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Effects of Inclusive Prekindergarten Programs on Developmental Skills of Typically Developing Children

Danita Duhart
Walden University

Walden University

College of Education and Human Sciences

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Danita C. Duhart

has been found to be complete and satisfactory in all respects,
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the review committee have been made.

Review Committee
Dr. John Harrison, Committee Chairperson, Education Faculty
Dr. Toni Bailey, Committee Member, Education Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
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Abstract

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MPhilEd., Walden University, 2021

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

The Individuals with Disabilities Education Act of 2004 set forth guidelines for inclusionary practices to ensure that students with disabilities were educated with their nondisabled peers. In early childhood education, there was a paucity of information that addressed, in quantifiable terms, the effect of inclusion on the developmental skills of typically developing children. The purpose of this quantitative, quasi-experimental, nonequivalent study was to examine to what extent the prekindergarten program delivery setting, inclusion versus noninclusion, effects the developmental domains of typically developing children. The theoretical framework was based on Arnold Gesell's maturational theory of development. The developmental domains for typically developing children were measured using the Developmental Profile 4 Teacher Checklist. Data were collected through a nonprobability, purposive sampling method obtaining 136 subjects, evenly distributed into inclusion and noninclusion groupings. A one way MANOVA was conducted to examine to what extent the prekindergarten program delivery setting effects the developmental domains of typically developing children. Results of the MANOVA yielded a statistically significant result (p = .041). The subsequent follow up ANOVA yielded a result of no statistically significant differences in the group means. These results extended knowledge of the effects of inclusive prekindergarten programming on the developmental skills of typically developing children. The social benefit of this knowledge reaffirms the policy of inclusionary practices and shows the ability for children to develop in meaningful ways alongside their peers and to thrive together leading to better lives for all children.

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Dedication

This work is dedicated to my husband and life partner, Walter Keith Duhart. Thank you for your support and encouragement through this dissertation process. Your sacrifices have not gone unnoticed. I love you with every heartbeat and breath of my being!

I also dedicate this work to my mother, the late Clarice Davis Boyd. She was the first trailblazer in my life. In 1942, at the age of four, she walked into A. L. Lewis Elementary in Homestead, Florida and announced that she wanted to attend school. At the age of four, she was enrolled in kindergarten. As a young adult, she decided to leave her home state of Florida in pursuit of a degree at Fort Valley State College in Georgia. Throughout her life, she never wavered in any of her pursuits. Prior to her passing, she asked me to promise that I would finish my doctorate degree. With this achievement, I am honoring my word. I know that my mother watches over me and she is proud of this trailblazing moment in my life. I thank you for paving the way and teaching me to pray without ceasing.

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First and foremost, to God be all the glory and honor. I know that I am not alone on this journey. My God has lifted me up and walked with me every step of the way. To Keith, my husband, you make every day special. I love you! To my children and grandchildren, I love you! I am grateful for my blessing of family and friends. To Dr. Sheneka Moore, for being a true friend and positive influence in my personal and professional life. To Dr. Tamara Myles, for being a classmate, and now a forever friend. I appreciate every moment that you listened to my questions, assisted me with unpacking my thoughts, and being my accountability partner during this prodigious endeavor.

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Chapter 1: Introduction to the Study

The 21st century educational landscape has been formed as a result of many significant paradigm shifts throughout the history of the United States. The American concept of *educational equity* can be traced to the Civil Rights movement starting with the landmark case of Brown v. Board of Education (1954) decision. This landmark case showed the need for inclusion and equity and provided a platform to address the issue that separate education is not equal education (Brown v. Board of Education, 1954). Equity rights for students were questioned again when students with disabilities were systemically segregated from their nondisabled peers, prompting another educational paradigm shift (Kirby, 2017). The Individuals with Disabilities Education Act (IDEA) of 2004 set forth guidelines for inclusionary practices to ensure that students with disabilities were included with their nondisabled peers, a majority of the school day, to the fullest extent possible.

The purpose of this quantitative, quasi-experimental, nonequivalent study was to examine to what extent the type of prekindergarten program delivery setting (inclusion versus noninclusion) effects the Developmental Profile 4 (DP-4) standard scores for physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains (Alpern, 2020) of typically developing children. This study was needed because of the lack of understanding about the effect of prekindergarten program setting types on the developmental progress of typically developing children participating in an inclusion prekindergarten program as compared to a noninclusion prekindergarten program. Noggle and Stites (2018) focused on the lived experiences of typically

developing children in inclusive preschool programs. The results of their research asserted that inclusion programs have positive benefits for both disabled and typically developing students. However, there was a paucity of information that addressed, in quantifiable terms, the effect of inclusion on the developmental skills of typically developing children.

The implication for social change in this study is that new information may be provided regarding prekindergarten inclusion programming that could lead to better learning outcomes and better lives for children. This chapter consists of the background of the study, problem statement, and purpose of the study. The chapter also includes a presentation of the research question and hypotheses, theoretical foundation, and nature of the study, highlighting the methodology guiding the study. Lastly, the limitations and significance of the study are described.

Background of the Study

The inclusion of students as outlined in IDEA provides guidance to states and local educational agencies on what constitutes the least restrictive and inclusive environments for students. IDEA emphasizes the need for students with disabilities to participate with nondisabled peers. The implications of inclusion for students with disabilities indicated that there were broad implications with the practice of inclusion for all students (Long, 2019). There is a need to promote inclusive practices for all students regardless of their ability because inclusion is beneficial for all students (Kirby, 2017). Previous researchers examined the effect of inclusion in the general education setting and

its implications for students with disabilities; however, little attention was given to the confluence effect of inclusion for general education students (Gilmour, 2018).

The idea of inclusion also extends to young children. The U.S. Department of Health and Human Services and U.S. Department of Education (2015) provided a joint policy regarding the expectations for inclusionary practices in early childhood programs for children with disabilities. The joint policy promoted the policy of "increasing the inclusion of infants, toddlers, and preschool children with disabilities in high-quality early childhood programs" (U.S. Department of Health and Human Services & U.S. Department of Education, 2015, p. 1) to address the need for inclusion for all. The policy was designed to advance practices that promote inclusion for all students in early childhood programs. The policy that has been set forth is supported by the reported benefits of inclusion for students with disabilities (Guralnick & Bruder, 2016; U.S. Department of Health and Human Services & U.S. Department of Education, 2015).

Guralnick and Bruder (2016) outlined key components to promote inclusion goals of the United States in early childhood programs. Further highlighting the history of how inclusionary practices obtained support from the federal government and the benefits of inclusion for all with an emphasis on the social benefits for students with disabilities (Guralnick & Bruder, 2016). Previous researchers focused on the history of inclusion as it relates to early childhood and the advantages of inclusion for students with disabilities and emphasized the value of inclusion for all children (Odom et al., 2011).

The ways to change deficit-based thinking about students with disabilities as well as the need for diversity through inclusion was highlighted in research about the benefit

for students with and without disabilities (Beneke et al., 2019). Previous researchers emphasized that inclusionary settings are beneficial for all, reporting a correlation between high quality inclusive environments and the outcomes for all children, both students with disabilities and typically developing children (Barton & Smith, 2015). The lived experiences of typically developing children in inclusive preschool programs indicated that inclusion programs had positive benefits for all students in the program in respect to the social benefits of inclusionary programs for all children (Noggle & Stites, 2018). With a plethora of information regarding inclusion, no insights were provided into measurable developmental outcomes of typically developing children.

In respect to developmental milestones, Oliveira (2018) supported the use of Arnold Gesell's maturational theory of development. The theory still informs the work in child development stages even though theorists now posits that the stages of development are not fixed. The theory has been a strong foundation in the contributions to the work on developmental stages in children. Gesell's maturational theory of development (Gesell, 1925) speaks to the relevance of the theoretical framework and its theory, even a century old, still informs research. Further, it provides support for the use of the DP-4 instrument to obtain data on development scores for physical, adaptive behavior, social-emotional, cognitive, and communication domains (Alpern, 2020).

The DP-4 was developed by building upon the foundation of the previous versions of the DP instrument. The DP instrument (Alpern & Boll, 1972) was first published in 1972 as a result of a project, launched in 1968, to develop a tool to assess the developmental competencies of children in a nonassessment manner (Boll & Alpern,

1975). The DP included a parent interview technique to determine their child's developmental functioning in five areas of physical skill, self-help, social competence, academic skills, and communicative ability (Hunt, 1978). According to Hunt (1978), the first version of the DP was "most suitable for use with urban black and white children in the Midwest" (p. 1).

In 1980, the Developmental Profile II (DP-II) (Alpern et al., 1980) was an updated version of the original DP instrument. The DP-II was revised to streamline the age range of the instrument to age nine, to eliminate questions for children older than nine years old, and to address the guidelines of the 1975 Education for All Handicapped Children Act, Public Law 94-142 (Harper & White, 1985). Harper and White (1985) noted that "users of DP-II must select the instrument if it coincides with their particular sample characteristics (white, black, mid-west, urban)" (p. 3).

In 2007, the Developmental Profile 3 (DP-3) (Alpern, 2007) was released as an update to the DP-II (Alpern et al., 1980). The DP-3 instrument was updated to address birth to 12 years, 11 months of age to identify developmental delays for younger children and below average achievement for older children (Flanagan & Henington, 2010). The DP-3 instrument provided significant revisions to address norming standardization in terms of test development and psychometric properties (Flanagan & Henington, 2010). In the development of the DP-3 instrument, its norms were recalculated using data from the 2005 United States Census data "according to ethnicity, dwelling area, and socioeconomic status" (Flanagan & Henington, 2010, para. 1). The DP-3 gained recognition beyond its predecessors as a norm-referenced tool that could be used for

"eligibility determination, educational program development, and measurement of progress" (Flanagan & Henington, 2010, para. 2).

The DP-II and DP-3 items in the five domain areas were correlated from .86 to .89. Internal consistency for the Interview Form was assessed using the split-half method and was greater than .80 and some ranged above .90 and the Checklist Form correlations ranged from .79 to .99 (Flanagan & Henington, 2010). The test-retest of the Interview Form scale scores correlations ranged from .81 to .92 (Flanagan & Henington, 2010). Further, the construct validity of DP-3 was evaluated through "comparisons of developmental instruments (i.e., Vineland Adaptive Behavior Scales, Second Edition; Developmental Assessment of Young Children) and domain specific tests (i.e., Preschool Language Scales, Fourth Edition; Peabody Developmental Motor Scales, Second Edition) results indicated moderate to high correlations" (Flanagan & Henington, 2010, para. 22). Lastly, discriminant validity was evaluated using two groups which resulted in lower DP-3 scores for children with developmental delays than in those with other problems (Flanagan & Henington, 2010). The DP-3 instrument was established as an appropriate, norm-referenced assessment to measure developmental outcomes (Flanagan & Henington, 2010).

In 2020, the DP-4 (Alpern, 2020) was released as an update of the DP-3 (Alpern, 2007). The DP-4 was developed with the foundation of the previous versions and added features to assist in a multifaceted examination of a child's development. The notable changes in this version were the development of a new form, Teacher Checklist, and a new score type named growth score (Alpern, 2020, p.1). The DP-4 instrument, available

in print and electronic formats, is designed for use with individuals ages birth to 21 years, 11 months old (Alpern, 2020, p. 1) to identify developmental strengths and weaknesses. The DP-4 Teacher Checklist is designed to be used with individuals ages 2 years, 0 months to 21 years, 11 months old (Alpern, 2020, p. 2). The DP-4 instrument is useful in determining a comparison of a child's functioning with that of their peers (Alpern, 2020, p. 4).

