DCD were compiled and matched to the employing child care program in which the respondent worked. Scores in this area ranged from 1 to 7 with a mean of 4.51 (SD=1.19) and were negatively skewed (-.684). Five child care programs were omitted from this analysis because education point data were not available because the programs held temporary licenses or had not transitioned to the two component star-rated license system, which awards up to seven education points instead of the maximum of five points in the old licensing system.

Total Child Care Center Support. Scores from each area of the survey related to the employing child care program were added together (16 items) to represent the total level of child care center support afforded to respondents (center scheduling, instrumental supports, staff salary, evaluation and development policies, and educational climate of the center). Because five centers did not have education points to include in the measure for total child care center supports, they were omitted from analysis. Respondent scores ranged from 14 to 75 (N=74; M=46.55; SD=17.06) and were negatively skewed (-.157). Scores on this measure were transformed into z scores in order to center the data. The internal consistency of the child care center professional development support scale was acceptable ($\alpha = .83$).

Community College Student Support

Course Accessibility. Six items on the survey asked respondents to rate on a likert scale (1-7) their perceptions of the accessibility of courses. Items included statements that asked respondents if they believed the college offered an adequate amount of courses in the evening and at satellite campuses. Other items asked respondents to rate the availability of non-traditional courses, such as on-line, hybrid, and telecourses. One survey was omitted from this analysis because the respondent indicated she was now attending a university as she had since moved to a Bachelor's Degree scholarship. The internal consistency of the course accessibility scale was acceptable ($\alpha = .86$). Scores for these items ranged from 6 to 42 ($M=25.05$; $SD=9.24$) and were negatively skewed ($- .013$). See Table 3 for the mean, standard deviation and range for one individual item on this measure.

Academic Advisement. Four items on the survey asked respondents to rate on a likert scale (1-7) their perceptions of the quality of academic advisement at their community college. These items included statements related to their advisors accessibility, helpfulness, and responsiveness to individual work and family demands. Scores for these items were added together to represent a total score for quality of academic advisement. The internal consistency of this scale was acceptable ($\alpha = .79$). Scores for these items ranged from 2 to 28 ($M=21.73$; $SD=6.22$) and were negatively skewed (-1.32). The scores were converted into z scores in order to run the subsequent analysis. Table 3 shows the mean, standard deviation, and range select individual items on this scale. Additionally, respondents were asked to report how many times they

had met with an advisor over the last year. Respondents reported meeting with an advisor an average of 2.19 times (SD=1.56).

Total College Academic Support. Scores from each area of the survey related to the college support (11 items) were added together to represent the total level of college academic support offered to respondents (course accessibility quality and quantity of academic advisement.). One survey was omitted from this analysis because data was not available for course accessibility. Respondent scores ranged from 27 to 85 (N= 76; M=61.53; SD=13.98) and were negatively skewed (-.411). The college academic support scale had an acceptable internal consistency ($\alpha = .83$). Total college support scores were also converted to z scores.

Outcome Measures

Grade Point Average. Data on respondents' academic grade point average (GPA) was available from grades posted in the T.E.A.C.H. Early Childhood® database through the verification of grade reports instead of self-reported grade point average. The overall GPA was calculated for each respondent as well as the GPA of early childhood core coursework and overall coursework. The average overall GPA of respondents was 3.45 on a 4-point scale (SD= .53) and negatively skewed (-1.39). The average early childhood coursework GPA of respondents was 3.56 (SD= .52) on a 4-point scale and negatively skewed (-1.69).

Of note, the North Carolina community college administers a straight grading system, therefore there are no plus or minuses are factored into the GPA calculations. Because the GPA data was not normally distributed, both overall and early childhood

GPA scores were transformed into z scores before analysis. Furthermore, a little over 48% of respondents were required to take remedial English or math coursework based on college placement test scores. These courses are non-credit bearing courses that students need to successfully complete before registering for required English and math courses. Grades from these courses were not included in the GPA calculations. See Figures 7 and 8 for GPA distributions (Appendix B).

Academic Progress Data on participants' academic progress was also available from the T.E.A.C.H. Early Childhood® Project database, which also tracks the number of credit hours scholarship participants complete. Academic progress was measured in this study by multiplying the total number of contract years of participation by the maximum number of credit hours (12) allowed and then dividing that into the total number of credit hours the participant completed during their scholarship lifetime. This calculation determined the percentage of total credit hours possible that the participant completed in order to get a measurement of academic progress and was rounded of to the nearest hundredth. The average percentage of academic progress was .78 (SD= .211) and was negatively skewed (-.670), See Figure 9 for academic progress distribution (Appendix B).

Preliminary Analyses

Participant Demographics. Descriptive analyses were conducted in order to understand the demographics of the participants represented in the sample. Almost ninety-nine percent of the respondents were women and almost 78% had children of varying ages. Almost 25% of respondents had children under the age of five, and almost

47% of respondents had children under the age of twelve. A full description of the ages of respondents' children is reported in Table 4. Over 35 % of respondents reported being single parents and over 34% reported being married with children. Family size varied from one to seven members ($M=3.3$; $SD=1.5$). A full description of respondents' family structure is also reported in Table 4. Family income varied with almost 39% reporting an annual family income of \$19,999 or less and 39% reported receiving some form of public assistance. Further descriptive statistics regarding family income and use of public assistance is reported in Table 5. Finally, respondents' racial/ethnic background is also reported in Table 5.

Academic Motivation and Academic Success

Research Question 1. What is the relationship between academic motivation orientation as measured by the AMS and the academic success of T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants as measured by a) grade point average (GPA) and b) the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime?

Hypothesis 1a. It was hypothesized that higher levels of intrinsic motivation as measured by the AMS would have a significant positive correlation to the academic success of T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants as measured by GPA. This hypothesis was not supported. A Pearson r correlation did not find a statistically significant relationship between intrinsic motivation and overall GPA ($r(77) = -.077, p = .505$). Furthermore, when examining the

correlation between intrinsic motivation and early childhood coursework GPA, no significant relationship was found ($r(77) = -.038, p = .741$).

Hypothesis 1b. It was hypothesized that higher levels of amotivation as measured by the AMS would have a significant negative correlation to the academic success of T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants as measured by GPA. This hypothesis was not supported. A Pearson r correlation did not find a statistically significant relationship between amotivation and overall GPA ($r(77) = -.121, p = .293$). When looking at early childhood GPA as the dependent variable, no significant relationship was found either ($r(77) = -.160, p = .163$).

Hypothesis 1c. It was hypothesized that higher levels of intrinsic motivation as measured by the AMS would have a significant positive correlation to the academic success of T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants as measured by the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime. This hypothesis was not supported. A Pearson r correlation did not find a statistically significant relationship between intrinsic motivation and academic progress ($r(77) = .033, p = .779$).

Hypothesis 1d. It was hypothesized that higher levels of amotivation as measured by the AMS would have a significant negative correlation to the academic success of T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants as measured by the percentage of the maximum number of credit

hours sponsored by the scholarship program completed during the scholarship participation lifetime. This hypothesis was supported. The relationship between amotivation and academic progress was tested and a significant negative correlation was found after running analysis on the transformed amotivation data ($r(77) = -.360, p = .010$). This indicates that lack of motivation in students is related to less academic progress than those who are more motivated.

Research Questions 2. Which type of academic motivation is the strongest predictor of T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by a) GPA and b) the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime?

Hypothesis 2a. It was hypothesized that intrinsic motivation would be the strongest predictor of academic success as measured by GPA. This hypothesis was partly supported. Multiple regression analysis revealed that extrinsic motivation was the strongest predictor of overall GPA ($t(76) = -2.804, p < .010$). In the model with early childhood GPA as the dependent variable, extrinsic motivation ($t(76) = -3.132, p < .01$) and intrinsic motivation ($t(76) = 2.229, p < .05$) each predicted early childhood GPA. Interestingly, extrinsic motivation was found to be negatively related to academic success as measured by early childhood and overall GPA. That is, respondents who had higher levels of extrinsic motivation were not as likely to earn higher GPA's when considering all academic motivation orientations in the regression model. Tables 6 and 7 display the

unstandardized regression coefficients (B) and standardized regression coefficients (β) for each variable.

Hypothesis 2b. It was hypothesized that intrinsic motivation would be the strongest predictor of academic success as measured by the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime. This hypothesis was not supported. Multiple regression analysis revealed that the transformed amotivation variable was the only significant predictor of academic success as measured by academic progress, with a negative relationship ($t(76) = -3.320, p < .001$). As such, respondents with higher levels of amotivation were not as likely to complete as many credit hours as those with lower amotivation scores when considering all academic motivation orientations within the regression model. Table 8 displays the unstandardized regression coefficients (B) standardized regression coefficients (β) for each variable.

Child Care Center Instrumental Supports and Academic Success

Research Questions 3. What is the relationship between child care center instrumental supports (i.e. flexible work schedules, textbooks, and computer usage) and T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by a) GPA and b) the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime?

Hypothesis 3a. It was hypothesized that child care center instrumental supports (i.e. flexible work schedules, textbooks, and computer access) would have a significant

positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by GPA. This hypothesis was not supported. A Pearson r correlation did not reveal that center instrumental supports as measured by a nine-item scale were significantly related to overall GPA ($r(77) = .129, p = .264$) or early childhood GPA ($r(77) = .143, p = .215$).

Hypothesis 3b. It was hypothesized that child care center instrumental supports (i.e. flexible work schedules, textbooks, and computer access) would have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime. This hypothesis was not supported. A Pearson r correlation did not find that center instrumental supports on a nine-item measure were significantly related to academic progress ($r(77) = -.020, p = .863$).

Salary, Evaluation and Development Policies and Academic Success

Research Questions 4. What is the relationship between staff salary, evaluation and development policies of child care centers and T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by a) GPA and b) the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime?

