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**LEARNING BEHAVIORS AND ACADEMIC READINESS AMONG  
PRESCHOOL CHILDREN IN A PRIVATE SCHOOL**

by

Chelsea L. Johnson

A Thesis

Submitted to the  
Department of Educational Services and Leadership  
College of Education  
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For the degree of  
Master of Arts in School Psychology  
at  
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Thesis Chair: Carmelo Callueng, Ph.D.



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## **Abstract**

Chelsea L. Johnson

### **LEARNING BEHAVIORS AND ACADEMIC READINESS AMONG PRESCHOOL CHILDREN IN A PRIVATE SCHOOL**

2016-2017

Carmelo Callueng, Ph.D.

Master of Arts in School Psychology

Prekindergarten programs have been designed with the purpose of improving children's academic skills and behaviors before the start of formal schooling (Howes et al., 2008). Previous research has determined that academic readiness in young children is influenced by the child's learning behaviors (Schaefer & McDermott, 1999). The study examined children's learning behaviors and academic readiness at the pre-Kindergarten year in a learning-centered private school in Southern New Jersey. Forty children were recruited from three separate classrooms and tested with the Bracken School Readiness Assessment-Third Edition (BSRA-3: Bracken, 2007) to assess their academic readiness. Learning behaviors of the children were assessed using the Preschool Learning Behaviors Scale (PLBS: McDermott et al., 2012). Mann-Whitney U tests was employed to determine if gender differences were significantly found in all three areas of learning behaviors assessed, but gender differences in academic readiness and learning behaviors. Pearson correlation was used to calculate the correlation between learning behaviors and academic readiness of the participants. Findings of this study determined a significant relationship between learning behaviors and academic readiness. Gender differences in learning behaviors were also significant, favoring girls in all three areas of the PLBS. In the area of academic readiness, a significant gender difference was not found, with both girls and boys scoring similarly on the BSRA-3.

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## **Chapter 1**

### **The Problem**

The implementation of early childhood education in the United States has become increasingly popular in recent years due to the understanding that it proves to be successful in improving academic success in later grades (Brown, 2010). Lawmakers are looking to improve the early childhood education system in the United States by implementing early childhood education programs across the country in order to prepare young students for increased academic success in the future (Brown, 2010). An important aspect in enduring a relevant early childhood education is to determine factors that contribute to academic readiness of young children. One important factor in early childhood education is the development of appropriate learning behaviors. Previous research indicated that learning behaviors can impact academic readiness of young children (Schaefer & McDermott, 1999). Children who demonstrate more favorable learning behaviors tend to be more prepared and motivated for academic work than children whose learning behaviors are less favorable (McDermott, 1999).

Young children with practical learning behaviors are those who willingly participate and listen attentively, respond to others with clear understanding of statements, and are accepting of both criticism and the introduction of new tasks and materials (Carter & Swanson, 1995; Finn & Cox, 1992; Jussim, 1989, Schuck, Oehler-Stinnett, & Stinnett, 1995). Children who demonstrate positive learning behaviors show a willingness to learn and, in turn, demonstrate heightened capabilities to reach academic success. Children who demonstrate behaviors that hinder learning are those who have difficulty sitting still, learning from criticism, demonstrating understanding of and

responding to adult questioning, and cooperatively participating with peers (Ceci, 1991; Wentzel, 1991; Aldrich & Martens, 1993). Learning behaviors of students can be influenced by multiple factors. Gender is one factor that has been linked to learning behaviors; however, little is known about how young male and female children compare in their learning.

Lee (2013) argued that gender differences in learning behavior are apparent (Lee, 2013). In a study conducted by Kaushanskaya, Gross, and Buac (2013), it was concluded that females are able to access information from their long-term knowledge more easily when completing a task than males (Kaushanskaya, Gross, & Buac, 2013). These results show that females are more skilled in their ability to utilize long-term knowledge in their current learning than their male counterparts, thus supporting the previously stated argument by Lee (2013).

The need to develop basic learning skills in young children is directly associated to academic achievement (Chew & Lang, 1990; Chew & Morris, 1989). It is believed that young children are able to achieve a certain level of school readiness even before formal education (Lemelin, Boivin, Forget-Dubois, Dionne, Brendgan, Vitaro, Trembly, & Perusse, 2007). Enrollment in a preschool program is one way to enhance children's learning skills and ultimately prepare them for academic success in later grades. There is a need in research to examine the relationship that learning behaviors have with academic achievement in preschool age children (Lemlin, et al., 2007).

## **Purpose of the Study**

The purpose of this study was to determine gender differences and relationship of learning behaviors and academic readiness among preschool children from a private school. The findings derived from this study can be utilized to develop or improve learning support and services for children in the school covered in this study.

## **Research Questions**

This study answered these questions: (1) Do males and females differ in their learning behaviors? (2) Do males and females differ in academic readiness? (3) What is the correlation between learning behaviors and academic readiness?

## **Hypothesis**

From previous literature about learning behaviors and academic readiness of children, this study postulated the following hypotheses:

- 1) Males and females vary in their learning behaviors and academic readiness.
- 2) There is a positive relationship between learning behaviors and academic readiness. That is, children who exhibit more favorable learning behaviors tend to score higher in an academic readiness measure. In contrast, children who exhibit less favorable learning behaviors tend to score lower in an academic readiness measure.

## **Significance of the Study**

The determination of the gender differences in learning behavior and academic readiness will assist teachers in understanding how to better help each student become

more academically prepared. This study will allow teachers and other school professionals the ability to determine which behaviors can hinder learning engagement and how to appropriately provide support when students exhibit these behaviors. Every student learns differently and grasps knowledge and information in different ways.

### **Limitations**

The sample in this study only included children from one private school and therefore the results may not be generalized to children enrolled in public schools or other private schools. Factors that could have potentially influenced this study included participant responses and disposition during assessment of academic readiness. In addition, although the validity of the Preschool Learning Behavior Scale (McDermott, Rikoon, Waterman, & Fantuzzo, 2012) has been examined and confirmed, there has not been a significant amount of research found that has used this scale.