The DP, DP-II, DP-3, and DP-4 instruments were developed from the premise to have a nonassessment tool available to assess children's developmental domains. The instruments were developed upon interview questions that evolved into a checklist questionnaire format. The DP-4 internal consistency reliability is greater than .80 (Alpern, 2020, p. 91). The DP-4 test-retest reliability between the administration resulted in no clinically meaningful differences (Alpern, 2020, p. 92). The DP-4 instrument provided strong correlations for content, construct, and convergent validity (Alpern, 2020, pp. 92-100). According to Alpern (2020), the DP-4 meets the federal criteria of assessment of development in the five developmental domain areas, specified by IDEA, to identify a potential developmental delay. Thus, providing support for the use of the DP instrument to determine the effect of prekindergarten program setting types on the developmental skills of typically developing children.

There was a need for this study because of the lack of understanding about the effect of prekindergarten program setting types on the developmental progress of typically developing children participating in an inclusion prekindergarten program as compared to a noninclusion prekindergarten program. The purpose of this study was to

determine the effect of inclusive prekindergarten programs on the developmental skills of typically developing children in the five major developmental domains.

Problem Statement

IDEA (2004) emphasized that access to general education should be provided across different types of educational settings for students with disabilities. Early childhood inclusion programs focus on "participation, social relationships, and learning outcomes for all children as common goals" (Odom et al., 2011, p. 345). Further, the effect of inclusion for preschool students with disabilities has been extensively researched to reveal positive developmental benefits of inclusion, especially in the area of social emotional domain (Diamond, 2001; Holahan & Costenbader, 2000). There was a plethora of research on the social benefits of inclusion for disabled learners; however, the benefits for typically developing children remain unclear. The problem that I addressed in this study was the lack of understanding about the quantifiable progress of developmental skills in typically developing children participating in inclusive prekindergarten programs.

Purpose of the Study

The purpose of this quantitative, quasi-experimental, nonequivalent study was to compare the effects of inclusive versus noninclusion *regular education* prekindergarten programs on the developmental skills of typically developing children in the physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains. The prekindergarten classroom settings with two modes of delivery (inclusion or noninclusion) were the independent variable. The dependent variables were the DP-4

standard scores in the domain areas of physical, adaptive behavior, social-emotional, cognitive, and communication (Alpern, 2020) based on the program delivery setting (inclusion versus noninclusion). I used the DP-4 Teacher Checklist to obtain data on standard scores in the domain areas of physical, adaptive behavior, social-emotional, cognitive, and communication. The DP-4 domain data of typically developing children participating in an inclusion prekindergarten program was compared to typically developing children participating in a noninclusion regular education prekindergarten program.

Research Question and Hypotheses

Research Question (RQ): To what extent does the type of prekindergarten program delivery setting (inclusion versus noninclusion) effect the DP-4 standard scores for physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains of typically developing children?

Null Hypothesis (H_0): There is no statistically significant difference between the DP-4 standard scores for physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains of typically developing prekindergarten children in inclusion versus noninclusion settings.

Alternative Hypothesis (H_a): There is a statistically significant difference between the DP-4 standard scores for physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains of typically developing prekindergarten children in inclusion versus noninclusion settings.

Theoretical Foundation

The theoretical framework for this study was based on Arnold Gesell's maturational theory of development (Gesell, 1925). This theory was developed over a century ago and has been refined over the years, but still holds merit with professionals as it accurately describes the process of development (Oliveira, 2018; Salkind, 2004). Gesell's theory focuses on how children develop in a predetermined manner in fixed developmental stages in which all children progress through the defined stages (Gesell, 1925; Guddemi, 2016). Gesell pioneered studies that focused on the developmental stages of young children. His belief was that development occurs in stages and is characterized by the child's developmental age and the child's chronological age, which may differ (Gesell, 1925, 1928; Oliveira, 2018; Salkind, 2004).

I used the maturational theory of development to examine development in this study. I used the theoretical framework for a solid foundation for the DP-4 standard scores. Further, comparing the extent to which the standard scores differ by type of prekindergarten program delivery setting (inclusion versus noninclusion) was appropriate to determine the stage of development. Chapter 2 includes a more detailed explanation of the study's theoretical framework.

Nature of the Study

In this study, I used a quantitative methodology, using a quasi-experimental, nonequivalent design to address the research question. The independent variable was the prekindergarten classroom setting with two modes of delivery (inclusion or noninclusion). The dependent variables were the physical, adaptive behavior, social-

emotional, cognitive, and communication standard scores of typically developing children, as measured by the DP-4 Teacher Checklist (Alpern, 2020), based on the program delivery setting (inclusion versus noninclusion). I used this design approach to address the lack of understanding about the effect of prekindergarten program setting types on the developmental progress of typically developing children participating in an inclusion prekindergarten program as compared to a noninclusion prekindergarten program.

I conducted this study in a large urban school district in a Southern state. I refer to the school district in this study as the Sunshine Public School District to maintain its confidentiality. I obtained permission of the sponsoring institution, Sunshine Public School District to conduct the study after obtaining approval from Walden University's Institutional Review Board (IRB).

The DP-4 Teacher Checklist respondents consisted of current employees of the Sunshine Public School District. I identified the schools from preidentified data provided by the Department of Early Childhood Programs and Department of Exceptional Student Education (ESE). Each school principal provided the names of the prekindergarten teachers and special education teachers in their school. During the study, I did not serve in the role of respondent. Those serving in the role of respondent were selected in accordance with the publisher's guidelines. I notified the identified respondents that participation in the primary data collection process was voluntary.

I obtained the prekindergarten program delivery setting designations from the Department of Early Childhood Programs in Sunshine Public School District to identify

inclusion and noninclusion prekindergarten classrooms. I identified the sample from enrolled students in each inclusion and noninclusion prekindergarten classrooms. The sample included prekindergarten children that were typically developing and not suspected of a disability. I excluded any prekindergarten child that had an Individualized Educational Plan (IEP) or that were provided tiered supports due to a suspicion of a disability, those participating in a specialized inclusion classroom for exceptionalities of autism or deaf and hard of hearing, and those participating in a distance learning mode of instruction or half-day prekindergarten program. I collected data for this study using the DP-4 Teacher Checklist to obtain standard scores in the domain areas of physical, adaptive behavior, social-emotional, cognitive, and communication (see Alpern, 2020).

Sunshine Public School District did not use the DP-4 checklists for typically developing prekindergarten children. Therefore, archival data were not available for typically developing prekindergarten children. I provided the electronic form of the DP-4 Teacher Checklist to identified teachers and special education teachers of typically developing children from whom I obtained voluntary participation consent. I provided the respondents one DP-4 Teacher Checklist for each child identified based on the inclusion criterion. Carlson et al. (2020) reported the responding time to the DP-4 Teacher Checklist would be approximately 20 to 40 minutes. The questionnaire was designed to be administered individually using a print or electronic format. I analyzed the data I collected from Sunshine Public School District using SPSS to conduct the statistical analysis of one way multivariate analysis of variance (MANOVA).

Definitions

Adaptive Behavior Domain: The scale measure of the "respondent's perceptions of the child's competence in activities of daily living…such as eating, dressing, self-care, functioning independently, and utilizing modern technology" (Alpern, 2020, p. 2).

Child: The non-adult, subject for whom scale developmental data are being gathered using the DP-4 (Alpern, 2020).

Cognitive Domain: The scale measure of the "respondent's perceptions of the child's development of skills necessary for successful academic and intellectual functioning" (Alpern, 2020, p. 3).

Communication Domain: The scale measure of the "respondent's perceptions of the child's expressive and receptive communication skills through both verbal and nonverbal language" (Alpern, 2020, p. 3).

General Development Score: The "comprehensive measure of development across the five scales" (Alpern, 2020, p. 3).

Inclusion: The "placement of a child with a disability with his/her chronological age peers in a regular education class" (Kline et al., 2012, p. 149). The Sunshine Public School District respondents provided information as to whether a child has been in an inclusive classroom for at least 6 months.

Inclusive education: The educational concept that is "grounded in the principle of *normalization,* which asserts that individuals with disabilities have a right to access the same opportunities, including the same daily experiences and routines, as persons without disabilities" (Albrecht, 2006, p. 929).

Noninclusion/Regular education: The "established curriculum of academic subjects offered in essentially the same fashion for all children and youth" (Kline et al., 2012, p. 266). The Sunshine Public School District respondents provided information as to whether a child has been in a noninclusive classroom for at least 6 months.

Physical Domain: The scale measure of the "respondent's perceptions of the child's ability to perform tasks requiring large- and small- muscle coordination, strength, stamina, flexibility, and sequential motor skills development …gross- and fine- motor skills" (Alpern, 2020, p. 2).

Preschool: The "educational level from a child's birth until the time he/she is entitled to receive elementary services" (Kline et al., 2012, p. 243).

Respondent: The professional with relevant education and experience in child development and/or education (Alpern, 2020, p. 5).

Social-Emotional Domain: The scale measure of the "respondent's perceptions of the child's interpersonal relationship skills, social, and emotional understanding, and functional performance in social situations …relating to friends, relatives, and unrelated adults" (Alpern, 2020, p. 2).

Typically developing child(ren): "…performance of tasks or the meeting of developmental milestones that a child should achieve by a specific chronological age" (Venes, 2013, p. 664).

Assumptions

I made several assumptions in this study. My first assumption was the child's biological age would be representative of their developmental level. My second

assumption was that the biological age was accurately conveyed at the time the DP-4 instrument was administered. My third assumption was that a sufficient number of teachers would provide consent for their voluntary participation to be part of the study. My fourth assumption was that the sponsoring institution had a sufficient number of employees to complete the electronic form of the DP-4 Teacher Checklist regarding typically developing children, meeting the inclusion criterion, enrolled in their classroom. My fifth assumption was that the DP-4 instrument would be properly completed prior to my interpretation of the results. My sixth assumption was that the DP-4 instrument was electronically scored accurately for valid interpretation of the domain scores (see Alpern, 2020). My final assumption was that the prekindergarten classrooms, inclusion and noninclusion, were structured to provide developmentally appropriate learning opportunities to achieve the state's identified early learning standards. These assumptions were critical to establishing meaningful and valid data interpretations in the study.

Scope and Delimitations

The scope of this study included typically developing children participating in an inclusion and noninclusion regular education prekindergarten program in Sunshine Public School District. The quasi-experimental, nonequivalent design used the DP-4 Teacher Checklist (Alpern, 2020) domain standard scores data of typically developing children based on the program delivery setting (inclusion versus noninclusion).The data were used to compare the domain standard scores differences of typically developing children participating in an inclusion and noninclusion regular education prekindergarten program. The dependent variables were the DP-4 Teacher Checklist (Alpern, 2020) standard scores

in the domain areas of physical, adaptive behavior, social-emotional, cognitive, and communication based on the program delivery setting (inclusion versus noninclusion).

The subjects in the experimental group were enrolled in an inclusion prekindergarten classroom. The subjects in the control group were enrolled in a noninclusion regular education prekindergarten program. Both groups consisted of typically developing children in the prekindergarten program that met the inclusion criteria. The subjects were assessed using the DP-4 Teacher Checklist obtaining standard scores in the domain areas of physical, adaptive behavior, social-emotional, cognitive, and communication for both groups (see Alpern, 2020). The respondents were qualified professionals that had knowledge of children in the age range identified for this study.