Hypothesis 4a. It was hypothesized that staff salary, evaluation, and development policies of child care centers would have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by GPA. This hypothesis was partly supported. A Pearson r correlation did not reveal a significant relationship between staff salary, evaluation and development policies as measured by six items and overall GPA ($r(77) = .162, p = .177$). However, a significant positive correlation was found between the six-item staff salary, evaluation and development policy scale and early childhood GPA ($r(77) = .243, p = .041$).

Furthermore, a Spearman correlation between education based raises and early childhood GPA revealed a significant positive relationship ($r_s(77) = .268, p = .019$). This was measured by one of the items on the six item staff salary, evaluation and development policy scale that asked respondents to report if their center awarded raises based on staff education. Similarly, a trend was found between one item of the six item staff salary, evaluation, and development policies scale that asked respondents a yes or no question as to whether their centers had written salary scales and early childhood GPA ($r_s(77) = .333, p = .003$). However, the responses were not normally distributed for this item, therefore it is important to take this into account when interpreting this relationship (See Table 3).

Hypothesis 4b. It was hypothesized that staff salary, evaluation and development policies of child care centers would have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers

participants' academic success as measured by the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime. This hypothesis was supported. A Pearson r correlation found a significant positive relationship between staff salary, evaluation and development policies as measured by a six-item scale and academic progress ($r(77) = .255, p = .032$).

Furthermore, a significant positive relationship was found between working in a center that awarded raises based on education and academic progress using a Spearman correlation statistic ($r_s(77) = .401, p = .000$). This was measured by using one of the items on the six-item staff salary policy scale that asked if centers awarded raises based on education. In addition, a positive relationship was found between centers that conducted regularly scheduled staff evaluations as measured by a one yes or no item on the staff salary, evaluation and development six-item scale and academic progress after running a Spearman correlation ($r_s(77) = .256, p = .025$). Although it is important to note that the responses to this item were not normally distributed so one must be cautious when drawing conclusions regarding the correlation between these variables (See Table 3).

Child Care Center Educational Climate and Academic Success

Research Questions 5. What is the relationship between the child care center's educational climate as measured by the number of staff education points in the center's star rated license and T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by a) GPA and

b) the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime?

Hypothesis 5a. It was hypothesized that child care centers' educational climate as measured by the number of staff education points the center received on its star rated license would have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by GPA. This hypothesis was not supported. A Pearson r correlation did not find that the educational climate of the center was significantly related to overall GPA ($r(74) = -.110, p = .359$) or early childhood GPA ($r(74) = -.029, p = .808$).

Hypothesis 5b. It was hypothesized that child care centers' educational climate as measured by the number of staff education points in the star rated license would have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime. This hypothesis was not supported. A Pearson r correlation did not find that center's educational climates were significantly related to academic progress ($r(74) = .158, p = .186$).

Child Care Center Professional Development Support and Academic Success

Research Questions 6. What is the relationship between the total level of child care center professional development support as measured by a) instrumental supports from center, b) staff salary, evaluation and development policies, and c) the educational climate of the center and T.E.A.C.H. Early Childhood® Associate Degree Scholarship

for Child Care Center Teachers participants' academic success as measured by a) GPA and b) the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime?

Hypothesis 6a. It was hypothesized that the higher levels of child care center professional development support as measured by a 16-item scale that included a) instrumental supports from center, b) staff salary, evaluation and development policies, and c) the educational climate of the center would have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers academic success as measured by GPA. This hypothesis was not supported. A Pearson r correlation did not find that the child care center's overall professional development support as measured by a 16-item scale was significantly related to overall GPA ($r(72) = .177, p = .155$) or early childhood GPA ($r(72) = .195, p = .118$).

Hypothesis 6b. It was hypothesized that the higher levels of child care center professional development support as measured by a 16-item scale that included a) instrumental supports from center, b) staff salary, evaluation and development policies, and c) the educational climate of the center would have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime. This hypothesis was not supported. A Pearson r correlation did not find that the child care center's overall professional development support was significantly related to academic progress ($r(72) = .011, p = .929$).

Community College Course Accessibility and Academic Success

Research Questions 7. What is the relationship between community college course accessibility and T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by a) GPA and b) the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime?

Hypothesis 7a. It was hypothesized that higher levels of community college course accessibility would have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by GPA. This hypothesis was not supported. A Pearson r correlation did not find that the college's course accessibility as measured by a six-item scale was significantly related to overall GPA ($r(74) = -.046, p = .696$) or early childhood GPA ($r(74) = -.038, p = .746$).

Hypothesis 7b. It was hypothesized that higher levels of community college course accessibility would have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime. Course accessibility was not found to be significantly related to academic progress ($r(76) = -.175, p = .135$) by using the six-item course accessibility scale. There was one significant finding when looking at the relationship between the college's offering of mini-semester courses (courses condensed to eight weeks), although it was a

negative correlation ($r(76) = -.291, p = .011$). This was measured by one item on the course accessibility scale in which respondents ranked on a likert scale (1-7) their perception of the adequacy of this type of course offering.

Community College Advisement and Academic Success

Research Questions 8. What is the relationship between both the quality and quantity of community college academic advisement measured individually and T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by a) GPA and b) the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime

Hypothesis 8a. It was hypothesized that higher levels of community college academic advisement both quality and quantity measured individually would have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by GPA. This hypothesis was not supported. A Pearson r correlation did not find that the overall quality of academic advisement as measured by a four-item scale was significantly related to overall GPA ($r(77) = .087, p = .454$) or early childhood GPA ($r(77) = .082, p = .478$). However, a significant positive relationship was found between advisors that were easy to contact and early childhood GPA ($r(77) = .232, p = .044$). This was measured by one item on the quality of academic advisement scale that asked respondents to rank on a likert scale (1-7) their perception regarding how easy it was to contact their advisor.

Quantity of academic advisement, which was measured by the respondents reporting of how many times they met with an advisor over the past academic year, was not found to be significantly related to overall GPA ($r(77) = -.003, p = .978$) or early childhood GPA ($r(77) = .034, p = .775$) either.

Hypothesis 8b. It was hypothesized that higher levels of community college academic advisement quality and quantity measured individually would have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime. This hypothesis was partly supported. Overall academic advisement quality as measured by a four-item scale was not found to be significantly related to academic progress ($r(77) = .011, p = .925$). However, a positive correlation was revealed between colleges that required students to meet with an advisor before registration and academic progress ($r(77) = .237, p = .039$). This was measured by one item on the four-item quality of advisement scale that asked respondents to rate on a likert scale (1-7) how the statement of being required to meet with an advisor prior to registration corresponded to them. Finally, a positive relationship was found between quantity of academic advisement per year as reported by the respondent and academic progress ($r(74) = .245, p = .035$).

Total Community College Student Support and Academic Success

Research Questions 9. What is the relationship between the total level of college student support as measured by a) course accessibility, b) quality of academic

advisement, and c) quantity of academic advisement and T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by a) GPA and b) the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime?

Hypothesis 9a. It was hypothesized that the higher levels of community college student support as measured by an 11-item scale that included a) course accessibility, b) quality of academic advisement, and c) quantity of academic advisement would have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by GPA. This hypothesis was not supported. A Pearson r correlation did not find a that the total level of community college student support as measured by an 11-item scale was significantly related to overall GPA ($r(74) = -.005, p = .964$) or early childhood GPA ($r(74) = .024, p = .843$).

Hypothesis 9b. It was hypothesized that the higher levels of community college student support as measured by an 11-item scale that included a) course accessibility, b) quality of academic advisement, and c) quantity of academic advisement would have a significant positive correlation to T.E.A.C.H. Early Childhood® Associate Degree Scholarship for Child Care Center Teachers participants' academic success as measured by the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime. A Pearson r correlation

did not find that the community college's overall student support was significantly related to academic progress ($r(74) = -.003, p = .983$).

Strongest Predictor of Academic Success

Research Questions 10. Which variable (intrinsic motivation, extrinsic motivation, amotivation, child care center professional development support, community college student support) is the strongest predictor of academic success as measured by a) GPA and b) the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the scholarship participation lifetime?

Hypothesis 10a. It was hypothesized that intrinsic motivation would be the strongest predictor of academic success as measured by GPA. This hypothesis was not supported. Multiple regression analysis revealed that extrinsic motivation was the strongest predictor of overall GPA ($t(60) = -2.491, p < .050$) as well as early childhood GPA ($t(60) = -2.898, p < .010$), although in a negative direction. Analysis was run with the converted z scores for each of the variables. This suggests that when considering all academic motivation orientations along with child care center and community college support in the regression model, extrinsic motivation was the most significant predictor of GPA. That is, respondents with higher levels of extrinsic motivation were not as likely to earn higher GPA's. Tables 10 and 11 display the unstandardized (B) and standardized regression coefficients (β) for each outcome variable.

Hypothesis 10b. It was hypothesized that intrinsic motivation would be the strongest predictor of academic success as measured by the percentage of the maximum number of credit hours sponsored by the scholarship program completed during the

scholarship participation lifetime. This hypothesis was not supported. Multiple regression analysis revealed that amotivation was the strongest predictor of academic progress ($t(66) = -1.953, p = .056$), however not significantly. This analysis was run with the converted z scores for each of the variables. Table 12 displays the unstandardized regression coefficients (B) and standardized regression coefficients (β) for each variable.

Additional Analyses

Because many other factors may affect an individual's academic success, it was of interest to explore if any of the demographic information collected correlated with GPA and academic progress in this sample. A few of the variables proved to show statistically significant correlations to both GPA and academic progress. Family structure was not found to be significantly related to any of the measures of academic success. The relationship between ages of children of respondents and academic success measures were further analyzed. No significant relationships were found between having infant/toddlers or preschool children to GPA or academic progress. Likewise no significant relationships were found between all measures of academic success and having adolescent or adult children. However, a Spearman correlation showed that having school age children was negatively related to academic progress ($r_s(77) = -.250, p = .029$).