### **Assumptions**

1. Assessment of academic readiness took place in the classroom considered to be a natural learning environment for children. Thus, it is assumed that the classroom was conducive for assessment and that children were comfortable throughout the testing session.
2. Children's teachers rated learning behaviors using the Preschool Learning Behavior Scale (McDermott, et al., 2012), so it is assumed that all three teachers had similar perspectives on learning behaviors.

3. It is assumed that the current curriculum taught in the private school covered in the study was relevant and effective in promoting favorable learning behavior and academic readiness in children.

### **Definition of Terms**

**Academic readiness.** It refers to the child's readiness to absorb the information they are receiving, as well as their ability to absorb that information. Determination of school readiness is made up of five different measures: the development of motor, social and emotional, and language skills, the general knowledge of the child, and their individual approach to learning (Kagan, Moore, & Bredekamp, 1995). In this study, academic readiness was measured using the Bracken School Readiness Assessment, Third Edition (BSRA-3, Bracken, 2007). This study also uses the term "school readiness" synonymously with academic readiness.

**Attention/Persistence.** It is a on the Preschool Learning Behaviors Scale (PLBS; McDermott, et al., 2012). It refers to a child's attention to related environmental factors. It also refers to the child's persistence in completion of challenging tasks (Hahn et al., 2009).

**Attitude toward learning.** It is a category heading on the Preschool Learning Behaviors Scale (PLBS; McDermott et al., 2012). It refers to a child's general behaviors in a learning setting. Some of these behaviors include the child's willingness to accept help, ability to cope with frustration, and desire to please a teacher (Hahn et al., 2009).

**Competence motivation.** It is a category heading on the Preschool Learning Behaviors Scale (PLBS; McDermott, et al., 2012). It refers to a child's willingness and determination to successfully complete learning tasks. It also refers to a child's motivation in comprehending classroom learning activities (Hahn et al., 2009).

**Learning behaviors.** It refers to behaviors exhibited by children when performing tasks that can induce learning, whether a task is academically, socially, or emotionally based. Positive learning behaviors include the child's ability to work well with their peers, willingness and ability to attempt exploratory or new tasks, the ability to show appropriate effort in completing a given task, and the child's willingness to accept needed help without exhibiting adverse behaviors (McClelland & Morrison, 2003). In this study, learning behaviors is measured using the Preschool Learning Behavior Scale (PLBS: McDermott, e al., 2002).

## **Overview of the Study**

Chapter 2 provides a review of literature relevant to learning behaviors and academic readiness in relation to the gender differences in each area, followed by the correlation of academic readiness and learning behaviors in students. Chapter 3 describes the methodology and procedures used in this study in terms of setting and participants, the procedure of the study, measures used, and statistical strategies for data analysis. Chapter 4 reports the statistical findings of the study presented in tables and their interpretations. Finally, Chapter 5 provides a discussion of the salient findings, implications, and recommendations for future research.

## **Chapter 2**

### **Review of Literature**

#### **Theories of Learning in Young Children**

Social cognitive theory suggests that behavior, environment and cognition are major components of development (Santrock, 2015). Theory suggests that through observational learning, children are able to expand their knowledge and skills through behaviors molded by others in the environment (Bussey & Bandura, 1999). Children then use this mixture of knowledge and skills that they have collected from their environment to form their own skills and behaviors. It is also believed that through this observational learning, children are able to mold their cognitive thoughts (Verbis, 2014). These cognitive thoughts ultimately have an influence on the formation of their behaviors. Social cognitive theorists believe that the development of cognition and behavior is not a matter of internal versus external influence, but rather a combination of the two (Bandura, 1989). Children have the ability to absorb, from both the environment and within themselves, only the knowledge that they need (Bandura, 1989). The ability to combine their collection of knowledge through observational learning with their current knowledge is key to behavior development.

Albert Bandura, the developer of social cognitive theory (Bandura, 2001), was curious as to why people display specific behaviors and how those behaviors relate to learning. Bandura proposed that people are not products of their environment, but rather influences of their environment (Verbis, 2014). He also believed that by controlling their cognitive responses to the environment, people have the ability to create their behaviors

(Bandura, 2001). Social cognitive theorists explain that people acquire many behaviors thoughts and feelings through observing the behavior of those around them, and that these observations play a very important role in their behavior development (Santrock, 2015). Children have the ability to learn through observation, which allows them to broaden their knowledge and skill without having to go through the process of learning through response consequences themselves (Bussey & Bandura, 1999). Through these observations, children are able to formulate their behaviors. Because the research suggests that learning is linked to behavior (Bandura, 2001; Santrock, 2015; Bussey & Bandura, 1999), it can be implied that learning behaviors have an influence on the formation of academic readiness in children.

On the contrary, Piaget's equilibration theory suggests a slightly different view on learning in young children. Like social cognitive theory, equilibration theory includes the environment as a learning component, but also integrates the interpretation of these environmental stimuli as a way of learning. Equilibration is a self-regulating process in which the individual responds to stimuli from the environment (Cohen & Kim, 1999). The theory consists of two processes: assimilation and accommodation. Assimilation refers to the integration of an environmental aspect into an existing cognitive scheme. Accommodation is the process in which that cognitive scheme is transformed to embrace the new environmental aspect (Di Paolo, Barandiaran, Beaton, & Buhrmann, 2014). Equilibration theory suggests that the introduction of foreign stimuli to one's current knowledge creates an imbalance within the individual that requires balance be restored (Cohen & Kim, 1999). The individual must then integrate this foreign knowledge to expand their current knowledge. In addition, personal modifications to accommodate the



new information that is being brought in also takes place. This theory suggests that growth in learning is present when children find environmental stimuli that are incompatible with their present knowledge. Structural changes are triggered by these environmental stimuli, causing the child to enter into an imbalanced state. Children are continuously being introduced to new environmental stimuli, therefore they are in a constant search for balance (Cohen & Kim, 1999). This ongoing search for balance provokes continuous learning in young children.