A potential delimitation to the scope of the study was the selection of subjects that had been identified as meeting eligibility for educational services for a student with disabilities. Given the young age of the students, it was possible that some children who had unidentified disabilities may be placed in the typically developing children grouping. I limited the study to typically developing children, Ages 3, 4, or 5, that were participating in a traditional classroom setting. Typically developing children that were suspected of having a disability, participating in a specialized inclusion classes for autism or deaf and hard of hearing, and those participating in a distance learning mode of instruction or half-day prekindergarten program were excluded from this study. The maturational theory of development undergirds the theoretical framework for measuring development using the DP-4 standard scores for the five domains.

Limitations

A potential limitation to the study was the age of the population of the study. Given the age of the students involved, they were considered a vulnerable population. I consulted the Walden University IRB during the development of this study's proposal to ensure compliance with all ethical guidelines. Another potential limitation to the study was the need for a sample size of 136 subjects with at least 68 subjects in each delivery setting of inclusion and noninclusion regular education prekindergarten classrooms. Another potential barrier was the possibility that recruitment of teachers of typically developing children in the selected inclusion and noninclusion classrooms was dependent upon the school principal permission for the study to be conducted at their school site and each teacher consenting to participate in the study, so the sample size cannot be guaranteed.

Another potential limitation to the study was the possibly of another COVID-19 worldwide pandemic. The pandemic may have introduced factors that could impact the study. The pandemic may have impacted the developmental growth of a child in one or more of the domain areas. Schooling options of traditional brick and mortar schoolhouse and experience in a distance learning mode of instruction may be a limitation to the scope of the study. Another COVID-19 pandemic may present emotional stressors, impediments to social interactions, parent involvement, lack of resources and instructional supports and lack of typical supports and established routines that may become a limitation to the study. Finally, the length of time approved by the Sunshine Public School District to implement the data collection may be a limitation.

Significance of the Study

This research study provided information that addressed a lack of understanding and knowledge about the quantifiable progress of developmental skills for typically developing children participating in inclusive prekindergarten programs.

Significance to Theory

The theoretical framework for this study was based on Arnold Gesell's maturational theory of development (Gesell, 1925). This theory was developed over a century ago and has been refined over the years, but still holds merit with professionals as it accurately describes the process of development (Oliveira, 2018; Salkind, 2004). Gesell's theory focused on how children develop in a predetermined manner in fixed developmental stages in which all children progress through the defined stages (Gesell, 1925; Guddemi, 2016). Gesell pioneered studies that focused on the developmental stages of young children. His concept that development occurs in stages and is characterized by the child's developmental age and the child's chronological age, which may differ (Gesell, 1925, 1928; Oliveira, 2018; Salkind, 2004).

I used the maturational theory of development to examine development in this study. Based on the strong foundational work on developmental stages in children, I used the theoretical framework for a solid foundation for the DP-4 standard scores. Further, comparing the extent to which the five domains DP-4 standard scores differed by type of prekindergarten program delivery setting (inclusion versus noninclusion) was appropriate to determine the stage of development. Gesell's maturational theory of development

speaks to the relevance of the theoretical framework and its theory, even a century old, still informs research.

Significance to Practice

A better understanding of the effects of inclusive programs for typically developing children, in those programs, will provide an original contribution to the research base. The effect of inclusion for preschool students with disabilities has been extensively researched to reveal positive developmental benefits of inclusion, especially in the area of social emotional domain (Diamond, 2001; Holahan & Costenbader, 2000). However, the benefits for typically developing children remain unclear. There was a paucity of information that addressed, in quantifiable terms, the effect of inclusion on the developmental skills of typically developing children.

Significance to Social Change

Insights gained from this study could assist states and local educational agencies in planning for early childhood educational programs by providing research that may inform educational policy regarding program planning for inclusive prekindergarten programs. It may also assist in decision making that can enhance the progress of developmental skills for all students participating in prekindergarten programs.

The implication for social change in this study was new information that may be provided regarding prekindergarten inclusion programming could lead to better learning outcomes and better lives for children. This study can promote positive social change by providing new information regarding prekindergarten inclusion programming that can lead to better learning outcomes and better lives for children.

Summary and Transition

Typically developing children participating in an inclusion and noninclusion regular education prekindergarten classrooms in Sunshine Public School District were included in the study. The quasi-experimental, nonequivalent design used the DP-4 Teacher Checklist to obtain data on standard scores in the domain areas of physical, adaptive behavior, social-emotional, cognitive, and communication (Alpern, 2020) of typically developing children based on the program delivery setting (inclusion versus noninclusion). The DP-4 domain data of typically developing children participating in an inclusion prekindergarten program was compared to typically developing children participating in a noninclusion regular education prekindergarten program. In Chapter 2, the literature review related to the study is addressed.

Chapter 2: Literature Review

The purpose of this quantitative, quasi-experimental, nonequivalent study was to compare the effects of inclusive versus noninclusion regular education prekindergarten programs on the developmental skills of typically developing children in the physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains. I used the DP-4 Teacher Checklist to obtain data on standard scores in the domain areas of physical, adaptive behavior, social-emotional, cognitive, and communication. The DP-4 domain data of typically developing children participating in an inclusion prekindergarten program was compared to typically developing children participating in a noninclusion regular education prekindergarten program.

There was a need for this study because of the lack of understanding about the effect of prekindergarten program setting types on the developmental progress of typically developing children participating in an inclusion prekindergarten program as compared to a noninclusion prekindergarten program. The literature regarding inclusion asserted that inclusion programs have positive benefits for both disabled and typically developing students (Holahan & Costenbader, 2000; Noggle & Stites, 2018). However, there was a paucity of information that addressed, in quantifiable terms, the effect of inclusion on the developmental skills of typically developing children. In this chapter, the literature search strategy, theoretical foundation, and literature review are introduced and the summary and conclusions regarding the literature are presented.

Literature Search Strategy

I accessed the Walden University Library to conduct this literature search. The search years ranged from 1925 to 2023. I covered all printed materials as follows: books, dissertations, peer-reviewed articles, and other relevant reading materials. The literature search included seminal material that was integral to the foundation of the theoretical framework of the study. The DP instrument (Alpern & Boll, 1972), also known as the Alpern-Boll Developmental Profile, was first published in 1972. My search for dissertations using the DP instrument yielded seven dissertations.

Cadman (1980) studied the long-term impact of early intervention at home with supports. Cadman (1980) analyzed "data collected over a five-year period on children who participated in the Program for Early Education of Children with Handicaps to determine if gains were maintained over one-, two-, and three-year periods" (p. 2). The program was initiated to develop an "exemplary pre-school program for rural, handicapped children through a home training approach" (Cadman, 1980, pp. 2-3). Cadman (1980) compared "the differences between the entry and exit scores on the five measures of the Alpern-Boll Developmental Profile and the Stanford-Binet/Cattell Infant Intelligence Test … to determine the rate of gains maintained following intervention" (p. 14).

Read (1980) explored the use of manual sign language as a communication tool with language delayed hearing preschool children. Read (1980) used the DP instrument to assess an adult's perception of the child. The DP instrument was administered to both the children's parents and the classroom teacher by the family counselor to measure the

five developmental domains (Read, 1980). Howe (1978) explored healthcare and mother interaction with their children. Howe (1978) explored whether "children of accepting mothers would score significantly higher on the DP instrument than children of non-accepting mothers" (p. 8). Howe (1978) measured the psychosocial development of children through the developmental profile.

Slonaker-Rice (1983) explored infant's in-hospital behavior, protesting or despairing, during different phases of hospitalization and discharge. Using the DP instrument, infants' in-hospital behavior was assessed through interviews being "conducted within four days of a hospital admission, after seven days of hospitalization, and two weeks following hospital discharge" based on the two groups of behavior (Slonaker-Rice, 1983, p. 10-11). Goldberg (1990) "investigated the quantity and quality of the language environment and its relationship to children's academic achievement for environmentally at-risk children in a typical daycare/preschool setting" (p. 12). Goldberg (1990) used the academic scale of the DP (Alpern & Boll,1972) as a measure for level of academic achievement" (p. 14).

Munitz (1980) explored the convergent and discriminant validity of the DP when used with epileptic children. Montgomery (1980) evaluated the "in-home educational services for preschool handicapped children from birth through age five" (p. 14). Montgomery (1980) investigated how parents servicing as the child's first teacher impacted the child's development.

The DP-II (Alpern et al., 1980) instrument was published in 1980. My search for dissertations using the DP-II instrument yielded six dissertations. Melville (1987) used

DP-II parent interviews to explore the impact of early services for children with autism. Melville (1987) determined if the age at which the child began receiving services influenced their outcome. Melville (1987) found that the important factors with autistic children were parent involvement and family functioning as they relate to the children's outcome. In another dissertation, Myers (1985) examined the foundation and scope of parental expectations of the development of their typically developing children 5 years old and younger. Myers (1985) used the DP-II parent interview.

Young (1986) explored the differences in two groups of young children in kindergarten to second grade. Young (1986) examined the ability to learn a programming language designed for young children using the DP-II instrument to determine the developmental stages of the young children between the groups. In another dissertation, Thompson (1993) examined "the effects of early intervention programs for handicapped infants" (p. iii). Thompson (1993) studied the participation in an early intervention program for at least 6 months and the effects of the intervention on child developmental functioning and family functioning. In the study, Thompson (1993) used the DP-II to access the child developmental functioning to examine the research question.

Rutherford (1992) conducted a 2-year longitudinal doctoral study using the DP-II instrument. Rutherford (1992) explored the "effectiveness of the Early Childhood Education Handicapped Program based on gains in developmental growth". Rutherford (1992) examined two types of settings for the students with disabilities to determine if being segregated in a separate room from typically developing students or whether being integrated in the early childhood setting affected their developmental gains. In both

instances, pretests and posttests were conducted in the fall and spring to gather data for statistical analysis.

In a dissertation study, Hillhouse (1998) "investigated the decision reliability of The Early Screening Project (ESP)" (p. vi). The ESP identified at-risk 3- and 4-year old students based on early screening by staff. Hillhouse (1998) examined several research questions, one of which focused on the DP-II. Hillhouse's (1998) primary question was: "Will subjects classified as at risk on the ESP score differently on the Social Age Scale of the DP-II than those not rated as being at risk?" (pp. 7-8). The DP-3 (Alpern, 2007) instrument was published in 2007. My search for dissertations using the DP-3 instrument did not yield any results. The DP-4 (Alpern, 2020) instrument was published in 2020. My search for dissertations using the DP-4 instrument did not yield any results.

My search of peer-reviewed articles ranged from the early 1990s due to scarce information about the effect of prekindergarten program setting types on the developmental progress of typically developing children participating in an inclusion prekindergarten program as compared to a noninclusion prekindergarten program. The databases that I searched were as follows: Academic Search Complete, Dissertations & Thesis @ Walden University, Education Source, ERIC, ProQuest Dissertations and Theses Global, SAGE Encyclopedias, SAGE Journals, SAGE Knowledge, Taylor and Francis Online, and Tests & Measurements Combined Search. I used the following keywords in various combinations: *Arnold Gesell, Battelle Developmental Inventory 3, child development, children with disabilities, cognitive development, developmental delays, Developmental Profile, Developmental Profile II, Developmental Profile, Third*

Edition, Developmental Profile 4, DP, DP-II, DP-3, DP-4, developmental stages, early childhood education, education of children with disabilities, educational tests and measurements, effect size, general education students, inclusion, inclusive settings, Individuals with Disabilities Education Act (IDEA), maturational theory of development, prekindergarten, prekindergarten funding, preschool, preschool inclusion, quantitative methods, special education, and *typically developing children*. My search yielded a plethora of peer-reviewed articles using the search terms.