A Pearson r correlation revealed that family income correlated with GPA in early childhood courses ($r(76) = .290, p = .011$) and academic progress ($r(76) = .250, p = .030$). Although the general use of public assistance was not found to be significantly related to any of the measures of academic success, further analysis of the types of public

assistance revealed some significant negative relationships. Using the Spearman correlation, a negative relationship was found between having children on Medicaid and overall GPA ($r_s(77) = -.248, p = .030$). Furthermore, a statistically significant negative relationship between having children on Medicaid and early childhood GPA was also found after running a Spearman correlation ($r_s(77) = -.302, p = .008$). These findings suggest that having children on Medicaid negatively affected participants' GPA, however there were no significant relationships between types of public assistance and academic progress.

Although the relationship between early childhood motivators (which included salary supplement programs) as a reason for attending college and academic success (GPA and academic progress) did not hold up as a statistically significant relationship in the analysis, participation on a salary supplement program did correlate with academic success. A Spearman correlation showed a positive relationship between participation on a salary supplement program and early childhood GPA ($r_s(76) = .258, p = .025$). In addition, the salary supplement award amount showed a significant positive correlation to both overall GPA ($r(69) = .295, p = .014$) and early childhood GPA ($r(69) = .313, p = .009$) using the Pearson r correlation statistic. It is important to note that many salary supplement programs award supplements for courses in which the participant earns a "C" or better and awards greater supplement awards for early childhood coursework. Thus, it is understandable that the relationship between salary supplement program participation and early childhood GPA is significant, as well as between the supplement award amount

and both overall and early childhood GPA. However, it should be mentioned that the GPA measures lacked variability within this sample.

Finally, separate analysis was conducted on two groups within the sample—participants who had been on scholarship for two or less years ($n=35$) and participants who had been on scholarship for three or more years ($n=42$). For the group with fewer years of scholarship participation, a Pearson r correlation found a significant negative relationship between amotivation (four item measure) and academic progress ($r=-.530$, $p=.001$) after running analysis on the transformed data.

In the area of child care center professional development support, the significant findings were between child care center staff salary, evaluation and development policies as measured by six items and academic progress ($r(35)=.381$ $p=.035$). Specifically, a significant positive relationship was revealed between education based raises for child care teachers, as measured by one item on the staff salary policy scale that asked respondents to indicate if their center awarded raises based on education, and both early childhood GPA ($r_s(35)=.449$, $p=.007$) and academic progress ($r_s(35)=.570$ $p=.000$) within this group. Furthermore, a positive relationship was revealed between working in a center with written salary scales as measured by one yes/no item on the six-item staff salary, development and evaluation measure and early childhood GPA ($r_s(35)=.412$ $p=.014$), as well as between the one item measure that asked respondents if their center provided written salary scales and overall GPA ($r_s(35)=.386$ $p=.022$). Finally, for the group with fewer years of scholarship participation, a significant positive relationship was found between working in a center that regularly scheduled performance reviews and

academic progress ($r_s(35) = .536, p = .001$) as measured by one yes/no item on the staff salary, evaluation and development scale. Despite the correlations between written salary scales and GPA and between annual performance reviews and academic progress, a larger sample would be needed to infer any conclusions as the variability of responses was limited in this sample (Table 3). Further analysis in the area of community college support with the group with two or less years of scholarship participation revealed a positive relationship between an adequate offering of on-line courses as measured by one item on the course accessibility scale that asked respondents to rank on a likert scale (1-7) the adequacy of this type of course offering and both early childhood ($r(35) = .428, p = .010$) and overall GPA ($r(35) = .362, p = .033$). With academic advising, it was found that having an advisor that was easy to contact as measured by one item on the academic advisement quality scale that asked respondents to rate on a likert scale (1-7) their perception regarding how easy it was to contact their advisor was positively related to overall GPA ($r(35) = .406, p = .016$) and early childhood GPA ($r(35) = .424, p = .011$).

For the group who had been on scholarship for three or more years, the only significant relationships found in the separate analysis were a positive relationship between a one item measure that asked respondents to rank on a likert scale (1-7) how a statement regarding required academic advising at their college corresponded to them and academic progress ($r(42) = .322, p = .040$). Also, a significant positive relationship was found between quantity of academic advisement which was measured by asking respondents to indicate how many times they met with advisor over the past academic year and academic progress ($r(42) = .374, p = .017$).

CHAPTER VII

DISCUSSION

The purpose of this study was to empirically explore the relationship between several different factors and the academic success of early childhood teachers participating on the T.E.A.C.H. Early Childhood® Associate Degree Scholarship Program through a socio-ecological perspective. The individual factor of academic motivation from a social cognition theory and the system factors of the child care center of employment and community college of attendance were examined to find out their relationships to academic success as defined by GPA and academic progress. It was also an aim to determine if any of these factors served as a greater predictor of academic success.

The theoretical basis on which this study was based was partially supported by the findings. As Bronfenbrenner (1979) proposed in his PPCT model, it appears that there are some components of the contexts of the child care center of employment and the community college of attendance that have a positive relationship to the academic success of T.E.A.C.H. Early Childhood® Associate Degree Scholarship Program participants. In addition, family microsystem factors were explored during additional analysis to see if they had bearing on academic success, as well as a macrosystem component related to early childhood policy and programs designed to encourage and compensate education for early childhood professionals. As reported there were some

significant findings related to the various measures of academic success in the current study. The time component of the PPCT model could be seen when a separate analysis was conducted based on the respondents' length of participation on the scholarship program. More statistically significant relationships were found between scholarship recipients who had less than 2 years in the program and the child care center salary scales and both early childhood GPA and academic progress. Therefore, it appears that it is very important for these newer scholarship participants to be exposed to these practices in order to promote their academic success. For those scholarship recipients who have participated for more than three years, it is possible that their commitment to increasing their education has made them not as likely as newer scholarship recipients to be motivated by the center and college support factors.

The person component of the model used in this study was academic motivation, which proved to be a limited measure. The AMS survey was used to measure academic motivation and did not reveal the expected results that intrinsic motivation would be the most important predictor of academic success. Despite the failure to find a significant correlation between intrinsic motivation and academic success, it was found that the academic motivation orientation of extrinsic motivation did have a significant negative relationship to early childhood GPA only, and amotivation was found to have a significantly negative correlation to academic progress. Furthermore, the multiple regression model that included all three academic motivation orientations revealed that both extrinsic and intrinsic motivation were significant predictors of early childhood GPA, but not for the other measure of academic success. These findings support the

theoretical assumption that individual motivational factors do exert some influence over a student's ability to succeed academically, although not as expected. Extrinsic motivation was actually found to negatively affect academic success in the study. This suggests that respondents who were driven by external rewards did not do as well academically.

Expanding to the socio-ecological perspective proposed by Jorde-Bloom (1996), the interaction between the individual and the environment was evidenced. As previously mentioned the relationships found between select child care center and college policies and practices have some impact on an individual's academic success. These findings further support Jorde-Bloom's organizational model (1991) in which child care teachers are enmeshed in a work environment that involves interconnected and interdependent relationships between the individual, the child care center's structure and processes, and the interaction of these systems. Compounded by the external influence of the community college environment, child care teachers who are enrolled in college are subjected to the interactions between the individual, the child care center environment and certain college processes. It is important to consider all of these components in order to further the understanding of the factors that influence academic success for teachers working in child care.

Child Care Center Professional Development Support

Although flexible scheduling and instrumental supports were not found to have a significant relationship to any of the measures of academic success in this study as expected, there were some significant findings in other areas of the child care center

professional development support. Working in a child care center that has written salary scales and award raises based on staff education was found to have a positive relationship to all measures of academic success in this study (overall GPA, early childhood coursework GPA, and academic progress). In fact, one of the strongest relationships reported in the current study is between working in a center that awarded raises based on education and academic progress. This suggests that compensation for education may serve as an important motivator towards scholarship participants persevering towards the goal of increased education. Furthermore, child care centers that formally base salary scales on staff education were more likely to have child care teachers that earn higher grades in college coursework.

The process of staff evaluation and development planning at the child care center of employment was also found to have a positive relationship to academic progress. As reported in the current study, there was a positive relationship between working in child care centers that conducted regular staff evaluations and academic progress, but not GPA. Therefore, it is important that child care centers routinely schedule formal staff evaluations. The finding suggests that when staff is involved in an evaluation process they may not be more likely to earn higher grades, but are more likely to proceed towards the goal of increasing their education level. The evaluation process may allow the opportunity to discuss professional development and serve as an incentive to take more coursework.

Community College Student Support

In the area of community college student support, surprisingly overall course accessibility was not found to have a significant positive relationship to any of the measures of academic success in the current study. Although, there was one form of course accessibility found to be negatively related to academic progress. Academic progress was negatively correlated to respondents that reported that their college of attendance offered an adequate amount of mini-semester courses. Because correlational analysis does not suggest causation, it cannot be assumed that offering this type of coursework discourages academic progress. It could be that these types of courses, which are condensed to 8-week sessions, were not as attractive to respondents, thus deterred academic progress in this sample.

The process of academic advisement at the community college was found to have a positive relationship to academic success as measured by early childhood GPA and academic progress. As reported, the accessibility of the college advisor had a positive relationship to early childhood GPA, but not to overall GPA. Because the respondents' academic advisors are from the early childhood department, this is not surprising. It could be that being able to easily get in touch with an advisor allows students to excel in their early childhood coursework because of the established relationship with the advisor. When respondents are involved in coursework outside of the early childhood department, it may be more difficult to get the support needed.