Moreover, Cohen and Kim (1999) discovered that intellectually gifted children were more likely to display skill in the process of equilibration than children who are at average academic levels or below. Gifted children have a heightened ability to anticipate unknown information, and then broadly apply this information to their current knowledge. They also differ from their normal-developing peers because of their skillfulness in internally organizing their knowledge into categories of similar topics. This organization is simultaneous with the search for balance and the adaptation of new information, which is why children who can skillfully accomplish both are considered intellectually gifted.

### **Gender Differences in Learning Behaviors**

Previous research has implied conflicting results on the gender differences that exist in learning behaviors. Gender differences in overall learning behaviors have been found to significantly favor girls (Schaefer, 2004). Longitudinal research conducted by Dominguez, Vitiello, Maier, & Greenfield (2010) examined gender differences in learning behaviors throughout the preschool year. In this study, authors explored the

different influences that may impact preschoolers' learning behaviors over time. Results indicated that preschool girls were found to have started the year off exhibiting more positive learning behaviors than boys (Dominguez, Vitiello, Maier, & Greenfield, 2010). In agreement with these findings, another research study has found that 3- 6-year-old girls tend to produce higher scores on behavioral self-regulation tasks than boys (Ponitz et al., 2008), and that the difference is present even when observing both teacher ratings and direct measures (Matthews et al., 2009). Girls have been found to have more appropriate school behaviors, in general, than boys (Keogh, 1994). The National Center for Education Statistics (2001) found that overall, kindergarten-age girls have a heightened eagerness to learn, pay greater attention to lessons, and are more persistent in completing tasks. In addition, McClelland et al. (2000) also found that females tend to have better work-related skills in comparison to boys of the same age. Dominguez et al. (2010) also reported that girls' rates of change was significantly faster than those of boys throughout the preschool year. This study determined that gender differences were stable throughout the year, and hence, it can be predicted that the differences will continue to stay the same as they continue further education.

Likewise, Lee (2013) conducted a study to explore the relationship between the gender differences in writing attitudes and learning behavior. In addition, she investigated the effect that this relationship has on the gender differences that are present in writing performance. The results of this study suggested that females exhibited more acceptable learning behaviors than males overall. She also found that the gender differences in learning behaviors (i.e., discussion of studies at home, time per day on homework, etc.) were consistent across all areas. Although it was determined that the

differences were consistent, the results also found that the gender differences seen in this study were present regardless of the level of behavioral engagement that was present while learning.

A significant link between learning behaviors and gender achievement gaps in kindergarten children has also been found through data collected by ECLS-K:1999 scores, both in teacher rated math proficiency and direct cognitive assessment scores (Cimpian, Lubienski, Timmer, Makowski, & Miller, 2016). Cimpian et al. (2016) found girls consistently exhibited more positive learning behaviors than boys when students' behavior was rated by teachers. Further, Yeung, Barker, Tracey, and Mooney (2013) determined that girls scored higher in the areas of knowledge, effort, and value when assessing the areas of behavior. These positive behaviors displayed in girls may be responsible for their greater reading advantage (DiPrete & Jennings, 2012), and may be an explanation for why the gender gap does not continue to grow once children reach the early elementary school years (Cornwell, Mustard, & Van Parys, 2013; DiPrete & Jennings, 2012; Robinson-Cimpian, Lubienski, Ganley, & Copur-Gencturk, 2014).

Although girls were more likely to exhibit more positive learning behaviors, Cimpian et al. (2016) also indicated that females overall rated lower in math proficiency than boys with similar achievement and learning behaviors. A gender gap in mathematics significantly favoring males emerged when both behaviors and approaches to learning were held constant (Cornwell et al., 2013; DiPrete & Jennings, 2012; Robinson-Cimpian et al., 2014). Goodchild & Grevholm (2009) suggest that girls' quick ability to learn material taught in early math classes may be explained by their compliant

behavior. Cimpian et al. (2016) suggest that the gender gap in mathematics narrows as the school years increase due to girls' continued positive approaches to learning.

Problem-solving approaches have been found to differ in boys and girls. Boys have been discovered to use bolder problem-solving strategies such as “backwards reasoning” (Winkelmann, van den Heuvel-Panhuizen, & Robitzsch, 2008), whereas girls have been linked to utilizing familiar strategies picked up through classroom learning (Carr & Jessup, 1997; Che, Wiegert, & Threlkeld, 2012; Fennema, Carpenter, Jacobs, Franke, & Levi, 1998; Gallagher et al., 2000; Gallagher & De Lisi, 1994; Goodchild & Grevholm, 2009; Zhu, 2007). Although girls' approaches to problem-solving are more structured and teacher-learned, they may encounter difficulties when the complexity of mathematics tasks increase and require flexibility rather than familiarity (Goodchild & Grevholm, 2009). Cimpian et al. (2016) research found that teachers perceive girls as harder-working than boys with similar achievement because of the closeness in teacher-ratings in mathematics proficiency.

The prevalence for gender differences in adaptive behaviors is relatively high (Lambert, 1979). In a study conducted by Schaefer (2004), girls were more likely to participate in flexible learning behaviors in the classroom. Results also determined that boys tended to have a lessened desire to please the teacher, are easily distracted, and exhibited more fidgeting behaviors. Moreover, boys were more likely to lack initiative and display disinterest in learning with a “don't care” attitude. Although girls overall learning behaviors were more positive than boys, they did display a higher level of school work avoidance behaviors, such as complaining of a headache.

## **Gender Differences in Academic Readiness**

Previous studies on gender differences in academic readiness are relatively conflicted in their findings. In a study conducted by Mead (2006), the “boy crisis” was explored. The “boy crisis” is the belief that boys are falling behind academically. Mead (2006) found that girls do have an advantage in academic success. Further, that although the research may make it seem as if boys are falling behind academically, the gender differences could be attributed mostly to girls’ overall heightened ability to achieve academic success. Girls performance in school has been found to be consistently better than boys, leading them to receive better grades (Hyde, 1985).