Theoretical Foundation

The theoretical framework that I used for this study was based on Arnold Gesell's maturational theory of development (Gesell, 1925). Arnold Gesell (1880–1961) was an educator, school administrator, psychologist, and physician (Fagan, 2000). As a developmental theorist, Gesell focused on being a crusader for the welfare of children humane educational practices especially for children that were developmentally delayed (Thelen & Adolph, 1992). He was known for his contributions to applied psychology, developmental psychology, pediatric psychology, and developmental pediatric medicine and is credited with the formalization of the position of school psychologist in the United States (Fagan, 2000).

Arnold Gesell's work surrounding developmental stages began in the 1920s during his tenure at Yale University. He defined development as "a process, just as real and valid as metabolism, respiration, glandular secretion, or any other vital function … a summating and integrated resultant of all the life functions of an organism moving through a self-limited cycle of time" (Gesell, 1945, p. 510). Gesell's work was widely

known during his era as he pioneered developmental norms for clinicians and families to understand the developmental stages of young children. Gesell's purpose for developing and identifying the developmental norms was to provide a guide that identified each child's individual stage of development (Thelen & Adolph, 1992).

Gesell's theoretical framework provided a conceptualization of how young children develop in "predetermined, sequential patterning in which the pattern is revealed as the child matures" (Salkind, 2004, p. 64). The fixed, successional developmental stages in which all children progress through the defined stages (Gesell, 1925; Guddemi, 2016). This developmental framework informed the practice regarding how a child may manifest skills in each stage of development. Gesell's concept of development stages was characterized by the child's developmental age and the child's chronological age, which may differ (Gesell, 1925, 1928; Oliveira, 2018; Salkind, 2004).

The work of Gesell has been used in the field of developmental psychology to develop innovative methods for observational techniques and developmental assessments (Thelen & Adolph, 1992). Further, Gesell's work has been a pillar of the educational maturation philosophy and contributed to how mastery of skills in children were understood in terms of stages of development. Gesell (1925) posited that every child had a unique pattern of growth. The child matures from within, and all children display maturity in a sequence but at different rates.

His work provided a quantitative standard to determine what was normal or abnormal in a child's development (Salkind, 2005). Gesell's research at the Yale psychoclinic served as a conduit for data collection which provided an opportunity to

compile data and develop "a comprehensive schedule of developmental norms" (Thelen & Adolph, 1992, p. 372). Based upon his extensive observational research, Gesell established the norms in personal-social, neurological-motor, language development and adaptive areas (Salkind, 2005).

It is important to note that his practice was situated in the 1920s and aligned with the social norms of that era. Thus, the creation of the developmental norms was established using a select group of children. The select group of children were identified as a "typical child living his typical day as a male, white, native-born, middle-class and in an intact family…" (Thelen & Adolph, 1992, p. 375). Further, it is noted that the normative sample was formed with intentionally excluding "very bright, the very dull, the very poor, and children from homes where languages other than English were spoken" (Thelen & Adolph, 1992, p. 375). Gesell's work was criticized for establishing the norms solely on "white middle-class children from well-educated backgrounds" (Salkind, 2005, p. 577). Gesell acknowledged that his selection procedures contained "imperfections but the results, which was the main factor, proved to be reliable" (Gesell, 1925, p. 25).

I used the maturational theory of development as the lens for examining development in this study. Gesell (1925) grounded his work in descriptive and comparative data that could be interpreted. His theory was developed over a century ago and has been refined over the years, but still holds merit with professionals as it accurately describes the process of development (Oliveira, 2018; Salkind, 2004). The theory provided a linkage to how a child development occurs in young children and why the DP-4 norm-referenced instrument was ideal to measure developmental stages in

children during the preschool years. The DP-4 instrument continues the legacy of identifying stages of development in the five domain areas of physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains (Alpern, 2020).

The DP-4 has been used to gather data on developmental stages using normative data that is aligned with the population in the United States. The DP-4 is an instrument that was developed with an effort to norm the data that included children from all facets of life and aligned with the United States Census data. The DP-4 provided a reliable and valid assessment tool that is suited to measure the intended research question. The theoretical framework of maturational theory of development provided a solid foundation for the five domains DP-4 standard scores being measured. Further, comparing the extent to which the five domains DP-4 standard scores differ by type of prekindergarten program delivery setting (inclusion versus noninclusion) was appropriate to determine how a delivery setting may impact typically developing children. Gesell (1925) supported the use of comparative analysis of data due to its ability "to aid in accumulation and evaluation of the data to provide a normative formation for practical application" (p. 289). In this study, I aligned the research question to the basis of the theory that development occurs in stages and results can vary based on the child's DP-4 standard scores. The results of this study may provide information that builds upon the strong foundation of Gesell's seminal work of maturational theory of development.

Literature Review

Typical child development is viewed as a process of stages and achieved milestones (Gesell, 1925). While the inclusion has been focused on students with

disabilities to be included in all aspects of daily life, there is a lack of quantifiable information regarding how inclusion impacts the development of typically developing children. Examining to what extent the type of prekindergarten program delivery setting of inclusion versus noninclusion effects the DP-4 standard scores for the physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains (Alpern, 2020) shaped the purpose of this study. The concepts of developmental stages, educational application of developmental instruments, history of the DP, early childhood in education, early childhood program funding, history of inclusion, early childhood inclusion, and effects of inclusion on prekindergarten typically developing children were reviewed in this chapter.

Developmental Stages

Gesell defined development as "a process, just as real and valid as metabolism, respiration, glandular secretion, or any other vital function … a summating and integrated resultant of all the life functions of an organism moving through a self-limited cycle of time" (Gesell, 1945, p. 510). Gesell classified developmental stages based upon a child's individual rate of growth. Gesell (1925) pioneered the use of quantitative data to determine the developmental stages of children. He used observational methods and data collected through assessment. The data were used to identify developmental schedules by period and developmental items. Gesell pioneered the Maturation Theory which is based upon the premise that "children grow and mature through a series of predictable stages in a sequential order in a dynamic, continuous and reflective of the pace unique to each child" (Guddemi et al., 2014, p. 3).

Based upon this theory, Gesell's work led to the design of an assessment that measured human development by identifying the ages and stages of child development. The original assessment was named Gesell Developmental Observation (GOD). GOD was developed in 1925 and revisions occurred in 1940, 1965, and 1979 (Guddemi et al., 2014). In 2011, the GOD underwent a revalidation of data from a nationwide study that consisted of 1,300 children, aged 3 to 6 years old (Guddemi et al., 2014). The revised assessment was named Gesell Developmental Observation Revised (GOD-R) which was used to identify the "typical ages at which specific developmental and academic tasks, needed for realistic, developmentally appropriate success in kindergarten are mastered" (Guddemi et al., 2014, p. 2). This tool was designed to identify school readiness.

The stages of development are classified into domains and described by developmental milestones. Developmental domains are classified as adaptive, social-emotional, communication, motor, and cognitive (Newborg, 2020). Developmental milestones are identified as "an achievement or ability that has special importance in the growth, motor functioning, or social development of infants, toddlers, and older children and teens, usually associated with a particular age range, e.g., sitting, crawling, walking, language acquisition" (Venes, 2013, p. 664). The five major developmental milestones are gross motor, fine motor, sensory, language and social (United States National Library of Medicine, n.d.).

Gesell observed thousands of young children and held an extensive collection of their developmental data. He was able to identify the precise timing and sequence of milestones in motor, language, adaptive, cognitive, and personal-social domains (Gesell,

1925, p. 209). Slentz and Krogh (2001) indicated that "the study of development in young children from a maturational perspective most often describe similarities in the behaviors of typically developing children" (p. 17).

History of the Developmental Profile

Educational Application of the Developmental Instrumentation

Developmental instruments have been a staple assessment tool in the field of early childhood education. As the focus on early childhood and students with disabilities began, the federal government sought information on the effectiveness of educational programs. The development of DP instrument addressed the federal, state, and local government agencies standard of practice for evaluation (Alpern, 2020). Based upon prior research results, the developmental instruments and subsequent versions are considered an appropriate assessment to measure developmental outcomes.

The developmental profile instruments continue to be used to inform the practice of early childhood education, early childhood assessment, and serving underserved and special populations (Alpern, 2020; Newborg, 2020). Thus, providing support for the use of developmental profile instruments to determine the effect of prekindergarten program setting types on the developmental domains and skills of typically developing children. The DP, DP-II, DP-3, and DP-4 instruments were developed from the premise to have a nonassessment tool available to assess children's developmental domains. The instruments were developed based on interview questions that evolved into a checklist questionnaire format.

Developmental Profile (DP)

The development of the initial DP instrument (Alpern & Boll, 1972) was first published in 1972 as a result of a project, launched in 1968, to develop a tool to assess the developmental competencies of children in a nonassessment manner (Boll & Alpern, 1975). The development of the DP was influenced by Alfred Binet's work on mental age and the domains of social and adaptive functioning were influenced by Edgar Doll (Alpern, 2020, p. 73). The original DP was developed to be a multidimensional assessment using interview techniques to assess developmental areas (Alpern, 2020). The goal of the assessment was to identify age aligned developmental skills. The 318 items were designed for ease of use for parents and other professional to provide input on observable behaviors within a responsible time period. The DP used interview techniques to determine the child's developmental functioning in five areas of physical skill, self-help, social competence, academic skills, and communicative ability (Hunt, 1978). According to Hunt (1978), the first version of the DP was "most suitable for use with urban black and white children in the Midwest" (p. 1).

Developmental Profile II (DP-II)

In 1980, the DP-II (Alpern et al., 1980) was an updated version of the original DP instrument. The revision involved removal of items that were out-of-date or were unclear (Alpern, 2020). The DP-II was revised to streamline the age range of the instrument to age nine, to eliminate questions for children older than nine years old, and to address the guidelines of the 1975 Education for All Handicapped Children Act, Public Law 94-142 (Harper & White, 1985). Since the age range was streamlined, the number of items were

reduced to 186 items due to this change. The DP-II instrument's "cutoff points for referral, age-equivalent scores, and percentages of children at different ages who passed each item were based on the sample data from 1970" (Alpern, 2020, p. 74). Alpern (2020) noted that the DP-II was standardized using the data from the DP which was collected in 1970 in a "relatively limited geographical region and were not representative of all major ethnic groups int eh United States" (p. 74). Harper and White (1985) also noted that "users of DP-II must select the instrument if it coincides with their particular sample characteristics (white, black, mid-west, urban)" (p. 3).

Developmental Profile, Third Edition (DP-3)

In 2007, the DP-3 (Alpern, 2007) was released as an update to the DP-II (Alpern et al., 1980). According to Alpern (2020), the "DP-3 represented the first comprehensive revision of the original instrument" (p. 74). The DP-3 was developed with updated samples that were used to norm the instrument to contain more inclusive groupings. The DP-3 instrument provided significant revisions to address norming standardization in terms of test development and psychometric properties (Flanagan & Henington, 2010). In the development of the DP-3 instrument, its norms were recalculated using data from the 2005 United States Census data "according to ethnicity, dwelling area, and socioeconomic status" (Flanagan & Henington, 2010, para. 1).