In another area of academic advising, another positive relationship reported was between colleges that required academic advising and academic progress. Although

a significant relationship was not found between required advisement and GPA, it seems that it is important that early childhood students meet with an advisor in order to progress toward degree requirements. This may not affect their success as measured by GPA, but instead encourages them to stay on track with the level of coursework needed to move towards the goal of earning a college degree. This is further supported by the finding that the quantity of academic advisement is positively related to academic progress, but not GPA.

Academic Motivation

Utilizing the AMS Survey, the current study suggests that intrinsic academic motivation was not significantly related to academic success for this sample as expected. The education literature has repeatedly found that intrinsic motivation is positively related to academic performance (Lepper, Corpus & Iyengar, 2005; Pintrich & DeGroot, 1990; Vallerand & Bissonnette, 1992) so this finding is indeed puzzling. Because the mean overall GPA (3.45) and early childhood GPA (3.56) was high as well as negatively skewed in distribution, the lack of variability may have confounded the results. Although, this was addressed by transforming the GPA data and running analysis on the converted scores, similar results were found.

Another surprising finding that resulted from the use of the AMS survey was that extrinsic motivation had a negative relationship to early childhood GPA, but not to overall GPA or academic progress. Because extrinsic academic motivation involves attending college due to external rewards, such as better pay, a more prestigious job, or to improve competence on the job it would seem that higher levels of this type of

motivation in the sample would result in a more successful academic experiences, particularly in early childhood coursework. This did not prove to be true. It suggests that the respondents were not as likely to do well in early childhood classes when they were more motivated to take classes for external rewards. More research with a larger sample would be needed to explore why extrinsic motivation may have a negative relationship to early childhood GPA. Especially, since respondents had higher mean extrinsic motivation ($M=69.69$) scores than intrinsic motivation scores ($M=63.40$) indicating that the respondents in the sample were more likely to be extrinsically than intrinsically motivated to attend college. Perhaps respondents who were more extrinsically motivated were not as invested in early childhood coursework which hindered their ability to earn better grades.

As expected, amotivation was found to be negatively related to academic progress, but not to overall or early childhood GPA. Although amotivation may not be related to the grades earned in coursework, this finding supports the idea that respondents who are not as motivated to attend college are not as likely to progress towards higher levels of education. Fortunately, the mean amotivation scores were low ($M=6.05$) and positively skewed suggesting that respondents in this sample did not experience high levels of amotivation to attend college.

Family Microsystems

Data were also collected for this sample that included racial background, family structure, ages of children, family income, use of public assistance, mother and father's level of education, and level of perceived support from family. There were some

significant findings that support the idea that family microsystem factors have some effect on academic success. No significant relationships were found between racial background and all measures of academic success, nor between family structure and all measures of academic success. Having children of any age was not found to be significantly related to academic success as measured by overall GPA and early childhood GPA. Looking further into the relationships between the ages of the children of respondents and academic success, there was one significant finding of interest reported. A significant negative relationship was found between having school age children and academic progress. This finding suggests that the demands of having children in school hindered respondents' abilities to take more credit hours per year. Interestingly, having either infant/toddler aged children, preschool children, adolescent children or adult children was not found to have a significant relationship to any of the three measures of academic success in the current study.

As one would expect, family income, was found to be positively related to academic success as measured by both early childhood GPA and academic progress. This finding indicates that the economic strain that comes from having a lower family income can negatively impact academic success, despite having scholarship assistance. When looking at the types of public assistance that respondents reported receiving, there was one statistically significant relationship to academic success. A significant negative relationship between having children on Medicaid and overall GPA was found. Furthermore, the negative relationship between having children on Medicaid and early childhood GPA was also significant. The use of Medicaid for children was not found to

affect academic progress, but did impact how well respondents did in coursework. It would seem that the use of this program did not hinder respondents' abilities to take more credit hours, perhaps because they had stable health care for their children that reduced the challenges of enrolling in more coursework. However, the finding does seem to suggest that the receiving Medicaid benefits for children is related to how well respondents did in their coursework. Perhaps the challenges associated with having a child who qualifies for Medicaid, whether for economic or medical reasons, influences an individual's concentration needed to earn better grades in coursework.

Salary Supplement Programs

As proposed in the Jorde-Bloom's socio-ecological perspective (1991), child care centers are an open system in which individuals within the child care center are affected by external influences of the outside world. Likewise, in Bronfenbrenner's bio-ecological model of PPCT (1979), development and change is influenced by macrosystem factors. The arena of public policy related to the child care system has developed and funded salary supplement programs designed to improve child care quality by emphasizing the importance of child care teacher education and financially rewarding increases in that education in the form of salary supplements (CCSA, 2007). It was not found that reporting salary supplement programs as a motivator to attend college as part of the AMS survey was significantly related to any of the measures of academic success in this study. However, when looking at whether respondents participated on a salary supplement program as well as the amount of the salary supplement award, significant relationships were found. Participation on a salary supplement program was positively related to

overall and early childhood GPA. Furthermore, the supplement amount was found to be significantly related to both early childhood GPA and overall GPA.

These findings support the idea that supplementing child care teachers' salaries and the amount of the supplement can have positive effects on how well participants on these programs do in their classes. Although, there were no significant relationships found between salary supplement participation or amount to academic progress, the findings suggest that these programs do motivate students to apply themselves and succeed in courses, especially early childhood courses. It is not surprising the relationship between the supplement amount and early childhood GPA is strong because as previously mentioned most salary supplement programs award more money for early childhood coursework and only for coursework that has earned a "C" or better (CCSA, n.d.). Thus, participants are encouraged to do well in their courses with the promise of greater monetary rewards for successful completion of early childhood coursework.

Length of Participation on the Scholarship Program

The time component of Bronfenbrenner's PPCT model (1979) involves the duration of time and is known as the chronosystem. This idea prompted some separate analysis of respondents in this study based on their length of participation on the scholarship program. The aim was to explore whether there were differences in the relationships between academic motivation, child care center professional development and community college academic support and academic success. As previously reported, data were analyzed separately based on the length of scholarship participation. Because the target population for this study had no college experience prior to their scholarship

participation, yet had varying years of scholarship participation, it was conceivable that there would be differences between those who were newer students and those who had been involved in coursework for longer periods of time. At the center level, significant relationships were found between several items related to child care center salary scales and GPA and academic progress, as well as between annual performance reviews and academic progress within the group with two or less years of scholarship participation. In the area of college academic support, several types of course accessibility was also found to have a significant relationship to GPA within this group as well. Likewise, accessibility of an academic advisor was also found to be related to GPA for those who were newer scholarship participants. For the group that had participated for three or more years the only statistically significant relationship found in the separate analysis was between required academic advisement and academic progress and between the quantity of advisement and academic progress.

It appears that new scholarship participants were more likely to earn higher GPA's overall and in early childhood coursework in centers that had stronger and more formal policies of compensation based on education. For example, respondents who reported that their centers awarded raises based on education were more likely to have higher early childhood GPA's. This was also true for respondents who reported their centers had written salary scales. Likewise, it was found that there was a positive relationship between working in a center that awarded raises based on education and academic progress. This suggests that it is important for centers to establish clear and

formal salary scales that consider staff education as a factor in determining salaries and raises, if they want teachers who are just beginning college coursework to be successful students.

As previously discussed, staff evaluation was found to be important to academic progress in the entire sample. This was also true for the group who had participated for fewer than two years on the scholarship program. Again, this finding suggests that it is important for child care centers to conduct performance reviews which involve professional development planning, especially for teachers who are early in their college career. Thus, length of college experience is an important factor to consider for child care centers who want to promote the academic success of their staff.

At the community college, significant positive relationships were found between two types of course accessibility and GPA for the group who had participated on the scholarship program for two or less years. Although course accessibility did not seem to make a difference to academic success within the entire sample, an adequate offering of on-line courses was found to be positively related to both early childhood and overall GPA for newer scholarship participants. This may be because these newer students are able to perform better when given the opportunity to take on-line courses, or are more comfortable with that course format. Those who have been on the scholarship program for three or more years may already be invested in their college track to be affected one way or the other by course accessibility issues. Perhaps they have already resolved these issues, and thus no significant relationships were found between course accessibility and academic success within this group, as well as within the entire sample. It would be of

interest to also examine an individual's comfort level with on-line coursework in addition to how the availability of on-line coursework influences academic success.

Certain aspects of academic advisement were shown to be important to academic success of the entire sample as measured by early childhood GPA and academic progress. During the separate analysis based on length of scholarship participation, a positive relationship between the accessibility of the advisor and both early childhood and overall GPA was also found within the group who had been on scholarship for two or less years. This indicates that these newer students who have an advisor who is easy to contact may be more likely to earn better GPA's. For the group who had been on scholarship for three or more years, it seems that a required meeting with an advisor was positively related to academic progress. Similarly, the quantity of advising sessions for this group was also found to be positively related to academic progress. Although it could be that more experienced students are more likely to regularly meet with an advisor, it seems that they were more likely to remain on track towards taking more coursework with required academic advisement and the more meetings with an advisor. As evidenced in the findings in the separate analysis at the college level, students have different needs based on the amount of college experience they possess that may aid in improving their chances for academic success.

Limitations

The sample size was one of the limitations to this study. The target recruitment group was large, however the response rate on returned surveys was not as high as desired. As a result, there were not enough child care centers (n= 71) represented within

the sample to draw meaningful conclusions about the relationship between professional development support and academic success. Although, 35 of the 58 community colleges were represented within the sample, over 30% of the schools represented were attended by two or less respondents. The college that had the highest level of attendance within the sample was attended by nine respondents. Thus, it is difficult to conclude that meaningful relationships exist between all academic support measures and academic success.