Multiple research studies have identified a consistency in regards to the presence of gender differences in the elementary school years. Specifically, that girls have a higher academic success rate, notably in the areas of literacy achievement (Coley, 2001; Gambell & Hunter, 1999; Lummis & Stevenson, 1990; Ready, LoGerfo, Burkham, & Lee, 2005). However, other research results argue that there is little to no presence of gender differences in the early school years, with differences only beginning to surface in the middle school years and becoming fully present once the children reach high school (Entwisle, Alexander & Olson 1997; Hyde, Fennema, & Lamon, 1990; Willingham & Cole, 1997). Findings by Freeman (2004) suggest that gender differences in academic achievement do exist at the elementary level, but performance on assessments in general knowledge is similar between the genders at the kindergarten and first grade levels. Results from research by Duckworth and Seligman (2006) also found that the gender gap was not shown through standardized test scores in early childhood years, but that the difference during those years was shown through teacher grades and daily classroom

work. Although a gender difference was visibly found in standardized test scores, these scores can still act as a predictor of school grades (Matthews, Ponitz, & Morrison, 2009).

Moreover, a research study conducted by Birch and Ladd (1998) found that girls were more likely to build stronger relationships with teachers than boys. Further, that children who experienced close teacher-child relationships displayed a tendency to perform better academically than children with distant teacher relationships. It is also believed that children who have a close teacher-child relationship in the classroom may feel more comfortable using the teacher for support in the classroom, ultimately helping them further their academic success. Birch and Ladd (1997) have also suggested that academic readiness impacts a child's ability to form close teacher-child relationships. Specifically, that children who exhibit higher levels of academic readiness are more capable of forming relationships with adults in the classroom environment than those children whose level of academic readiness is below average (Birch & Ladd, 1997). As previous research implies that girls are more likely to build close teacher-child relationships, one may hypothesize that girls are more likely to reach out to their teachers for support.

### **Learning Behaviors and Academic Readiness**

Previous research exploring children's learning behavior and academic readiness has consistently identified a significant relationship between the two variables (Schaefer & McDermott, 1999; Raver, 2003). Schaefer and McDermott (1999) found that adaptive learning behavior is important to academic achievement, not only during the preschool year but all throughout schooling. Raver (2003) also indicated that social and behavioral

problems that emerge at the start of school have a negative long-term impact on academic and social success, and also increases the risk of school failure. Further, Schaefer and McDermott (1999) have also identified that learning behavior, aside from genetic and environmental factors, is the strongest predictor for higher scores in teacher-assigned grades. However, standardized testing scores were more closely related to IQ scores than to learning behaviors. They determined that both learning behaviors and IQ scores should be combined when predicting students' future academic achievement.

Positive learning behaviors, such as the ability to pay attention and task independence, were found to have a significant relationship to children's academic success (McKinney, Mason, Perkerson, & Clifford, 1975). Likewise, research conducted by Yen, Konold, and McDermott (2004) supports these findings and suggests that children with positive learning behaviors, such as motivation, confidence, and flexibility in learning situations, are more likely to see academic success. Swift and Spivack (1969) discovered that students whose learning behaviors are more negative (i.e., inability to pay attention, achievement anxiety) exhibit lower academic performance.

Executive functioning skills are cognitive processes that improve children's limits for problem-solving and goals in learning (Carlson, 2005). These skills assist children in reaching academic success by using concept learning, complex reasoning, and abstract problem-solving (Blair & Diamond, 2008; Zelazo, Carlson, & Kesek, 2008). Previous studies suggest that both math and reading achievement levels at the end of the kindergarten year can be predicted by the child's executive functioning skills in preschool (Blair & Razza, 2007; Clark, Pritchard, & Woodward, 2010). Math and reading skill has been previously predicted when analyzing preschool executive functions (Bull, Espy, &

Wiebe, 2008). Teacher rating of learning-related behaviors at the end of the preschool year were also predicted by the child's executive functioning skills at the beginning of that year (Denham, Warren-Khot, Bassett, Wyatt, & Perna, 2012).

Children with well-developed learning-related behaviors exhibit behaviors such as the ability to follow teacher direction, abide by classroom rules and discipline, and engage and show interest in learning. They also have the ability to concentrate without distractions and persist through frustration or boredom to complete problem-solving (Fantuzzo, Perry, & McDermott, 2004; McClelland et al., 2006). Because learning-related behaviors both influence presence and engagement in learning and expand the child's exposure to classroom instruction, they are predicted to be more influential on classroom learning than executive skills (Stipek et al., 2010). Learning-related behaviors in the early school years has been linked to advanced academic progress and social adjustment later in schooling (Bodovski & Farkas, 2007; Fantuzzo et al., 2004; Hirvonen, Tolvanen, Aunola, & Nurmi, 2012; Ladd & Dinella, 2009; Li-Grining, Votruba-Drzal, Maldonado-Carreno, & Haas, 2010).

Classroom learning has been found to be greatly affected by learning-related behaviors. Children's focus, attention, and persistence in learning in the classroom setting has been linked to increased exposure to teacher instruction and feedback, as well as increased engagement during skills practice (Fantuzzo et al., 2004; Fuchs et al., 2005). Previous research also suggest children benefit more from classroom learning opportunities when executive functioning skills, such as memory, directly support cognitive skills that influence learning-related behaviors (Brock et al., 2009; Neuenschwander et al., 2012). As previously mentioned, academic functioning in



elementary school has been linked to prekindergarten learning-related behaviors. In addition, rate of growth in reading skills up to the third grade level has been directly predicted by learning-related behaviors established in prekindergarten (Sasser et al., 2015).