The DP-3 items were updated to include new relevant terminology and new items were added to the instrument. The developmental domains labels in DP-3 were also updated. The revision of the DP-3 addressed the statistical calculations. Alpern (2020) stated that the DP-3 instrument was modernized in the manner in which scales were

calculated and updating of the scale names. Further, the age stratification was updated to include smaller increments to capture the rapid developmental growth (Alpern, 2020). The DP-3 instrument was updated to address birth to 12 years, 11 months of age to identify developmental delays for younger children and below average achievement for older children (Flanagan & Henington, 2010). The DP-3 instrument was established as an appropriate, norm-referenced assessment to measure developmental outcomes (Flanagan & Henington, 2010).

The DP-II and DP-3 items in the five domain areas were correlated from .86 to .89. Internal consistency for the Interview Form was assessed using the split-half method and was greater than .80 and some ranged above .90 and the Checklist Form correlations ranged from .79 to .99 (Flanagan & Henington, 2010). The test-retest of the Interview Form scale scores correlations ranged from .81 to .92 (Flanagan & Henington, 2010). Further, the construct validity of DP-3 was evaluated through "comparisons of developmental instruments (i.e., Vineland Adaptive Behavior Scales, Second Edition; Developmental Assessment of Young Children) and domain specific tests (i.e., Preschool Language Scales, Fourth Edition; Peabody Developmental Motor Scales, Second Edition) results indicated moderate to high correlations" (Flanagan & Henington, 2010, para. 22). Lastly, discriminant validity was evaluated using two groups which resulted in lower DP-3 scores for children with developmental delays than in those with other problems (Flanagan & Henington, 2010). The DP-3 gained recognition beyond its predecessors as a norm-referenced tool that could be used for "eligibility determination, educational

program development, and measurement of progress" (Flanagan & Henington, 2010, para. 2).

Developmental Profile 4 (DP-4)

The development of the DP-4 instrument was based upon revision of the DP-3 instrument. In 2020, the DP-4 (Alpern, 2020) was released as an update of the DP-3 (Alpern, 2007). The DP-4 instruments were developed upon the strengths of the DP-3. The DP-4 still holds to the established premise that it is a "quick, easy, informative, reliable, and valid" instrument (Alpern, 2020, p. 1). The DP-4 incorporates new features to assist in a multifaceted examination of a child's development. The notable changes in this version of was the development of two new forms, Teacher Checklist and Clinician Rating forms, and a new score type named growth score (Alpern, 2020, p.1). Most importantly, the DP-4 allows for different perspectives about a child's development from the point of view of the school and home settings.

The DP-4 instrument, available in print and electronic formats, is designed for use with individuals ages birth to 21 years, 11 months old (Alpern, 2020, p. 1) to identify developmental strengths and weaknesses. The instrument is also available in Spanish for Spanish-language speakers (Alpern, 2020). The DP-4 is administered in the form of an interview or checklist. The interview is available for parents/caregivers and the checklist is available for parents/caregivers and teachers. Another option is the clinician rating form for clinician use.

The four DP-4 forms are designed to assess the respondents' perceptions of developmental skills that occur throughout a child's growth (Alpern, 2020). The DP-4

measures the five developmental domains with items that will result in a scale score. Alpern (2020) identified how the DP-4 domains were categorized in the instrument as follows:

> Physical: measures the respondent's perceptions of a child's ability as it relates to gross and fine motor skills. These items address the development of "gross- and fine- motor skills, muscle coordination, strength, stamina, flexibility, and sequential motor abilities" (p. 28);
>
> Adaptive Behavior: measures the respondent's perceptions of a child's ability to function independently in activities related to daily living. These items address the development of basic skills related to "self-care, eating, using the toilet, and dressing in younger children" (p. 29);
>
> Social-Emotional: measures the respondent's perceptions of a child's ability to interact with other in social settings. These items address the development of "interpersonal skills that reflect social and emotional competence which includes expression of needs and feelings, interactions with others, and a sense of identity" (p. 30);
>
> Cognitive: measures the respondent's perceptions of a child's ability to function in an academic and intellectual capacity. These items address the development of cognitive skills "such as perception, concept development, number relations, reasoning, memory, classification, time concepts, and related mental acuity skills" (p. 31); and

> Communication: measures the respondent's perceptions of a child's ability to communicate using expressive and receptive skills (pp. 2-3). These items address the development of communication skills in terms of "verbal and nonverbal spoken language, written language, receptive language and expressive language" (p. 31). Receptive language skills are those that "involve the ability to comprehend the verbal, gestured, or written information" (p. 31). Expressive language skills are those that involve the ability to express thoughts in verbal or nonverbal (written or gestured) forms (p. 31).

The DP-4 provides another score that is based upon the standard scores, the General Development Score. Alpern (2020) advised that the General Development Score is an indicator of the overall development of a child and can be use when an overall development score may be needed for eligibility purposes. The score can provide an explanation for the child's overall development. However, Alpern (2020) stipulates that the "interpretation of the DP-4 is more usefully conducted at the level of each specific scale" (p. 32) of the five domains.

The DP-4 was standardized using a representative sample. According to Alpern (2020), the sample consisted of 2,259 children and young adults ranging in age from birth to 21 years, 11 months. The subjects were recruited in order "to match the United States Census in terms of gender, ethnicity, geographic region, and social economic status" (Alpern, 2020, p. 4). The checklists for Parent/Caregiver and Teacher were "standardized using separate subsamples of the Parent/Caregiver Interview standardization sample" (Alpern, 2020, p. 1). The DP-4 also provided a clinical validation sample using 348

children that had a clinical diagnosis of a disability and receiving special education services during the time of the assessment. According to Alpern (2020), the clinical sample was used as "part of the validity studies and selected cases were included in the normative sample" (p. 81).

The DP-4 instrument provides various scores that can be used for interpretative purposes. There are six scores that are calculated for each subject as follows: "standard scores, percentile ranks, descriptive ranges, age equivalents, stanines, and growth scores" (Alpern, 2020, p. 24). The standard scores are combined into the General Development Score that provides an overall developmental score. Notedly, the Clinician Rating form provides growth scores rather than the aforementioned scores. According to Alpern (2020), the scores are described as follows:

> Standard Scores: a standard score indicates the best estimate of the child's abilities relative to those typically developing children of the same age based on the normative sample. The standard score is an equal interval scale and based on a mean of 100 and standard deviation of 15. The confidence intervals of the standard score are a range of scores that contains the child's score that removes the component of measurement error (p. 24);
>
> Percentile Ranks: a score that represents the percentage of cases in the normative sample who scored lower than the child who is being evaluated (p. 25);
>
> Descriptive Ranges: the ranges provide a qualitative interpretation of the quantitative measure. Table 1 outlines how the standard scores are interpreted into descriptive ranges. According to Alpern (2020), a score falling in the well above

average range “is an uncommon and occurring in only about 2% of the sample” (p. 25). The score in this range reflects advanced development and should be viewed as a strength. The above average range indicates the child has achieved developmental skills sooner than expected for their age and this should be considered a strength. The average range indicates that overall competence in development. Alpern (2020) noted that the majority of the children, approximately 68%, fall into this range (p. 25). The below average range indicates that “the child is lagging behind in development compared to their peers” (p. 26). The delayed range indicates “a significant skill deficit that occurs in roughly 2% of the standardization sample and represents more than two standard deviations below the mean and indicated the child is significantly behind their same aged peers” (p. 26);

Age Equivalents: The age-equivalent scores are provided to assist institutions with reporting requirements. Alpern (2020) indicated that the age-equivalent scores are “rarely used and advised that this score has many psychometric limitations and should be interpreted with caution” (p. 26);

Stanines: The score represents the transformed standard score. This score lends to broad comparisons as it does not focus on the minute differences. Thus, it is advised that the use of this measure should be de-emphasized, and the standard score should be used instead (p. 27); and

Growth Scores: The score represents the growth of a child compared to their performance and not that of a comparison to a group. They should not be

interpreted singularly but used to compare the growth scores from one administration to the next (p. 27).

Table 1

DP-4 Descriptive Ranges

Description	Standard score range
Well Above Average	>130
Above Average	116-130
Average	85-115
Below Average	70-84
Delayed	<70

The DP-4 has standard scores that are based on age of the subjects. The younger subjects have smaller bands in the age ranges due to development accords at a faster rate than the older age groups (Alpern, 2020). The DP-4 showed the expected increases in the developmental scores similar to those in DP-3 instrument. Alpern (2020) cautioned that the DP-4 should not be "used in isolation to diagnose or plan treatment for a child" (p. 5). It is recommended that the DP-4 be used in conjunction with other data and assessments such as interviews and observations. However, the standard score is "the more reliable metric for the purpose of score comparisons" (Alpern, 2020, p. 25).

The respondents of the DP-4 should be those who have knowledge of the child's skills. Alpern (2020), advised that respondents have "frequent, recent, and prolonged contact with the child" (p. 7). It is preferred that the respondent have at least one month contact with the child but longer is the preference (Alpern, 2020, p. 7). The DP-4 Teacher Checklist was designed to persons that work in an educational setting. The Teacher Checklist contains items that are more relevant to a school setting which resulted in fewer

questions than the Parent/Teacher forms. I provided the electronic format of the DP-4 Teacher Checklist for respondents and scoring using the Western Psychological Systems (WPS) Online Evaluation System on the publisher's platform. This option provided an excellent opportunity to gain the teacher's perceptive of the child's interactions in the program setting.

According to Alpern (2020), the DP-4 instrument is effective in a variety of settings to provide a detailed account of a child's developmental strengths and weaknesses while simultaneously identifying developmental delay (p. 1). Assessment of development that is efficient and accurate, such as the DP-4, is useful in determining a comparison of a child's functioning with that of their peers (Alpern, 2020). According to Alpern (2020), the DP-4 meets the federal criteria of assessment of development in the five developmental domain areas, specified by IDEA, to identify a potential developmental delay. Thus, providing support for the use of the DP instrument to determine the effect of prekindergarten program setting types on the developmental skills of typically developing children.

DP-4 Reliability

The DP-4 domain scale reliabilities were established through five approaches (Alpern, 2020). The reliability of the DP-4 "General Development Score, which combines the five domain scale scores, was calculated using the formula for reliability of linear combinations" (Alpern, 2020, p. 89). The approaches were the internal consistency, test-retest, interrater, cross-form consistency, and alternate form consistency. The two approaches of interrater and alternate form consistency apply to the Parent/Caregiver

Interview and Parent/Caregiver Checklist formats, not the Teacher Checklist. The DP-4 internal consistency reliability is greater than .80 (Alpern, 2020, p. 91). The DP-4 test-retest reliability between the administration resulted in no clinically meaningful differences (Alpern, 2020, p. 92).

Internal Consistency. The internal consistency reliability refers to the extent that all items of the instrument measure the same ability (Alpern, 2020, p. 89). The DP-4 internal consistency reliability was calculated using the raw scores for each of the five domain scales. The DP-4 Teacher Checklist internal consistency reliability ranged from good to excellent, with the exception of a few scale scores in the upper age ranges of the instrument. For the ages of 3, 4, and 5, the scales' reliabilities for this approach were physical .92, .94, and .89, respectively; adaptive behavior .89, .91, and .87, respectively; social-emotional .95, .93, and .90, respectively; cognitive .92, .91, and .91, respectively; and communication .92, .92, and .88 respectively. The General Development Score reliabilities for this approach were .92, .93, and .89 respectively (Alpern, 2020, p. 91).