Recruitment procedures also limited this study. A mass mailing was sent to the target recruitment group asking for voluntary participation. Although measures were taken to encourage participation which included postage paid envelopes, entry into a raffle for a gift certificate, and follow up postcards, there was just not a large enough response rate. Because of attrition from the child care center of employment and the scholarship program, the target population became reduced during the data collection of the study as well. Thus, it would be ideal if resources were made available to conduct telephone follow up in future studies. In addition, a larger sample may have yielded more variability with the data collected for this study.

Furthermore, because academic motivation was one of the factors examined in this study, it is possible that the more motivated students were more likely to agree to participate and return the surveys. Likewise, participants who worked in more supportive centers or had higher GPA's may also have been more inclined to agree to participation. In addition, the sample was working in child care programs that had some commitment to supporting teacher education, as they were being sponsored on the T.E.A.C.H. Early Childhood® Scholarship Program. Thus, the centers of employment were more likely to

offer the benefits to their child care teachers. Another factor to consider with self-reporting measures is that it is possible that socially acceptable responses were given on some of the survey measures. Using measures of perception is another possible limitation of the study. Relying on an individual's perception of support may not accurately reflect the actual support given. Finally, because the variables were measured quantitatively, some important factors related to academic success may not have been revealed. Therefore, it would be of interest to conduct some qualitative research in this area to really get at what factors contribute to academic success. Allowing scholarship participants to provide narratives regarding their background, family dynamics, motivations, and support from child care center and colleges may shed more light on what influences academic success.

Policy Implications

Although some of the expected findings were not supported in the research, it would be premature to conclude that those factors are not important to the academic success of early childhood teachers, and thus do not merit attention. For example, it was expected that flexible scheduling and instrumental supports from the child care center and course accessibility at the community college would improve early childhood teachers' chances at succeeding in their coursework. Because, the sample was derived from a population of teachers who worked in child care centers and who were invested in their education through sponsorship on the scholarship program, which involves regularly scheduled release time, the findings do not suggest that these benefits were detrimental to their academic success. It is still important for child care centers to offer these supports,

so as not to hinder their teachers' academic success. Likewise, it is important that the community college continues to explore non-traditional course offerings to diverse workforces, who most often are working while pursuing their degrees.

On the center level, the findings from this study support the notion that education based salary scales and formal staff evaluation and development are important to the academic success of child care teachers. Policy makers should continue advocating that these types of activities and policies are critical to the professional and educational development of child care teachers. Furthermore, supplemental funding and education that encourages and enables centers to develop and maintain these practices should be provided. Many Smart Start partnerships currently offer professional development staff that assist with professional development planning in child care centers in North Carolina. However, if the child care program is not compensating teachers for their increased education and formally presenting education-based salary scales to their staff, then teachers may not be as motivated to increase their education and succeed in their coursework, which may ultimately affect the quality of teaching practices.

This study also illuminates that the academic advising at the community college is an important factor in academic success of early childhood students. Accessibility and required advisement are critical to working students who are juggling other demands. Being able to easily get in touch with an advisor serves to eliminate one obstacle associated with navigating college life. Furthermore, being required to participate in academic advising compels students to establish a relationship with a college advisor. Being able to reach an advisor and required advisement allow students get the proper

advisement when registering for courses, as well as someone to go to for support during the semester. These factors are helpful to both success in coursework and progress towards a degree. It is important that funding is provided at the community college level that allows colleges to employ an adequate number of staff that are not overwhelmed and can be available to their students. Continued funding of the T.E.A.C.H. Early Childhood® Project, can continue to help with strengthening the early childhood programs at community colleges through the scholarship funds that enable the programs to grow and improve services.

Finally, another important policy recommendation that this study supports is the continued funding of salary supplement programs, such as Child Care WAGE\$®. Evaluative research on this program has shown that teacher education and retention has been improved for teachers participating when compared to statewide workforce data (CCSA, n.d.). This study also further contributes by showing that these programs can also have important effects on how successful teachers are when taking college coursework. After all, child care teachers can be encouraged to take courses, however if they are not successful in their coursework or motivated to progress towards higher levels of education, then the children that they teach will not reap the full benefits that an educated teacher workforce promises to offer them.

Conclusion and Future Research

The child care system is a large system that is interconnected and interdependent where one change in the system will have effects on other components of the system (Jorde-Bloom, 1991). Therefore, it is important to realize that simply focusing on the

individual student when exploring the academic success of child care teachers fails to take into account the other system factors that exert influence. The complex interactions of the people, policies, and practices within the child care system as well as the community college system that delivers the education should continue to be a focus of research on how to help child care teachers academically succeed. Likewise, the interactions that these systems have with macrosystem factors that include public policy, governmental regulation, and funding for quality improvement programs need also be considered when examining child care teacher education.

Although many of the hypotheses were not supported, some important empirical findings support the theoretical basis for this study. Thus, it is evident that any research on early childhood teachers' academic success needs to widen beyond the individual student and their academic motivation. On the individual level, self-esteem and self-efficacy may be important areas to for future research to explore. Also, literacy may be another factor that exerts influence over academic success. Furthermore, it is critical that child center work environments are further examined, as well as the community college environment. It would be necessary for future research to be conducted on a larger sample that represents more child care centers and community colleges in order to fully appreciate how these environments impact academic success. Likewise, instead of using perceptual measures to assess support, it might be helpful to collect data on actual supports afforded to early childhood teachers in order to gain a better understanding of the relationship between supports and academic success. In addition, studying a large population of child care teachers enrolled in college who are not participating on a

scholarship program may provide more information on the importance of work environment supports. Finally, as mentioned previously, more qualitative research that allows child care teachers to expand beyond psychometric measures and survey questions to provide insights into what motivates them to go to school and be successful in their own words would be another future direction for exploring child care teacher academic success.

In conclusion, the relationship between child care center policies and practices in the areas of education and compensation and academic success is supported. Also, the relationship between academic advising at the community college and academic success was also supported in the current study. Although intrinsic motivation was not found to be related to academic success with this sample, it does suggest that individual academic motivation is not the only factor at play.

These findings support the theoretical perspective, which guided this research, in that many system factors work together to contribute to an individual child care teacher's academic success. Therefore, it is important that advocates and policy makers continue the quest for improving child care quality at all system levels. As previous research has concluded, teacher education is a critical component of child care quality (Helburn, 1995; Bowman, et al, 2000; Whitebook, 2003; Early & Winton, 2001). However, if the complex interrelated factors that contribute to successful educational experiences for child care teachers are not discovered, then it is unlikely that child care quality can be realized simply through requiring child care teachers to go to college. It is time that we explore what motivates child care teachers to want to go to school, persevere through the

challenges of balancing work and school, and ultimately succeed in their educational pursuits by gaining knowledge and progressing towards higher education.

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Appendix A
Tables

Table 1 Predictor Variables Scale Statistics

<i>Predictor Variables</i>	Min	Max	Mean	SD	Skewness	α
Academic Motivation n=77						
Intrinsic Motivation (12 items)	23	84	63.4	14.75	-.857	.93
Extrinsic Motivation (12 items)	27	84	69.69	13.63	-1.2	.90
Amotivation (5 items)	4	22	6.05	4.10	2.51	.73
Early Childhood Motivators (5 items)	5	35	26.18	7.3	-.737	.80
Child Care Center Professional Development Support						
n=77						
Instrumental Supports (9 items)	9	63	37.25	16.29	-.107	.85
Salary, Evaluation & Development (6 items)	0	6	3.75	1.70	-.637	.70
n=72						
Center Educational Climate (1 item)	1	7	4.51	1.19	-.684	n/a
Total Center Support (16 items)	14	75	46.55	17.06	-.157	.83
Note: Five respondents were omitted from Educational Climate and Total Support because data were not available.						
Community College Student Support n=76						
Course Accessibility (6 items)	6	42	25.05	9.24	-.013	.86
Advisement Quality (4 items)	2	28	21.73	6.22	-1.32	.79
Advisement Quantity (1 item)	0	10	2.19	1.56	1.82	n/a
Total College Support (11 items)	27	85	61.53	13.98	-.411	.83
Note: One respondent was omitted from Community College Student Support because data were not available.						

Table 2 Outcome Measure Statistics

<i>Outcome Variables</i>					
	Min	Max	Mean	SD	Skewness
Grade Point Average n=77					
Overall GPA	1.5	4.0	3.45	.531	-1.39
Early Childhood GPA	1.5	4.0	3.56	.523	-1.69
Academic Progress (n=77)					
Percentage of Total Credits Allowed Completed	.25	1.00	.78	.211	-.670
Total Number of Credit Hours Completed within Sample	2,273				
Average Length of Scholarship Participation	3.25 Years (SD=1.6)				

Table 3 Select Individual Item Statistics

Individual Item Statistics		Yes	No			
<i>Child Care Center Support</i>						
Salary, Evaluation and Development Policies						
	Education Based Raises	63.6%	36.4%			
	Written Salary Scales	20.8%	79.2%			
	Annual Performance Evaluations	81.8%	18.2%			
		Min	Max	Mean	SD	Skewness
<i>Community College Support</i>						
Course Accessibility						
	Mini-mesters	1	7	3.44	2.14	.340
Quality of Academic Advisement						
	Advisor Accessible	1	7	4.99	1.85	-.848
	Required Advisement	1	7	5.78	1.96	-1.60

Table 4 Family Demographics

<i>Family Demographics</i>			
Respondents (n=76)	Family Structure	Percentage	n
	Single, no children	7.9%	6
	Single Parent (child 0-18)	27.6%	21
	Single Parent (child over 18)	7.9%	6
	Married, no children	7.9%	6
	Married Parent (child 0-18)	27.6%	21
	Married Parent (child over 18)	15.8%	12
	Other	5.3%	4
Respondents n=77	Ages of Children in Family		
	Infants/Toddlers	7.8%	6
	Preschool (3-5)	19.5%	15
	School-age (5-12)	32.5%	25
	Adolescent (13-18)	18.9%	20
	Adult (18 and over)	39%	30
	No children	38.9%	30