Prekindergarten programs improve the child's school readiness at the start of kindergarten, especially for children with low socioeconomic status (Magnuson, Meyers, Ruhm, & Waldfogel, 2004). Children placed in low quality classroom settings participate in classroom engagement that has been linked to higher levels of school readiness (Chien et al., 2010). Basic skills learned in prekindergarten programs are important in improving a child's later academic success, and basic literacy skills learned in prekindergarten, such as name writing and letter recognition, can predict early elementary school reading development (Lonigan, Burgess, & Anthony, 2000; Storch & Whitehurst, 2002). Academic achievement in later school years has been predicted by academic achievement tests as well (McGrew, 1986).

### **Academic Readiness and Achievement**

The quality of a child's environment can influence learning and academic achievement in young children. Low-quality home environments have been found to contain high levels of disorganization and chaos. These environments have also been discovered to bring about lower-quality learning opportunities (Dilworth-Bart, 2012). Low-income and ethnic minority children perform at lower levels of achievement than children from higher income families (Dotterer, Iruka, & Pungello, 2012). Ramey and Ramey (2004) reported that children from economically poor families are at a higher risk

for low levels of school readiness due to the lack of knowledge and skill of those families. Socioeconomic status (SES) is defined as a combination of income, education, and financial status (Dotterer, et al., 2012), but researchers tend to use education level when classifying SES (Tamis-LeMonda, Briggs, McClowry, & Snow, 2009). Children from low-SES environments have been linked to lower overall levels of academic achievement (Chiu, 2007; Parcel & Dufur, 2001) and academic competence in comparison to their peers from higher SES backgrounds (Zill, Collins, West, & Hauksen, 1995). Lower levels of academic achievement have been attributed to the lack of access they are provided to socioeconomic resources such as high-quality educational opportunities (Baker, Goesling, & LeTendre, 2002).

It has been recognized that a high percentage of children begin public kindergarten with major language and academic delays (Ramey & Ramey, 2004). West, Denton, and Germino-Hauksen (2000) found that children from low-SES homes tend to perform lower on cognitive and language assessments at kindergarten entry in comparison to children from high income homes. High-quality preschool programs can be beneficial in reducing the risk for low levels of academic readiness (Ramey & Ramey, 2004). The achievement gap in low-SES communities is currently widening, believably due to the fact that higher-income families are increasing their financial investment in their children's education (Reardon, 2011), meaning these families are able to afford high-quality early education for their young children.

The knowledge of the child's home environment is crucial when addressing the achievement gap because this gap has been found to be present in children at the start of formal schooling (Lee & Burkham, 2002). Ramey and Ramey (2004) emphasized the

importance of effective learning opportunities in early childhood. Children who enter public school with little to no previous academic learning opportunities are at a greater risk for early school failure, and in turn become inattentive and withdrawn from the learning process. This inattentiveness and withdrawn behavior can then potentially lead to larger school and academic based consequences in the future, which is another reason it is important for children be introduced to learning experiences and opportunities before entering school (Ramey & Ramey, 2004).

Ansari and Winsler (2016) reported that children who attend a public school-based pre-K program before kindergarten entry displayed stronger school readiness and performance than children who attended center-based or family childcare. A previous study also found the likelihood of kindergarten retention is also lower for children who attend public school prekindergarten programs (Winsler et al., 2012). Ansari and Winsler (2016) found that children benefit most from engaging in socially and educationally stimulating interactions with both classmates and teachers. In addition, that stimulating activities and interactions are crucial for academic development in young children. Previous studies also indicated that low-quality childcare offers less cognitively stimulating activities than school-based prekindergarten programs (Dowsett et al., 2008; Votruba-Drzal et al., 2004). Children enrolled in school-based pre-K programs in the year leading up to kindergarten entry exhibited higher levels of academic performance than their peers (Ansari & Winsler, 2016).

Howes et al. (2008) defined the purpose of prekindergarten programs as the improvement of academic skills and behaviors of children prior to their entry into school. Prekindergarten programs are constructed to expose children to pre-academic learning

material and school-based activities to improve academic achievement skills before kindergarten entry (Barnett, Hustedt, Robin, & Schulman, 2004; Clifford et al., 2005). Prekindergarten enrollment has been linked to higher levels of reading and math scores at the beginning of the kindergarten year (Howes et al., 2008) overall academic school readiness, and having a positive influence on the child's transition into kindergarten (Clifford et al., 2005; Gillam & Zigler, 2000). Children in prekindergarten programs have the opportunity to learn pre-academic skills in the areas of literacy, language development, and task-orientation through interactions with teachers (Bowman, Donovan, & Burns, 2000; Pianta, in press).

### **Learning Behaviors and Academic Achievement**

The relationship between learning behaviors and academic achievement is another area that has been explored through research. Learning-related abilities in children, such as attention in the classroom setting, have been found to be important predictors in later achievement (Duncan et al., 2007), and learning behaviors have been identified as a predictor of learning (Blair, 2002; Raver, 2002). Achievement through second grade has been predicted by observing learning behaviors exhibited by children as young as kindergarten-age (McClelland et al., 2000). Classroom-centered learning behaviors consist of working memory, executive attention, and inhibitory control (Brock, Rimm-Kaufman, Nathanson, & Grimm, 2009). These behaviors, collectively referred to as executive functioning, are higher order thought processes (Zelazo, Mueller, Frye, & Markovitch, 2003). Executive functioning is made up of two distinct branches, referred to as cool and hot, that work together to form behaviors. Cool executive functions consists of the cognitive regulation of children's behaviors such as problem-solving

skills, whereas hot executive functions refers to a child's emotional regulation behaviors like the ability to delay gratification (Brock et al., 2009). Executive functioning skills promote learning-related behaviors, which can then lead to higher success levels in academic achievement (Nesbitt, Farran, & Fuhs, 2015).