Test-Retest. The test-retest reliability represents the stability of the DP-4 scores for the same child at different time intervals (Alpern, 2020, p. 92). The DP-4 test-retest calculates "the correlations between the mean standard scores between the Time 1 and Time 2 administration and the effect size of the difference the scores" (Alpern, 2020, p. 92). The "correlations between the mean standard scores between Time 1 and Time 2 for the Teacher Checklist ranged from .70 to .86, making it acceptable for clinical use" (Alpern, 2020, p. 92). The "effect size for the differences between Time 1 and Time 2 for the Teacher Checklist ranged from 0.04 to 0.25, with no clinical meaningful differences"

(Alpern, 2020, p. 92). The test-retest correlation and effect size for the DP-4 Teacher Checklist were as follows: physical .74 and 0.13, respectively; adaptive behavior .70 and 0.04, respectively; social-emotional .70 and 0.12, respectively; cognitive .74 and 0.17, respectively; and communication .79, and 0.25, respectively. The General Development Score reliabilities for this approach were .86 and 0.19, respectively (Alpern, 2020, p. 93).

Cross-Form Consistency. The cross-form consistency reliability represents the scores from two respondents using different rating forms for the same child (Alpern, 2020, p. 94). The DP-4 cross-form consistency calculates "the correlations between the mean standard scores and the effect size of the difference the scores" (Alpern, 2020, p. 94). The "correlations for the Teacher Checklist and the Parent/Caregiver Interview ranged from .57 to .68 and Teacher Checklist and the Parent/Caregiver Checklist ranged from .62 to .70" (Alpern, 2020, p. 94). The "effect size for the differences for the Teacher Checklist and the Parent/Caregiver Interview ranged from 0.01 to 0.10 and Teacher Checklist and the Parent/Caregiver Checklist ranged from 0.01 to 0.12" (Alpern, 2020, p. 94). The cross-form consistency correlation and effect size for the DP-4 Teacher Checklist and Parent/Caregiver Interview and Teacher Checklist and Parent/Caregiver Checklist were as follows: physical .61and 0.02; and .65 and 0.01, respectively; adaptive behavior .62 and 0.10; and .62 and 0.01, respectively; social-emotional .57 and 0.02; and .64 and 0.12, respectively; cognitive .68 and 0.01; and .70 and 0.12, respectively; and communication .59 and 0.10; and .65 and 0.11, respectively. The General Development Score reliabilities for this approach were .99 and 0.01; and .73 and 0.07, respectively (Alpern, 2020, p. 95).

DP-4 Validity

The validity for the DP-4 domain scales were established through three approaches (Alpern, 2020). The approaches were content, construct, and convergent. The DP-4 instrument provided strong correlations for content, construct, and convergent validity (Alpern, 2020, pp. 92-100).

Content Validity

Content validity addresses that an "item content to measure the construct of interest" (Alpern, 2020, p. 97). The content validity was established from the onset of its development through literature review of the "broad spectrum of developmental skills and multidimensional view of child development" (Alpern, 2020, p. 97). Additionally, the user input and accurate measures as evidenced by the raw scores increasing across the age groups. The content validity was established "DP-4 as a measure of development that increases over time" (Alpern, 2020, p. 97).

Construct Validity

Construct validity is "measured by examining the structural characteristics of the scales through factor analysis, interscale correlations, item-total correlations, and Rasch analysis" (Alpern, 2020, p. 97).

Factor Analysis. The factor analysis was conducted the instrument items with oblimin rotation. Alpern (2020) indicated that "oblimin rotation was chosen because it assumes correlated factors which is a theoretically and empirically reasonable assumption for the DP-4" (p. 97). The data revealed that one dominant factor resulted which represented the development factor (p. 97).

Interscale Correlation Analysis. The interscale correlation analysis establishes whether the scales can be viewed as separate aspects of overall development (Alpern, 2020, p. 97). All scales demonstrated a "moderate to high correlation range and support for the separate scoring and interpretation of the five scales" (Alpern, 2020, p. 100).

Item-Total Correlation Analysis. The item-total correlations analyzed the correlation of the item with their assigned scale (Alpern, 2020, p. 100). The correlations were strongly correlated to their scales along with some items having intercorrelation. This outcome supports "the utility of separate scales for interpretation, despite the fact that all areas of development are closely related" (Alpern, 2020, p. 100).

Rasch Analysis. The Rasch analysis "examines the item coverage over the range of abilities intended to be measured by the DP-4 whether the scales can be viewed as separate aspects of overall development (Alpern, 2020, p. 100). The analysis revealed that the measures do show ability levels in accordance with the tasks. Alpern (2020) indicated that "the items do a good job of measurement within the desired skill range (p. 100).

Convergent Validity

The convergent validity examines a test's relationship to other measures of similar constructs (Alpern, 2020, p. 100). The validation of the DP-4 was accomplished by comparing it to four other similar instruments. The instruments that were used to validate the new instrument were the DP-3, the Vineland Adaptive Behavior Scales, Third Edition (Vineland-3), the Developmental Assessment of Young Children, Second

Edition (DAYC-2), and the Adaptive Behavior Assessment System, Third Edition (ABAS-3) (Alpern, 2020, p. 100).

DP-4 and DP-3. The DP-4 and DP-3 scale scores correlations ranged from .80 to .89 (Alpern, 2020, p. 100). Further, the DP-4 and DP-3 General Development Score correlation was .93 (Alpern, 2020, p. 100). Alpern (2020) indicated the "scale and General Development Score correlation indicate strong relationships between scores and underscores the similarity of the content" (p. 100).

DP-4 and Vineland-3. The DP-4 and Vineland-3 teacher forms score correlations ranged from moderate to high, .68 to .79 (Alpern, 2020, p. 102). The correlational findings "between the DP-4 and Vineland-3 across three methods of administration" were a similar pattern (Alpern, 2020, p. 104).

DP-4 and DAYC-2. The DP-4 and DAYC-2 score correlations were moderate, .49 to .67 (Alpern, 2020, p. 104). The correlational findings "support the validity of the DP-4 as a measure of child development in the same manner as another measure of child development" (Alpern, 2020, p. 104).

DP-4 and ABAS-3. The DP-4 Teacher Checklist and ABAS-3 score correlations were moderate, .45 to .77 (Alpern, 2020, p. 105). The correlational findings "support the notion that the DP-4 is related to the construct of adaptive behavior and how it related domains of development" (Alpern, 2020, p. 105).

Early Childhood Education in the United States

Early childhood in the United States has its roots in the early 1800's with the establishment of infant schools. During the 1800s children were viewed as miniature

adults and the parental focus was to teach their children religious principles and learning how to read (Vinovskis, 1993). Education was linked to Puritan religious beliefs and fathers were responsible for educating all members of their household. Thus, the importance of learning how to read was linked to being able to study the Bible (Vinovskis, 1993).

In 1825, the first infant school was opened in New York City. The rationale for opening the infant school was to provide poor mothers an opportunity to earn a living what their child received moral and character training (Vinovskis, 1993). In the late 1820's to the 1830's, independent infant schools were established in other cities to address the early education of poor children (Vinovskis, 1993). In the 1830s, New York City and Philadelphia established infant schools within the public school system. During the middle of this movement, in the late 1820s, the affluent citizenry argued that early education should not be solely for the poor and disadvantaged. This prompted infant schools to be opened for the wealthy families separate and apart from the infant schools for the disadvantaged (Vinovskis, 1993). Unfortunately, strong resistance to the infant schools for the disadvantaged resulted in the demise of the infant schools in the United States.

Early childhood education found a resurgence due to the political focus on the role of education in helping the disadvantaged break the cycle of poverty (Vinovskis, 1993). In 1965, Head Start programs were launched as summer programs and in 1972 the programs were provided on a year-round basis (Vinovskis, 1993). The Head Start program was required to have 10 percent of the enrollees to be identified as students with

a disability. In 2024, the mandate to identify students with a disability is still in effect. During the focus of Head Start programs to address the plight of the disadvantaged, the middle-class sought to have programs for their children to be educated in the early years.

Early childhood education opportunities have expanded to preschool education being provided in the public school, private voluntary prekindergarten programs, and Head Start programs. With a focus on child development, Gesell (1937) supported the concept that infants were individuals and their individuality needed to be understood. Gesell (1937) posited that the "first five years of life are the most consequential in the formation of the human individual"(p. 132). Benjamin Bloom was a proponent that the first five years of life were a "critical period for a child's intellectual development" (Vinovskis, 1993, p. 160). The early childhood programs are pivotal in addressing a child's development during these critical years of growth.

Early Childhood Program Funding

Early childhood programming has many types of preschool experiences for families. The United States federal government has provided funding for early childhood programming for targeted subgroups of children. The state and local governments provide opportunities that are publicly funded. There are also privately operated early childhood programs that are tuition based. The vast amounts of offerings are possible because states have the responsibility of the K-12 schooling.

With this federal and state structure regarding the responsibility of educating the public, early childhood education legislation is specific and targeted in nature. The federal government's first attempt to a national early childhood program was with the

establishment of Head Starts in the mid-1960s (Hustedt & Barnett, 2011). The second attempt was The Comprehensive Child Development Act of 1971. The purpose of the Act was to provide access to early childcare and education on a voluntary basis (Hustedt & Barnett, 2011). President Nixon vetoed the bill. In 2024, the political landscape remains the same and early childhood initiatives become a political platform.

Given the lack of a national comprehensive and integrated system for early childhood programming, the federal government focused on separate programming targeted for specific groups to achieve specific goals (Hustedt & Barnett, 2011). The federal, state, and local government provides funds for the following initiatives: Head Start, Direct child subsidies, Tax credits, Title I preschool, Early Childhood Special Education, State prekindergarten, and local programs (Hustedt & Barnett, 2011).

The United States Department of Health and Human Services oversees the Head Start programming and Direct child subsidies. The Head Start federal funds are distributed to local grantees. The local grantees provide services for Early Head Start, ages 0 to 3, and Head Start, ages 3 to 5, for families with income levels that are below a specific percentage of the federal poverty level. The goal of the initiative is to offer "comprehensive child development program for children and their low-income families" (Hustedt & Barnett, 2011, p. 170). The Direct child subsidies are funded with federal funds and matched with state funds for ages 0 to 13. This program is designed for families the meet the state median income level or who meet qualifications based on the Temporary Assistance to Needy Families (TANF) guidelines. The goal of the initiative is to offer low-income working families with assistance for childcare services.

For all population groups, tax credits are provided to families for eligible childcare expenses. The tax credits are overseen by the United States Department of Treasury. The tax credits are based on family income levels and are designed for children up to age 13. This credit is provided on the taxpayer's federal income tax return and serves to reimburse or provide a reduction for the incurred childcare expenses. The other form of tax credit is available through employee pretax childcare savings.

The United States Department of Education oversees the Title I preschools and Early Childhood Special Education. Title I funds provides federal funding to support preschool educational programming for disadvantaged children. Title I funds are managed through the United States Department of Education and provided for all children in schools having at least 40 percent of the students identified as being part of a low-income family or children academically at-risk. The Early Childhood Special Education may be funded through a combination of federal and state funds. The IDEA (2004), Part B provided federal provisions for a free appropriate education for children Ages 3 to 5. These funds provide special education services for children with identified disabilities and, if permitted in state guidelines, children with identified developmental delays to have access to free appropriate education (Hustedt & Barnett, 2011).

The state government oversee specific programs and are at times supplemented with local or federal funds. The state prekindergarten programming provides services for qualifying children and may provide additional services, if warranted. These programs may be linked to other federal programs. If funds are combined from multiple funding sources, then the program may be required to adhere to multiple enrollment guidelines.