Table 5 Family Income, Use of Public Assistance, and Ethnicity

<i>Family Income, Use of Public Assistance and Ethnicity</i>			
		Percentage	n
Respondents n=76			
	Annual Family Income		
Less than \$10,000		7.9%	6
\$10,000-\$19,999		31.6%	24
\$20,000-\$29,999		23.7%	18
\$30,000-\$39,999		14.5%	11
\$40,000-\$49,999		11.8%	9
\$50,000 or more		10.5%	8
Respondents n=77			
	Type of Public Assistance		
AFCD/TANF		1.3%	1
Medicaid (self)		6.5%	5
Child Care Subsidy		18.2%	14
Subsidized Housing		5.2%	4
Food Stamps		11.7%	9
Medicaid (child)		19.5%	15
Health Choice (child)		18.2%	14
Respondents n=76			
	Ethnicity		
American Indian		1.3%	1
Black		35.5%	27
Latino/Latina		2.6%	2
White		60.5%	46

Table 6 Regression Table: Academic Motivation and Overall GPA

Summary of Multiple Regression Analysis for Academic Motivation Variables Predicting Scholarship Participants' Academic Success as Measured by Overall GPA (N=77)

<i>Predictor Variables</i>	B	SE B	β
Extrinsic Motivation	-.470	.168	-.470*
Intrinsic Motivation	.291	.168	.291
Amotivation	-.131	.111	-.131

R=.338, R² =.114, p<.010

Table 7 Regression Table: Academic Motivation and Early Childhood GPA

Summary of Multiple Regression Analysis for Academic Motivation Variables Predicting Scholarship Participants' Academic Success as Measured by Early Childhood GPA (N=77)

<i>Predictor Variables</i>	B	SE B	β
Extrinsic Motivation	-.517	.165	-.517*
Intrinsic Motivation	.370	.166	.370
Amotivation	-.176	.109	-.176

R=.376, R² =.142, p<.010

Table 8 Regression Table: Academic Motivation and Academic Progress

Summary of Multiple Regression Analysis for Academic Motivation Variables Predicting Scholarship Participants' Academic Success as Measured by Academic Progress (N=77)

<i>Predictor Variables</i>	B	SE B	β
Extrinsic Motivation	.153	.165	.153
Intrinsic Motivation	-.045	.166	-.045
Amotivation	-.362	.109	-.362*

R=.380, R² =.145, p<.001

Table 9 Correlations

Correlations	Overall GPA	Early Childhood GPA	Academic Progress
<i>Academic Motivation</i>	n=77	n=77	n=77
Intrinsic Motivation	-.077	-.038	.033
Extrinsic Motivation	-.246*	-.257*	.099
Amotivation	-.121	-.160	-.360**
Early Childhood Motivators	-.059	-.052	.020
<i>Child Care Center Support</i>	n=77	n=77	n=77
Center Instrumental Supports	.129	.143	-.020
Flexible Scheduling	.070	.053	.016
Lend Books	.222	.247*	-.013
Computer Access	.093	.113	-.057
Salary, Evaluation & Dev.	.162	.243*	.255*
Education Based Raises	.191	.268*	.401**
Written Salary Scales	.202	.333**	.062
Performance Reviews	.118	.187	.256*
	n=74	n=74	n=74
Educational Climate	-.110	-.029	.158
Total Center Support	.177	.195	.011

* $p < \text{or} = .05$, ** $p < \text{or} = .010$

Table 9 Correlations (Continued)

Correlations	Overall GPA	Early Childhood GPA	Academic Progress
<i>Community College Support</i>	n=76	n=76	n=76
College Course Accessibility	-.046	-.038	-.175
Evening Courses	-.004	.011	-.085
On-line courses	.124	.176	-.206
Mini-semesters	-.213	-.223	-.291*
	n=77	n=77	n=77
Quality of Advisement	.087	.082	.011
Required Advising	.022	.071	.237*
Accessible Advisor	.225	.232*	-.007
	n=74	n=74	n=74
Quantity of Advisement	-.003	.034	.245*
Total College Support	-.005	.024	-.003

* $p < \text{or} = .05$

Table 10 Regression Table: Academic Motivation, Child Care Center Support, College Support and Overall GPA

Summary of Multiple Regression Analysis for Academic Motivation, Child Care Center Support, and Community College Support Variables Predicting Scholarship Participants' Academic Success as Measured by Overall GPA (N=74)

<i>Predictor Variables</i>	B	SE B	β
Extrinsic Motivation	-.526	.211	-.487*
Intrinsic Motivation	.312	.205	.298
Amotivation	-.280	.169	-.222
Child Care Center Support	.080	.139	.076
Community College Support	.095	.139	.093

R= .394, R² =.155, *p<.050

Table 11 Regression Table: Academic Motivation, Child Care Center Support, College Support and Early Childhood GPA.

Summary of Multiple Regression Analysis for Academic Motivation, Child Care Center Support, and Community College Support Variables Predicting Scholarship Participants' Academic Success as Measured by Early Childhood GPA (N=74)

<i>Predictor Variables</i>	B	SE B	β
Extrinsic Motivation	-.596	.206	-.551*
Intrinsic Motivation	.426	.200	.406
Amotivation	-.368	.165	-.292
Child Care Center Support	.045	.139	.042
Community College Support	.125	.136	.122

R= .447, R² =.200, *p<.010

Table 12 Regression Table: Academic Motivation, Child Care Center Support, College Support and Academic Progress

Summary of Multiple Regression Analysis for Academic Motivation, Child Care Center Support, and Community College Support Variables Predicting Scholarship Participants' Academic Success as Measured by Academic Progress (N=74)

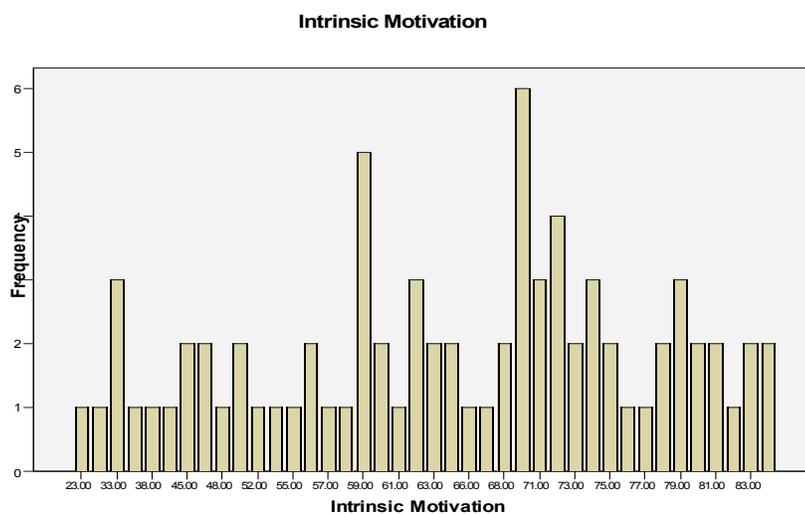
<i>Predictor Variables</i>	B	SE B	β
Extrinsic Motivation	.219	.206	.208
Intrinsic Motivation	-.090	.206	-.088
Amotivation	-.331	.170	-.271
Child Care Center Support	-.016	.143	-.016
Community College Support	.012	.139	.012