A link between cool executive functions and academic achievement has been discovered (Brock et al., 2009). Cool executive functions have also been found to be an important predictor of school readiness (Duncan et al., 2007) and has been able to predict achievement up to the second grade level (McClelland, Morrison, & Holmes, 2000). Cool executive functions have also been proven to have a relationship to teacher-rated classroom behaviors, predicting these behaviors at kindergarten-age through adolescence (Seguin, Nagin, & Tremblay, 2004). Hot executive functions in early childhood have been found to influence learning-related behaviors during these years as well (Mischel, Shoda, & Peake, 1988), and have a relationship to teacher ratings of classroom social skills (Blair, Denham, Kochanoff, & Whipple, 2004). Both hot and cool executive functions in children have a relationship to academic achievement and classroom behavior (Brock et al., 2009), specifically with low levels of hot executive functions having an association with problem behaviors in kindergarten (McIntyre, Blacher, & Baker, 2006).

Brock et al. (2009) conducted a study exploring the influence of learning-related behaviors on academic achievement. Executive functions and achievement tasks were administered to 173 children from 36 different kindergarten classrooms, as well as a cognitive abilities test and teacher-rated scales on the student's learning-related behaviors (Brock et al., 2009). Math achievement, learning behaviors, and engagement in learning

were all predicted by cool executive functions (Brock et al., 2009). It was also found by Duckworth and Seligman (2005) that children who exhibit positive learning-related behaviors have a high likelihood of reaching higher achievement levels than students whose behaviors were negative. Prekindergarten learning-related behaviors such as cooperation, attention, and motivation have been linked to later achievement in reading (Sasser, Bierman, & Heinrichs, 2015). Furthermore, other researchers have suggested that hot executive functioning skills are more detrimental to academic achievement in the middle and high school years when adolescents must practice resisting immediate gratification in pursuit of future rewards (Bembenutty & Karabenick, 2004).

School behavior is believed to have an influence on students' learning (Yeung et al., 2013). Children who exhibit negative classroom learning behaviors, such as disruption to the class, are found to be more likely to reach lower levels of academic achievement and executive function skills (Bierman, Torres, Domitrovich, Welsh, & Gest, 2009; Denham et al., 2012; Montroy, Bowles, Skibbe, & Foster, 2014; Sasser, Bierman, & Heinrich., 2015). Problem behaviors in the classroom have been found to be more hindering to a learning environment than low involvement because these behaviors not only interrupt the child's learning, but disrupt the learning of the other children in the classroom (Nesbitt et al., 2015). These disruptive behaviors interrupt the school environment and have the potential to lower student's motivation, as well as influence the effectiveness of learning (Yeung et al., 2013). On the other hand, children who spend time highly involved in learning and engaged in the classroom, and less time engaging in classroom-disruptive behaviors have been found to reach higher achievement levels in literacy and mathematics than their peers (Nesbitt et al., 2015).

High levels of academic achievement are often rewarded with high grades; just as positive learning behaviors are reinforced with social approval. These reinforcements increase achievement level and learning behaviors, and in turn may have an influence on later academic success (Stipek, Newton, & Chudgar, 2010). They may also increase the student's desire to conform to teacher expectations of classroom behavior and learning engagement in hopes to receive more positive praises and rewards. This evidence suggests that assisting children in their development of positive classroom behaviors as early as preschool and elementary school will influence their future improvement of literacy skills (Stipek et al., 2010). Academic progress and performance in kindergarten has been determined to have been predicted by teacher's ratings of children's levels of engagement and independence in learning (Ladd, Kochenderfer, & Coleman, 1996).

Findings from a longitudinal study conducted by McClelland et al. (2000) have shown that children's academic performance in kindergarten was directly related to their work-related skills in that year according to teacher rating scales, and that these skills stood as a predictor of the child's academic performance through the end of second grade. Another study went beyond these findings to determine that learning-related behaviors have the ability to predict reading and mathematics scores up to as far as the sixth grade level (McClelland et al., 2006). In addition, literacy achievement has also been found to be greatly influenced by learning behaviors. Positive learning behaviors in kindergarten have been discovered to promote literacy achievement up to the third grade level, with the same evidence consistently found for children from third grade to fifth grade (Stipek, et al., 2010). A relationship between attention and academic achievement has also been established, determining that attention skills in kindergarten can be used as

predictors of problem-solving subject, such as math and science, up to the fifth grade level (Grissmer, Grimm, Aiyer, Murrah, & Steele, 2010).

DiPerna and Elliott (2002) have described “academic enablers” as skills, attitudes, and behaviors that influence academic success. “Academic enablers” such as flexibility in learning, prolonged attention, and responses to learning situations in classroom settings have been identified as contributing to academic achievement in all areas (McDermott & Bizetman, 1984; DiPerna, Volpe, & Elliott, 2002). These enablers should be considered when working with children who are academically unsuccessful (DiPerna et al., 2002). Observation of the learner has been established as the first step to identifying a child’s areas of academic difficulties (Eccles & Winfield, 1995). Time management skills, cooperation with peers, and strategy application are all learning behaviors that have an effect on children’s academic achievement in the areas of language, reading, and math (Schaefer, 2004; Burchinal, Peisner-Feinberg, Pianta, & Howes, 2002). Academic outcomes have been predicted by observing several learning related elements such as competence motivation and persistence on challenging tasks, and these elements should be used in creating classroom practices that are effective for learning (Stipek, 1998).

### **Synthesis of the Related Literature**

The contribution of social cognitive theory to the relationship between learning behaviors and academic readiness shown in the way children learn. According to social cognitive theorists, children learn through modeling and the behaviors of those around us (Bussey & Bandura, 1999). Once children absorb the knowledge that is picked up from the environment, they are able to expand their behaviors. Children’s learning behaviors



then shape our academic readiness and success. Social cognitive theory influences the basis of the current research study, and supports the idea that learning behaviors impact academic readiness in preschool children.

Previous research has found gender differences in learning behaviors (Dominguez, Vitiello, Maier, & Greenfield, 2010). These findings support the hypothesis of the study on how learning behaviors may differ between genders. The study by Mead (2006) supports the study's exploration of gender differences in academic readiness and will help in relating these findings to preschool age children. Schaefer and McDermott (1999) support this study that young children's learning behaviors influence their academic readiness. Ramey and Ramey (2004) describe the importance of academic readiness leading up to school entry and its significance in predicting later academic achievement and success. Duncan et al. (2007) reinforced the belief that learning-related abilities in the classroom setting have an influence on later academic achievement.