These enrollment guidelines are enforced due to the targeted focus of the service being a welfare-oriented and available to specific preschool subgroups (Hustedt & Barnett, 2011).

Local efforts to address the need for prekindergarten services have been addressed through Voluntary Prekindergarten (VPK) programming. This program is available to all students beginning at the age of four. Hustedt and Barnett (2011) highlighted how the communities have dedicated local taxes to fund prekindergarten programs such as the state of Florida's Children's Trust located in Miami-Dade, Florida. Florida's neighboring state, Georgia, allocated lottery funds as a funding source for their VPK programming.

This beseeches the question of the purposes of prekindergarten programs. The pivotal historical purposes have been to provide opportunities for parents to have quality daycare so that they can earn a wage and for quality educational opportunities that enhance child development (Hustedt & Barnett, 2011; Vinovskis, 1993). Hustedt and Barnett (2011) questioned whether early childhood programs were being "designed to meet the needs of the typically developing children or those with special needs" (p.169). Hustedt & Barnett's (2011) inquiry supported the research question I addressed in this study and opportunities to inform the field regarding this gap of knowledge surrounding typically developing children participation in prekindergarten programming is critical.

History of Inclusion

The United States federal government established policy regarding educating children with disabilities. The emphasis to educate all children has its roots in recognizing education as a civil right. The Education for All Handicapped Children Act,

Public Law 94-142 (1975) was signed into law in 1975. This law established that children with disabilities be provided a free and appropriate public education in a least restrictive environment (Guralnick & Bruder, 2016). The law provides a guarantee of access to a "free appropriate public education (FAPE) in the least restrictive environment (LRE) to every child with a disability" (U.S. Department of Education, n.d., para.1). The law provided access to opportunities to discover talents, engagement with nondisabled peers and hope in the future.

The law was renamed and known as the Individuals with Disabilities Education Act (IDEA). IDEA has undergone amendments to set regulations in specific areas. The IDEA provisions led to general education curriculum access, providing services for young children ages birth to five, transition planning, and accountability standards for academic achievements of students with disabilities. The focus of IDEA is to provide protections for children and families to ensure access to an appropriate education.

The U. S. Department of Education provides outcomes of the efforts for students with disabilities. The unceasing focus is continuing the progress that has been made with protecting the rights of children, meeting the individual needs of students with disabilities, and improving educational results and outcomes for infants, toddlers, children, and youths with disabilities (U. S. Department of Education, n.d.). The U. S. Department of Education (n.d.) reported that "since 1975, they have progressed from excluding nearly 1.8 million children with disabilities from public schools to providing special education and related services designed to meet their individual needs to more than 7.5 million children with disabilities in 2018-19" (History of the IDEA, para. 4).

Early Childhood Inclusion

The foundation for inclusion in early childhood programs is rooted in IDEA. The premise of IDEA is equal access. IDEA allocates Part C services to fund provisions for early intervention services in an environment that includes children without disabilities. IDEA allocates Part B services to fund provisions for special education and related services for children with disabilities, beginning at age 3. The services that are provided should begin with the least restrictive environment as the starting point for services.

Inclusion in early childhood programs is a "core value and prominent feature" of early childhood programs (Guralnick & Bruder, 2016, p. 167). The inclusion of students reflects "societal values about promoting opportunities for development and learning and a sense of belonging for every child" (Division for Early Childhood & National Association for the Education of Young Children, 2009). The goal of inclusion is to "reshape attitudes and beliefs and raise expectations so that there is a comprehensive system that meets the individualized learning and developmental needs of all children" (U.S. Department of Health and Human Services & U.S. Department of Education, 2015, p. 3). The outcomes of inclusion are designed to be beneficial for all students with an emphasis on the actions for students with disabilities as the benefactor of these provisions. The emphasis to change the practice of exclusion which is part of a history of marginalization and separation. Inclusion is intended to give a sense of belonging.

However, Staub and Peck (1995) highlighted three common concerns regarding the effects of inclusion for typically developing children as 1) reduction of academic progress, 2) reduction of teacher time and attention, and 3) will undesirable behavior be

learned. After 27 years, the questions are still relevant. Odom et al. (1984) researched the progress of nondisabled students in an inclusive classroom as compared to a noninclusion class. The results indicated that there was no significant difference in the developmental outcomes (Odom et al.,1984). Peck et al. (2004) indicated that "relatively little attention is given to nondisabled children in research on inclusion" (p. 135). This study addressed reexamining the typically developing children's developmental progress in a prekindergarten inclusive setting.

Effects of Inclusion on Prekindergarten Typically Developing Children

There is a lack of information regarding the effects of inclusion on typically developing children. McDonnell et al. (2003) highlighted the "paucity of studies investigating the impact of inclusive education on the educational achievement of students without disabilities" (p. 225). Diamond and Carpenter (2000) indicated that little attention had been given to children without disabilities and what benefits they receive in an inclusive setting. Noggle and Stites (2018) provided recommendations for future studies to examine the benefit of inclusion for typically developing children; specifically in the social-emotional domain. However, there has not been significant focus on several aspects that may affect typically developing children in an inclusive setting. The studies tend to highlight the social-emotional growth by participating in an inclusive classroom for typically developing children (Diamond, 2001; Diamond & Hestenes, 1996; Diamond & Huang, 2005).

There is a plethora of information regarding the effects of inclusion on students with disabilities. The core value of inclusion is to provide an educational environment

with typically developing children for the benefit of students with disabilities. The federal policy provides funding for the establishment of educational programs for students with disabilities of all ages. Further, the emphasis is on early intervention so that students with disabilities can be included in community activities.

In a search to discover studies with the perspective of the effects of inclusion on typically developing children, one study was found. The authors, Conley et al. (2018), pursued a Doctor of Education degree. Conley et al. (2018) studied the effects of an inclusive preschool on typically developing children. The study was entitled *The effects of an inclusive preschool model on typically developing preschool students.* The study was a mixed methods design used a case study and causal-comparative analysis.

The purpose of the study was to "determine the impact of an inclusive preschool model on its typically developing students in regard to both social emotional skills and academic outcomes" (Conley et al., 2018, p. 57). The study used the BRIGANCE assessment to determine the effect of the inclusive preschool model for children Ages 3, 4, and 5 years old. The study also studied the perceptions of the parents, faculty, staff, and administration regarding the inclusive preschool model. The dissertation studied typically developing children in relation to their participation in an inclusive classroom. The BRIGANCE pre- and post- scores were obtained through archived data to explore the social-emotional skills and academic achievement outcomes in preschool children. The study concluded that there were no statistical differences in the BRIGANCE scores and that typically developing students were not negatively impacted academically by

participating in the inclusive model (Conley et al., 2018). The other portions of the mixed methods study yielded productive themes.

The lack of significant research supports the need for this study. As evidenced by the limited search results regarding this specific topic, the effects of inclusion settings on typically developing children. Further, there is a lack of understanding about the effect of prekindergarten program setting types on the developmental progress of typically developing children participating in an inclusion prekindergarten program as compared to a noninclusion prekindergarten program. The purpose of this study was to determine the effect of inclusive prekindergarten programs on the developmental skills of typically developing children in the five major developmental domains.

Summary and Conclusions

The effect of inclusion for preschool students with disabilities has been extensively researched to reveal positive developmental benefits of inclusion, especially in the area of social emotional domain (Diamond, 2001; Holahan & Costenbader, 2000). There was a lack of understanding about the effect of prekindergarten program setting types on the developmental progress of typically developing children participating in an inclusion prekindergarten program as compared to a noninclusion prekindergarten program. Noggle and Stites (2018) asserted that inclusion programs have positive benefits for both disabled and typically developing students. However, there was a paucity of information that addressed, in quantifiable terms, the effect of inclusion on the developmental skills of typically developing children.

The benefits for typically developing children in inclusion programs remain unclear. A better understanding of the effects of inclusive programs for typically developing children, in those programs, will provide an original contribution to the research base. Further, insights gained from this study could assist states and local educational agencies in planning for early childhood educational programs by providing research that may inform educational policy regarding program planning for inclusive prekindergarten programs. It may also assist in decision making that can enhance the progress of developmental skills for all students participating in prekindergarten programs.

In Chapter 3, the research method of the study is addressed. In this chapter, the research design and rationale, methodology, data analysis plan, and threats to validity was presented. The research addressed the research question and hypotheses examining to what extent does the type of prekindergarten program delivery setting (inclusion versus noninclusion) effect the DP-4 standard scores of typically developing children.

Chapter 3: Research Method

The purpose of this quantitative, quasi-experimental, nonequivalent study was to compare the effects of inclusive versus noninclusion regular education prekindergarten programs on the developmental skills of typically developing children in the physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains. I selected the quasi-experimental, nonequivalent study approach because the groups could not be randomly selected due to the established configuration of the prekindergarten groups by the sponsoring institution. Equally important was the examination of the independent variable (inclusion and noninclusion) to determine the differences in the groups' mean scores of the DP-4 standard scores in the domain areas of physical, adaptive behavior, social-emotional, cognitive, and communication (see Alpern, 2020). I used the DP-4 Teacher Checklist to obtain data on standard scores in the domain areas of physical, adaptive behavior, social-emotional, cognitive, and communication. The scope of this study included typically developing children participating in an inclusion and noninclusion regular education prekindergarten program in Sunshine Public School District. I compared DP-4 domain data of typically developing children participating in an inclusion prekindergarten program to typically developing children participating in a noninclusion regular education prekindergarten program. This chapter includes descriptions of the research design and rationale, methodology, data analysis plan, threats to validity, and chapter summary.

Research Design and Rationale

The independent variable was the prekindergarten classroom setting with two modes of delivery (inclusion or noninclusion). The dependent variables were the DP-4 standard scores in the domain areas of physical, adaptive behavior, social-emotional, cognitive, and communication standard scores of typically developing children, as measured by DP-4 Teacher Checklist (Alpern, 2020), based on the program delivery setting (inclusion versus noninclusion).

I selected a quantitative, quasi-experimental, nonequivalent design for this study. I used a nonequivalent posttest only control-group design. The nonequivalent posttest only control-group design "controls for any compounding effects of a pretest, the treatment is given only to the experimental group and both groups are measured on the posttest" (Creswell, 2014, p. 173). Further, the DP-4 is a standardized, norm-referenced instrument based on societal population and socioeconomic composition changes, as consideration for its building blocks (Alpern, 2020, p. 3). As such, "the DP-4 can effectively be used in research when it is necessary to distinguish between typically developing and delayed children or when a measure of program evaluation is required" (Alpern, 2020, p. 4). The use of the DP-4 norm-referenced instrument eliminates the need to establish a baseline using a pretest and posttest research design.

A nonequivalent posttest-only design may be useful in analyzing the effects of the intervention since the groups were not randomly selected and already assigned to a specific group. Therefore, a nonequivalent posttest-only design was appropriate to facilitate the research question in this study, in which I explored the effects of the

program delivery of inclusion versus noninclusion by comparing the differences in the groups' mean scores of the DP-4 standard scores in the domain areas of physical, adaptive behavior, social-emotional, cognitive, and communication.