R=.316, R² =.100

Appendix B

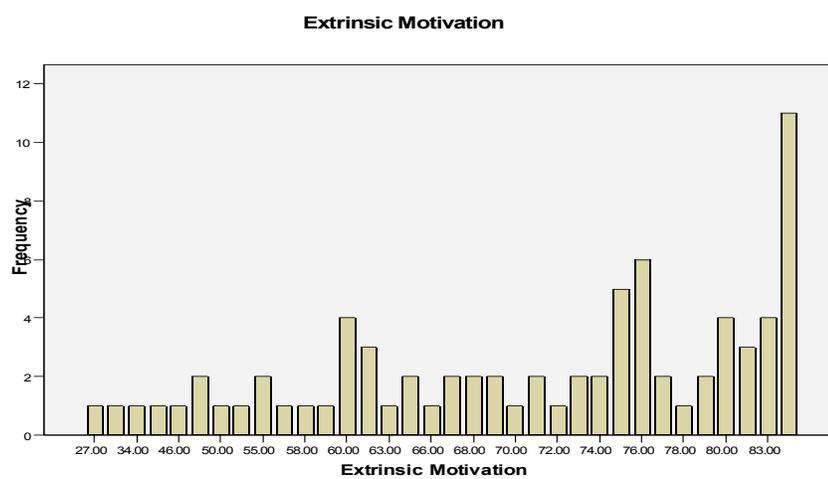
Figures

Figure 4 Intrinsic Motivation Distribution



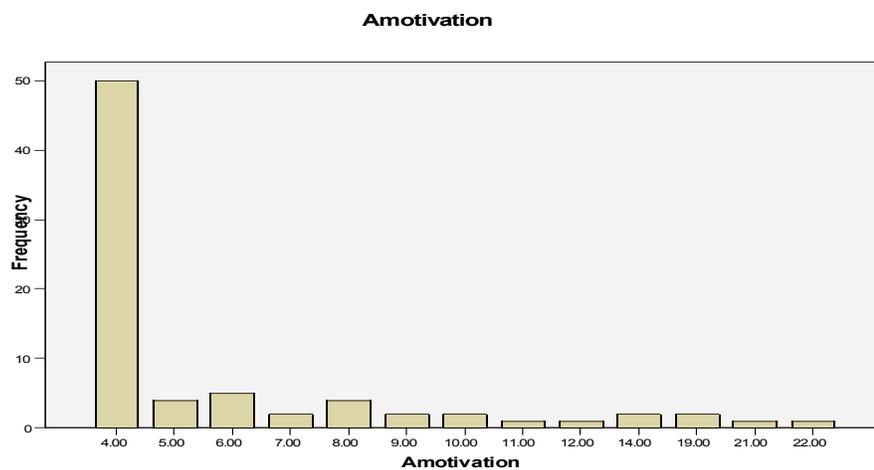
Mean = 63.4 ;Std. Dev. =14.75; N=77

Figure 5 Extrinsic Motivation Distribution



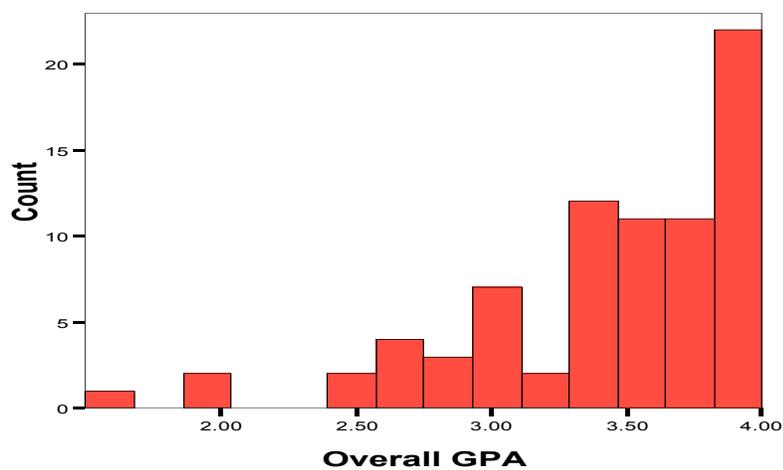
Mean =69.68; Std. Dev. =13.63; N=77

Figure 6 Amotivation Distribution



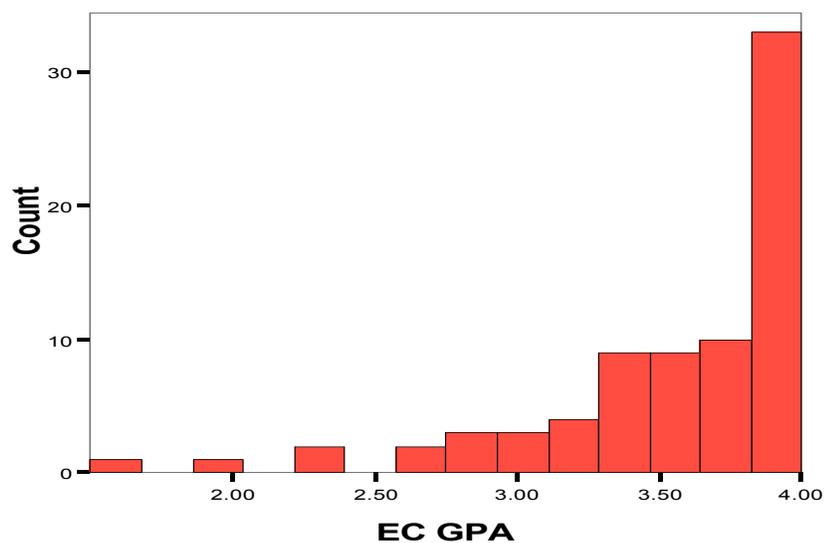
Mean= 6.05; Std. Dev. =4.10;N=77

Figure 7 Overall GPA Distributions



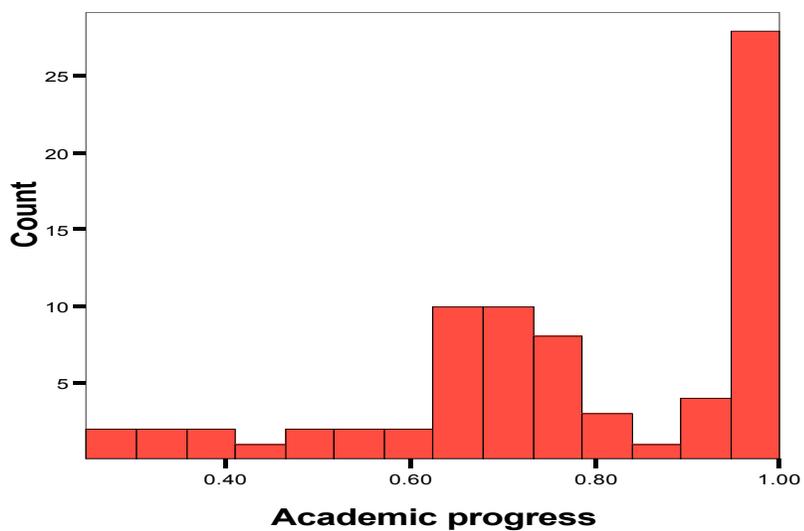
Mean=3.45; SD=.531, N=77

Figure 8 Early Childhood GPA Distributions



Mean=3.56; SD=.523; N=77

Figure 9 Academic Progress Distributions



Mean=.78; SD=.211; N=77

Appendix C
CCSA Support Letter

March 19, 2007

Dr. Deborah Cassidy
Department of Human Development and Family Studies
The University of North Carolina at Greensboro
P.O. Box 26170
Greensboro, NC 27402-6170

Dear Dr. Cassidy,

As President of Child Care Services Association, I support the study of T.E.A.C.H. Early Childhood® Associate Degree Scholarship Program participants. This letter is to provide permission for Amy Duffy to recruit participants from the scholarship program, utilize participants' employment and academic data with their signed consent, analyze the data, and present the findings for her Master's thesis: *Predicting the Academic Success of T.E.A.C.H. Early Childhood® Associate Degree Program Participants: An Ecological Model*.

I support this with the understanding that scholarship participants will be informed that participation is strictly voluntary and that their refusal or agreement to participate in no way affects their scholarship. I also am aware that any data collected will be kept confidential by Amy Duffy and will not be shared with any other scholarship program staff. I also understand the project proposal will be reviewed and approved by UNCG Institutional Review Board for Research Involving Human Participants prior to data collection. In addition, I support this with the qualification that any publication that results from this research must be reviewed and approved by Child Care Services Association.

If you need further information in support of this project please contact me at 1-919-967-3272.

Sincerely yours,

Susan Russell
President

Appendix D Recruitment Letter

Dear T.E.A.C.H. Scholarship Participant:

You have been invited to participate in a research project investigating the academic success of T.E.A.C.H. Early Childhood® Associate Degree for Teachers Scholarship Program participants. My name is Amy Duffy and I am a graduate student at University of North Carolina at Greensboro in the Department of Human Development and Family Studies working on my Master's thesis. I am interested in finding out what factors contribute to the academic success of early childhood teachers participating on the T.E.A.C.H. Early Childhood® Project scholarship program. The information gained from this study promises to inform policy and practice by determining what is most important to academic success. Your contribution to this study will hopefully help early childhood teachers to succeed in their college coursework.

If you agree to participate you will be asked to complete the enclosed Academic Motivation Scale (AMS) and a survey designed to assess child care center professional development support and community college student support. You will also be asked to sign the enclosed consent form that describes the procedures, risks and discomforts, and benefits of your participation. The consent form also grants permission to access your academic data and center of employment from the T.E.A.C.H. database. Please read the consent form carefully.

Please be assured that any data collected from the completion of the AMS and survey will be kept secure and confidential and will not be shared with any other T.E.A.C.H. staff. Academic data and center of employment information used for the purposes of this study will have no identifying information attached, thereby protecting your privacy. All findings will be presented as group data, therefore your name or identifying information will never be revealed. Also please be aware that your participation in this research is strictly voluntary. **Your agreement or refusal to participate will in no way affect your scholarship.** If you should agree to participate, you will be entered into a raffle for a gift certificate that will take place after data collection is completed.

I hope to hear back from you and appreciate your time if you should choose to participate. Your contribution will be beneficial to early childhood teachers who are in college and ultimately to the children they teach. Thank you.

Sincerely,

Amy Duffy

Appendix E
Academic Motivation Scale and Survey

ACADEMIC MOTIVATION SCALE (AMS-C 28)
COLLEGE VERSION

*Robert J. Vallerand, Luc G. Pelletier, Marc R. Blais, Nathalie M. Brière,
Caroline B. Sénécal, Évelyne F. Vallières, 1992-1993*
Educational and Psychological Measurement, vols. 52 and 53

WHY DO YOU GO TO COLLEGE ?

Using the scale below, indicate to what extent each of the following items presently corresponds to one of the reasons why you go to college.