In contrast to the work of Schaefer and McDermott (1999), the current study did not explore the influence of the IQ on academic readiness and achievement of young children. IQ has been consistently known to significantly predict academic readiness and achievement and thus, the current study did not consider it necessary to further explore intelligence. Schaefer and McDermott (1999) also shared the importance of understanding the development of the relationship of learning behaviors and academic readiness over time. Despite the fact that the long-term relationship of learning behaviors and academic readiness is important in the understanding of development, the present study exploring relationship of learning behaviors and academic achievement in young children is another critical stepping stone for future research.

## **Chapter 3**

### **Method**

#### **Setting and Participants**

Participants for this study included 40 children enrolled in a Pre-Kindergarten program in a private school in Southern New Jersey. The current enrollment of this school is about 150 students with ages ranging from 18-months to kindergarten age. Demographic profile of the participants included 55% males and 45% females, and majority were from middle class families. In terms of race/ethnicity, 90% of the children were Caucasians and the remaining 10% were comprised of children from either African American or mixed races. Majority of the children were aged four years old at the time of the study and the remaining 12% of children were aged five years old.

#### **Measures**

**Bracken School Readiness Assessment, Third Edition (BSRA-3).** The BSRA-3 is a standardized screener developed by Bracken (2007) to assess a child's readiness for school. The BSRA-3 is comprised of five subtests to assess the basic concepts that are related to academic readiness: colors, letters, numbers/counting, size/comparison, and shapes. The assessment is brief and easy to administer (Bracken, 2007). Both test-retest stability and internal consistency were used to estimate the reliability of the BSRA-3. Average corrected coefficients for stability of BSRA-3 scores range from .76 to .92 (Bracken, 2007). Evidence of the validity of the test was accumulated based on test content, response processes, and its relationships with other variables. When compared

to other variables, scores on the BSRA-3 had a high correlation (.85) to BSRA scores (Bracken, 2007).

**Preschool Learning Behaviors Scale (PLBS).** Developed by McDermott et al. (2012), the PLBS is a teacher rating specifically used with prekindergarten students. Validity evidence for PLBS was presented by McDermott et al (2000) in 2002 (Hahn et al., 2009). It is composed of 29 items, each item focused on a distinct behavior related to learning processes. Items are divided into three dimensions: competence motivation, attention/persistence, and attitude toward learning (Hahn et al., 2009). The PLBS is based on the previously developed LBS (McDermott, 1999) for children in primary and secondary school. PLBS uses the Likert type response options of “most often applies”, “sometimes applies”, or “doesn’t apply” (McDermott et. al., 2012). Item-response theory was used to develop standardized scores for each question on the PLBS. Reliability of the PLBS was established through Cronbach’s  $\alpha$ , ranging from .76 to .88 (McDermott et al., 2012).

Construct validity of the PLBS was assessed using factor analysis and findings supported the three distinct and reliable dimensions of PLBS: Competence Motivation, attention/persistence, and attitude towards learning. These three dimensions were also evident in factor solution by child’s gender, age, ethnicity, and parent educational level. In addition to construct validity, PLBS dimensions demonstrated convergent validity with social skills measures and divergent validity with behavior problems and cognitive ability (McDermott, Leigh, & Perry, 2002).

## **Procedure**

This study underwent review and approval by Rowan University Office of Research Compliance to determine if the study's methodology meets ethical standards on use of human subjects in research. After IRB approval, the researcher obtained formal written consent from parents or legal guardians of the target participants of the study.

Participants with parental consent were administered the BSRA-3 by the researcher to assess academic readiness. On the other hand, participants' learning behaviors were assessed by their teachers using the PLBS.

## **Data Analysis**

Statistical analysis was done using SPSS software. The analysis employed descriptive statistics such as mean, median, and standard deviation to determine measures of central tendency and variability of the BSRA and PBLs scores. In addition, skewness and kurtosis were calculated to determine normality of the score distributions.

To test the hypothesis on gender differences in BSRA and PBLs, a Mann-Whitney U test was utilized. On the other hand, Pearson correlation was employed to test the hypothesis on significant relationship between BSRA and PBLs scores.

## **Chapter 4**

### **Results**

#### **Descriptive Statistics**

Preliminary analysis involved calculating the descriptive statistics of the primary variables in the study that included school readiness and the three dimensions of learning behaviors in preschool children: competence motivation, attention/persistence, and attitude towards learning. As shown in Table 1, statistical information for each variable consists of the mean and standard deviation.

Table 1 also displays the values of skewness and kurtosis as indices of normality of the distribution of scores for each study variable. According to Meyers, Gamst, and Guarino (2017), skewness and kurtosis ranging from -2 to +2 indicate symmetry of distribution. Resulting skewness and kurtosis for attention/persistence variable indicate symmetry. On the other hand, skewness and kurtosis of academic readiness, competence motivation, and attitude towards learning denote some departure from symmetry, most notably the high kurtosis values.

Table 1

*Descriptive Statistics of the Variables*

Variable	<i>M</i>	<i>SD</i>	<i>Skewness</i>	<i>Kurtosis</i>
Academic readiness	115.40	18.29	2.05	10.22
Competence motivation	54.98	9.14	-2.03	4.31
Attention/Persistence	54.03	10.49	-1.03	-0.54
Attitude towards learning	56.23	8.53	-2.32	6.06

**Gender Differences in Academic Readiness**

Mann-Whitney U test was used to determine gender differences in academic readiness. As indicated in Table 2,  $U = 181.00$ ,  $p \geq .05$  suggest that male ( $Mdn=115.00$ ) and female ( $Mdn=117.50$ ) children did not differ in academic readiness. These findings did not confirm the hypothesis advanced in the study that gender differences in academic readiness are present in preschool children.

Table 2

*Gender Differences in Academic Readiness*

Variable	<i>Mdn</i>		<i>U</i>	<i>z</i>
	Male (n=22)	Female (n=18)		
Academic readiness	115.00	117.50	181.00	-0.46

**Gender Differences in Learning Behaviors**

Table 3 summarizes the findings from the Mann-Whitney U tests on gender differences in learning behaviors. In reference to the median, female children were found to be significantly higher in all three dimensions of the learning behaviors than male children: competence motivation ( $U = 91.50, p \leq .01$ ), attention/persistence ( $U = 102.50, p \leq .01$ ), and attitude towards learning ( $U = 100.50, p \leq .01$ ). These results confirmed the hypothesis that gender differences in learning behaviors are apparent in preschool children.

Table 3

*Gender Differences in Learning Behaviors*

Dimension	Mdn		U	z
	Male (n=22)	Female (n=18)		
Competence motivation	55.00	61.00	91.50	-3.04**
Attention/Persistence	54.50	62.00	102.50	-2.71**
Attitude towards learning	54.00	62.00	100.50	-2.80**

Note. \* $p \leq .05$ ; \*\* $p \leq .01$

### Correlation Between Academic Readiness and Learning Behaviors

Pearson  $r$  was calculated to determine the correlation of academic readiness and each of the dimension of learning behaviors. As presented in Table 4, the correlations of academic readiness with competence motivation ( $r = .30, p \leq .05$ ), attention/persistence ( $r = .35, p \leq .05$ ), and attitude towards learning ( $r = .32, p \leq .05$ ) were all positive and significant. Such correlations suggest that as school readiness increases, learning behaviors tend to increase. Hence, the hypothesis that there is a relationship between academic readiness and learning behaviors in preschool children is confirmed.

Table 4 also includes the intercorrelations of the learning behavior dimensions and as expected, competence motivation, attention/persistence, and attitude towards learning were highly correlated.



Table 4

*Correlation Between School Readiness and Learning Behaviors (n=40)*

	1	2	3	4
1. Academic readiness	-	.30*	.35*	.32*
2. Competence motivation		-	.74**	.82**
3. Attention/Persistence			-	.75**
4. Attitude towards learning				-

*Note.* \* $p \leq .05$ , \*\* $p \leq .01$

## Chapter 5

### Discussion, Conclusion, and Recommendations

#### Discussion

Results of this study showed a non-significant gender difference in academic readiness at the preschool level. The hypothesis that postulated gender differences in academic readiness was not confirmed by the findings as males and females showed similar levels of academic readiness. However, findings supported the hypothesis of gender differences in learning behaviors. Compared to male children, female children were consistently higher in competence motivation, attention/persistence, and attitude towards learning. Results of this study also confirmed the hypothesis that there is a significant correlation between academic readiness and learning behaviors.

The lack gender difference may be due to the age of participants in this study. Gender differences have been shown to exist at the elementary level but performance on assessments in general knowledge is similar between genders at the kindergarten and first grade levels (Freeman, 2004). Because this study was conducted among preschool age children, participants may have been too young for gender differences to be apparent in early academic skills. Research by Duckworth and Seligman (2006) indicated that the gender difference in the area of academics in the early childhood years can be evident in teacher assigned grades and classroom work rather than through standardized test scores.

Overall, girls have been found to have better learning-related skills in comparison to boys of the same age (McClelland et al., 2000). These findings were evident in the present study with female participants consistently exhibiting more favorable learning

behaviors than males across all three dimensions of learning behaviors included in the PLBS. Findings in this study supported the explanation of Keogh (1994) that girls school behaviors are more appropriate than boys. Girls at the kindergarten age are more eager to learn, therefore, they have been found to be more diligent in completing academic tasks and pay more attention to classroom lessons (National Center for Education Statistics, 2001). Boys have been found to display disinterest in learning and have a lessened desire to please the teacher, and therefore are more easily distracted (Schaefer, 2004).

Findings from the current study are consistent with previous research that reported a positive relationship between learning behaviors and academic readiness in children. Children's focus, attention, and persistence in learning in the classroom setting have been linked to increased exposure to teacher instruction and feedback as well as increased engagement during skills practice (Fantuzzo et al., 2004; Fuchs et al., 2005). Children with confidence, motivation, and flexibility in learning situations are more likely to achieve academic success (Yen, Konold, & McDermott, 2004). In turn, lower academic performance is more often seen in children whose learning behaviors are negative, such as the inability to pay attention (Swift & Spivack, 1969). Learning-related behaviors expand the child's exposure to classroom instruction, suggesting they are influential on classroom learning skills (Stipek et al., 2010).

## **Conclusion**

Gender differences in learning behaviors can be apparent in children as early as preschool education. Dominguez et al. (2010) claimed that gender differences in learning behaviors may remain throughout the school year. Gender differences offer important implications for teaching and learning preschool children especially in differentiating

motivational strategies to teach young boys and girls. In turn, academic readiness can be linked to learning behaviors in young children as has been found in the study. This key finding has implications in providing support and strong foundation for education in children as early as preschool to develop their academic skills and positive attitude in learning.

Children who attend pre-kindergarten programs have been reported to show higher levels of academic performance than their peers who did not attend these programs (Ansari & Winsler, 2016). Research by Ramey and Ramey (2004) suggests the importance of early learning experiences prior to school entry, stating that children who enter public school with little to no previous academic learning experiences are more likely to be withdrawn from the learning process, resulting in a heightened risk for school failure.

### **Recommendations**

This study examined the gender differences and relationship between learning behaviors and academic readiness in a private school. Future research should further examine gender differences and relationship of these variables in children in a larger population with diverse demographic characteristics such as in public school setting, from low socioeconomic families, and other racial/ethnic backgrounds. To further explore the long-term relationship of learning behaviors and academic readiness, longitudinal research should be conducted. Longitudinal research can be beneficial to determine relationship between learning behaviors and academic behaviors persists over time as well as determining some mediating and moderating variables that may impact the relationship.

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