Does not correspond at all	Corresponds a little	Corresponds moderately	Corresponds a lot	Corresponds exactly							
1	2	3	4	5	6	7					
<hr/>											
WHY DO YOU GO TO COLLEGE ?											
<hr/>											
1. Because with only a high-school degree I would not find a high-paying job later on.					1	2	3	4	5	6	7
2. Because I experience pleasure and satisfaction while learning new things.					1	2	3	4	5	6	7
3. Because I think that a college education will help me better prepare for the career I have chosen.					1	2	3	4	5	6	7
4. For the intense feelings I experience when I am communicating my own ideas to others.					1	2	3	4	5	6	7
5. Honestly, I don't know; I really feel that I am wasting my time in school.					1	2	3	4	5	6	7
6. For the pleasure I experience while surpassing myself in my studies.					1	2	3	4	5	6	7
7. To prove to myself that I am capable of completing my college degree.					1	2	3	4	5	6	7
8. In order to obtain a more prestigious job later on.					1	2	3	4	5	6	7
9. For the pleasure I experience when I discover new things never seen before.					1	2	3	4	5	6	7
10. Because eventually it will enable me to enter the job market in a field that I like.					1	2	3	4	5	6	7
11. For the pleasure that I experience when I read interesting authors.					1	2	3	4	5	6	7
12. I once had good reasons for going to college; however, now I wonder whether I should continue.					1	2	3	4	5	6	7
13. For the pleasure that I experience while I am surpassing myself in one of my personal accomplishments.					1	2	3	4	5	6	7

14. Because of the fact that when I succeed in college I feel important.	1	2	3	4	5	6	7
15. Because I want to have "the good life" later on.	1	2	3	4	5	6	7
16. For the pleasure that I experience in broadening my knowledge about subjects which appeal to me.	1	2	3	4	5	6	7
17. Because this will help me make a better choice regarding my career orientation.	1	2	3	4	5	6	7
18. For the pleasure that I experience when I feel completely absorbed by what certain authors have written.	1	2	3	4	5	6	7
19. I can't see why I go to college and frankly, I couldn't care less.	1	2	3	4	5	6	7
20. For the satisfaction I feel when I am in the process of accomplishing difficult academic activities.	1	2	3	4	5	6	7
21. To show myself that I am an intelligent person.	1	2	3	4	5	6	7
22. In order to have a better salary later on.	1	2	3	4	5	6	7
23. Because my studies allow me to continue to learn about many things that interest me.	1	2	3	4	5	6	7
24. Because I believe that a few additional years of education will improve my competence as a worker.	1	2	3	4	5	6	7
25. For the "high" feeling that I experience while reading about various interesting subjects.	1	2	3	4	5	6	7
26. I don't know; I can't understand what I am doing in school.	1	2	3	4	5	6	7
27. Because college allows me to experience a personal satisfaction in my quest for excellence in my studies.	1	2	3	4	5	6	7
28. Because I want to show myself that I can succeed in my studies.	1	2	3	4	5	6	7
29. Because my T.E.A.C.H. scholarship provides compensation for completing a set number of credit hours per year.*	1	2	3	4	5	6	7
30. Because I can earn a higher salary supplement by taking more classes.*	1	2	3	4	5	6	7
31. Because my child care center is requiring me to take classes so the center can earn a higher star rating.*	1	2	3	4	5	6	7
32. Because I need to earn a degree to get a higher paying position working in child care.*	1	2	3	4	5	6	7
33. Because I need to earn a degree to advance to a position with greater responsibility.*	1	2	3	4	5	6	7

©Robert J. Vallerand, Luc G. Pelletier, Marc R. Blais, Nathalie M. Brière,
Caroline B. Sénécal, Évelyne F. Vallières, 1992

*Questions developed specifically for the purposes of this study (2007)

Using the scale below, indicate to what extent each of the following items presently corresponds to questions about the center this is sponsoring your T.E.A.C.H. scholarship.

	Does not correspond at all		Corresponds a little		Corresponds moderately		Corresponds a lot		Corresponds exactly			
	1	2	3	4	5	6	7					
1. The child care center that sponsors my T.E.A.C.H. scholarship regularly provides release time.						1	2	3	4	5	6	7
2. The child care center that sponsors my T.E.A.C.H. scholarship schedules my work hours around my classes.						1	2	3	4	5	6	7
3. The child care center that sponsors my T.E.A.C.H. scholarship provides time off to study and complete assignments when I need it.						1	2	3	4	5	6	7
4. The child care center that sponsors my T.E.A.C.H. scholarship allows me time during the workday to study and complete assignments.						1	2	3	4	5	6	7
5. The child care center that sponsors my T.E.A.C.H. scholarship provides a quiet place during work hours to study and complete assignments.						1	2	3	4	5	6	7
6. The child care center that sponsors my T.E.A.C.H. scholarship provides textbooks to borrow for classes.						1	2	3	4	5	6	7
7. The child care center that sponsors my T.E.A.C.H. scholarship pays for textbooks up front.						1	2	3	4	5	6	7
8. The child care center that sponsors my T.E.A.C.H. scholarship provides access to a computer at my work site to complete assignments.						1	2	3	4	5	6	7
9. The child care center that sponsors my T.E.A.C.H. scholarship provides access to the internet at my worksite for educational purposes.						1	2	3	4	5	6	7
10. Education is needed to advance to higher positions in the child care center that sponsors my T.E.A.C.H. Scholarship.						1	2	3	4	5	6	7

Please answer the following questions about your child care center of employment with the answers provided below

11. Did the center that sponsors your T.E.A.C.H. scholarship provide you a written description of your job responsibilities?*

Yes Go to question 12

No Skip to question 13

12. How closely does your written job description match what you actually do at the center that sponsors your T.E.A.C.H. scholarship?*
- Very Fairly Somewhat A little Not at all
13. How are starting salaries and salary increases determined at the center the sponsors your T.E.A.C.H. scholarship? (*Check all that apply*)*
- Annual raise Education Experience Performance Don't Know
14. Does your center have a written salary scale that reflects how starting salaries and increases are determined?*
- Yes No Don't Know
15. Does the center that sponsors your T.E.A.C.H conduct job performance reviews or evaluations?*
- Yes *Go to question 16*
 No *Skip to question 17*
 Don't know *Skip to question 17*
16. Are professional development activities and educational accomplishments discussed during your evaluation?
- Yes No
17. Is there a written plan for professional development growth activities (conferences, classes, workshops advocacy opportunities) that you and the director of the center that sponsors your T.E.A.C.H. scholarship jointly develop each year?*
- Yes *Go to question 18*
 No *Skip to question 19*
18. Do you and the director of the center that sponsors your T.E.A.C.H. scholarship meet again to follow through on this plan? (In other words, does the professional development occur really occur?)
- Yes No

Using the scale below, indicate to what extent each of the following items presently corresponds to questions about the community college that you normally attend.

	Does not correspond at all	Corresponds a little	Corresponds moderately	Corresponds a lot	Corresponds exactly							
	1	2	3	4	5	6	7					
19. The community college you attend offers an adequate amount of evening classes in Early Childhood Education.						1	2	3	4	5	6	7
20. The community college you attend offers an adequate amount telecourses (televised lectures) in Early Childhood Education.					1	2	3	4	5	6	7	
21. The community college you attend offers an adequate amount of full on-line/web classes in Early Childhood Education.						1	2	3	4	5	6	7
22. The community college you attend offers an adequate amount of hybrid classes(part on-line, part lecture) in Early Childhood Education.					1	2	3	4	5	6	7	
23. The community college you attend offers an adequate amount of classes held at off campus locations in Early Childhood Education.						1	2	3	4	5	6	7

24. The community college you attend offers an adequate amount of mini-semester courses (8 Weeks instead of 16 weeks) in Early Childhood Education. 1 2 3 4 5 6 7
25. The community college you attend requires you to meet with an advisor before you register for classes. 1 2 3 4 5 6 7
26. Your community college advisor is easy to get in touch with when you need him/her. 1 2 3 4 5 6 7
27. Your community college advisor is helpful in planning what classes to take. 1 2 3 4 5 6 7
28. Your community college advisor takes into consideration your work and family demands when planning what classes to take. 1 2 3 4 5 6 7
29. The registration process at your community college is easy to follow 1 2 3 4 5 6 7
30. The process of using your T.E.A.C.H. scholarship to pay for classes at your community college is easy to follow. 1 2 3 4 5 6 7

Please answer the following questions about the community college you normally attend with the answers provided below

31. How many times did you meet with an advisor during the past year ? _____
32. The community college I attend allows me to register for classes on-line.
 Yes No Don't know
33. Does the community college you attend provide online access to student financial accounts?
 Yes No Don't know
34. Does the community college you attend provide online access to grades?
 Yes No Don't know

Please answer the following questions about yourself with the answers provided below (please be assured that your confidentiality will be protected)

35. What race do you consider yourself?
 American Indian Asian/Pacific Islander Black/African-American Latino/Hispanic
 White/Caucasian Multiracial Other
36. Which of the following best describes your family?
 Single, no children Single Parent, one or more children 0-18 Single, all children over 18
 Married, no children Married, one or more children 0-18 Married, all children over 18
 Other
37. How many people are in your family, including yourself? _____
38. What are the ages of your children ? *Check all that apply*
 0-2 3-5 6-12 13-18 18 and above I don't have any children
39. What is your current family income?
 Less than \$10,000 per year \$10,000-\$19,999 per year \$20,000-29,999 per year
 \$30,000-\$39,999 per year \$40,000-\$49,999 per year \$50,000 or more a year

40. In the last 3 years which of the following types of financial assistance have you received?
 AFDC/TANF Medicaid for myself Child care subsidy Subsidized housing/Section 8
 Medicaid for my child Food stamps Health Choice for my child
 I have not received any of these types of assistance

41. Do you have another paid job besides your job as a child care teacher?
 Yes No

42. What is your mother's highest level of education?
 Graduate degree Bachelor's degree Associate degree
 Some college, but no degree earned High school diploma/GED only
 Did not graduate from high school

43. What is your father's highest level of education?
 Graduate degree Bachelor's degree Associate degree
 Some college, but no degree earned High school diploma/GED only
 Did not graduate from high school

44. Have you ever been diagnosed with a learning disability?
 Yes *Skip to question 46*
 No *Go to question 45*

45. If you have not ever been diagnosed with a learning disability, do you believe that you have a learning disability?
 Yes No

46. Is English a second language for you? Yes No

47. Do you receive an annual salary supplement from a salary supplement program? Yes No

48. If you do receive an annual salary supplement, which program did you receive your supplement from ?

49. If you do receive an annual salary supplement, how much is your annual supplement? _____

Using the scale below, indicate to what extent each of the following items presently corresponds to questions about yourself.

Does not correspond at all	Corresponds a little	Corresponds moderately	Corresponds a lot	Corresponds exactly		
1	2	3	4	5	6	7

50. I feel like I did well in high school. 1 2 3 4 5 6 7

51. I receive support from my family for attending school. 1 2 3 4 5 6 7