The Sunshine Public School District provided inclusion and noninclusion regular education programming for prekindergarten classes which included special education inclusion, Head Start, Title I, fee supported full-day programming and fee supported half-day classes. The sponsoring institution provided opportunities for typically developing children to be enrolled in inclusion classes. The inclusion criteria for a subject, to be included in the study, were typically developing prekindergarten children, Ages 3, 4, or 5, who are not suspected of a disability and enrolled in the class for at least 6 months. The exclusion criteria for a subject, to be excluded in the study, were typically developing prekindergarten children, Ages 3, 4, or 5, suspected of a disability, eligible for an IEP, enrolled in the class grouping for less than 6 months, enrolled in specialized autism or deaf and hard of hearing inclusion classes, those participating in a distance learning or half-day prekindergarten class, and typically developing children that are classified as a non-English speaking student.

The sponsoring institution provided preidentified data sorted by school and type of prekindergarten programming by delivery model groups for inclusion and noninclusion. The inclusion delivery model group consisted of the prekindergarten ESE special education inclusion classes and fee supported full-day inclusion classes that included Title I schools based on school boundaries. The inclusion delivery model classes consisted of identified students with disabilities enrolled in the class. The noninclusion

programming consisted of the Head Start, Title I based on school boundaries, and fee supported full-day programming based on school boundaries. The noninclusion delivery model classes consisted of typically developing children as the majority of the students in the class. The total population size of the children participating in prekindergarten inclusion and noninclusion classes were approximately 7,150 students.

The Sunshine Public School District, a large urban school district, had a diverse population with a significant student enrollment. Therefore, given the size of the prekindergarten population, the recruitment efforts should yield the projected sample size required to conduct the data analysis. The need to obtain the projected sample size warranted purposeful recruitment efforts in coordination with school principals and classroom teachers that were assigned to the inclusion and noninclusion classes. I provided the school principals, via email, with the approved letter from the sponsoring institution. I received the principal's permission via email. Once I gained written permission from the school principal, I requested the names of their prekindergarten teachers. I provided the consent form, via email, to the identified teachers. I conducted follow-up activities, email communications, video conferencing and phone calls with administrators to obtain permission to use teachers in the study. Upon obtaining the school principal's permission to conduct the study with their staff, I conducted follow-up activities, email communications, video conferencing and phone calls with teachers to request their voluntary participation in the study, obtain consent, status of subject identification, completion of electronic tracking forms, and completion of the electronic DP-4 Teacher Checklist via the publisher's link.

The intervention administered was the program delivery of inclusion. The intervention was implemented daily for at least 6 months. The sponsoring institution's model of inclusion involved teachers that are state certified in the area of exceptional student education. The teachers were trained to provide specialized instruction to address the child's disability. The inclusion prekindergarten classroom typically has two adults in the room to provide specialized instructional supports and accommodations. The combination was typically one teacher and one paraprofessional. These supports provided additional monitoring of student achievement and adjustments in approaches to provide understanding of a task or concept. The teachers implemented the IEP and monitored the child's progress toward the IEP goals. The typical ratio was one adult for every ten students. The class size typically did not exceed 20 students.

The inclusion classes were determined by the district and required eligibility based on an IEP for students with disabilities enrolled in the delivery model. The control for identifying an intervention group was the class enrollment based on an IEP and requiring more than one teacher and support personnel that provided direct support the entire day and typically developing students were enrolled in the class. All students, students with disabilities and typically developing children, in the class had benefit of having the additional staff in the room.

In contrast, the noninclusion class was a regular education class. The class consisted of typically developing children that were not supported by specialized instruction or provided accommodations. The class was managed by one state certified

teacher in pre-school education. Typically, the classroom did not have additional personnel supports to assist with instruction.

I selected this intervention due to IDEA of 2004 guidelines for ensuring inclusionary practices that students with disabilities were included with their nondisabled peers a majority of the school day, to the fullest extent possible. I provided insights about the effect of prekindergarten program setting types on the developmental progress of typically developing children participating in an inclusion prekindergarten program as compared to a noninclusion prekindergarten program. Noggle and Stites (2018) asserted that inclusion programs have positive benefits for both disabled and typically developing students. However, there was a paucity of information that addressed, in quantifiable terms, the effect of inclusion on the developmental skills of typically developing children.

Methodology

This section includes information regarding the methodology of the study. The population of typically developing children participating in prekindergarten programs within the district were identified for the study. This section includes discussion of the research design, the sampling and sampling procedures, procedures for recruitment, participation and data collection of primary data, instrumentation, and intervention of the study.

Population

The population that I studied were children participating in prekindergarten programs in the Sunshine Public School District. The total population size of the children participating in prekindergarten inclusion and noninclusion classes were approximately

7,150 students. There were a variety of program offerings available within Sunshine Public School District which included prekindergarten offerings in special education inclusion, Head Start, Title I, fee supported full-day programming and fee supported half-day programming. The special education prekindergarten classes consisted of approximately 2,700 students. The Head Start prekindergarten classes consisted of approximately 750 students. The Title I prekindergarten classes consisted of approximately 3,000 students. The fee supported full-day prekindergarten classes consisted of approximately 700 students.

The prekindergarten inclusion and noninclusion classes had students Ages 3 to 5. The targeted sample population were typically developing children, 3, 4, or 5 years old, participating in prekindergarten ESE special education inclusion classes or fee supported full-day inclusion classes that may have included Title I schools based on school boundaries and noninclusion regular education of Head Start, Title I, or fee supported full-day programming based on school boundaries for prekindergarten programs in Sunshine Public School District.

Sampling and Sampling Procedures

I selected the sample based on nonprobability, purposive sampling method. I used this method due to the specific grouping of children that were typically developing in this nonequivalent posttest-only design. I focused on typically developing prekindergarten children, Ages 3, 4, or 5 who were not suspected of a disability.

I did not use the potential participants' demographic variables as a criterion for obtaining an appropriate sample. I used the sample's demographic information during

data collection. I used the demographic information to describe groups and their results or outliers. I coded the names of the teachers and teachers coded their student's information to ensure the data collected was 100% anonymous. This ensured that no identifying information was gleamed from the results. Further, the submitted written information did not have any descriptors that could be easily identified and linked to the respondents and subjects.

Inclusion and Exclusion Criterion

In order for a student to be included in the study, they needed to be enrolled in the class grouping for at least 6 months based on their enrollment date and had not entered kindergarten at the time of the data collection. Typically developing prekindergarten children suspected of a disability or eligible for an IEP were excluded from the study. Typically developing prekindergarten children participating in a distance learning mode of instruction, half-day prekindergarten program, and those enrolled in specialized inclusion classes for autism or deaf and hard of hearing were also excluded from the study.

Sample Grouping

I identified the groups by requesting data from the district that classified class placement based on delivery models for typically developing students, class placement based on delivery models for students with disabilities, age of children enrolled in the delivery models, date of first day of school for the district, and type of class participation of full day, half day or distance learning. The dataset was cleaned to identify the pool of

eligible prekindergarten programs by school for both groupings based on delivery models and the inclusion and exclusion criteria.

Power Analysis

I used G* Power 3.1.9.6 to compute the sample size and a priori power analysis for the study (see Faul et al., 2009). The effect size (*d*) of the differences in the means between the control and experimental groups was 0.0625 (Creswell, 2014). The statistical significance for the experiment or the alpha level was 0.05. The power level chosen was 80%. Given the parameters and statistical measure for the study, the projected sample size needed for the study was 135 subjects (see G*Power Calculation in Appendix D). The sample size used was 136 subjects in order to obtain two evenly distributed groups of 68 subjects in inclusion programs and 68 subjects in noninclusion programs. The Sunshine Public School District, a large urban school district, had a diverse population with a significant student enrollment. Therefore, given the size of the prekindergarten population, the recruitment efforts, it was likely that the efforts would yield the projected sample size required to conduct the data analysis.

Sample Recruitment Efforts

The projected sample size warranted recruitment efforts in coordination with the district staff and prekindergarten teachers that were assigned to the inclusion and noninclusion classes. The recruitment efforts were focused on schools in the pool of identified schools. From those schools, the experimental and control groups were formed. The experimental group were typically developing children, 3, 4, or 5 years old, participating in a prekindergarten ESE special education inclusion classes or fee

supported full-day inclusion classes that may have included Title I schools based on school boundaries. The control group were typically developing children, 3, 4, or 5 years old, participating in a prekindergarten noninclusion regular education Head Start, Title I, or fee supported full-day programming based on school boundaries.

Each principal needed to provide approval for teachers to be invited to volunteer in the study (see Sponsoring Institution's Approval in Appendix A). In order to obtain the school principal's permission, I conducted follow-up activities, email communications, video conferencing and phone calls, as needed. For each consenting school principal, I was provided their written permission via email indicating "Permission Granted". For each school where approval was obtained, I requested the principal to provide me the names and email addresses of their prekindergarten teachers based on their prekindergarten programming assignment.

The identified teachers were invited via email to participate in the study Each identified teacher was provided a written volunteer consent form explaining the study, inclusion criterion, amount of nominal compensation for their participation, and procedures for returning their consent via e-mail to my email address. If any support was needed, the teacher was instructed to contact me via email and/or phone. The volunteer consent forms were followed by no more than two reminders to participate. For any teachers disinterested in participating in the study, they could disregard the volunteer consent form and reminders. The teachers that agreed to participate became identified as consenting teachers for record keeping purposes.

Respondent Subject Identification

The teachers were provided directions regarding how to determine inclusion and exclusion of their students, a teacher specific tracking log for the selected subjects, and a teacher log with unique identifiers specific to each consenting teacher and their students. The teacher log, with unique identifiers, was the only document returned to me. The teacher log served as a coding sheet containing the following information: unique teacher identifier, unique student identifiers, program type, class entry date, and the subject's ethnicity, date of birth, age, and gender.

The pool of identified subjects of typically developing students were selected by the consenting teacher from their classroom rosters. The teachers were asked to provide up to four subjects that met the study's inclusion criteria. I conducted follow-up activities, email communications, video conferencing and phone calls, as needed, to obtain status of subject identification, completion of electronic tracking forms, and completion of the electronic DP-4 Teacher Checklists via the publisher's link.

The data collection was completed by prekindergarten teachers who agreed to participate in the study. The Sunshine Public School District had a vast number of prekindergarten teachers that could have participated in this study. I needed approximately 40 prekindergarten teacher respondents to complete the data collection regarding 136 subjects. It was believed that the projected number of respondents was achievable and desired to ensure that there was no undue burden on the respondents during data collection in this study. Notedly, the Sunshine Public School District did not assess typically developing prekindergarten children with the DP-4 instrument.

Therefore, district archival DP-4 scores for typically developing children were not available.

I selected the DP-4 instrument due to the instrument's effective use "to distinguish between typically developing and delayed children" (Alpern, 2020, p. 4). Additionally, the DP-4 Teacher Checklist provided access to developmental domain data without me having direct contact with a vulnerable population. The development of the DP-4 Teacher Checklist form provided new opportunities to gleam information regarding young children.

Procedures for Recruitment, Participation, and Data Collection (Primary Data)

I obtained permission of sponsoring institution, Sunshine Public School District (see Appendix A), to conduct the study after obtaining conditional approval from Walden University's IRB. The Walden's University's IRB full approval was obtained prior to conducting any study activities. All recruitment activities with the sponsoring institution were handled in a non-coercive manner. All activities were conducted in a confidential manner. All discussions were held in a private setting, private email, or phone communication. I obtained the prekindergarten program delivery setting designations from the Sunshine Public School District's Department of Early Childhood Programs identifying inclusion and noninclusion prekindergarten classrooms. The typically developing prekindergarten children, Ages 3, 4, or 5 included in this study were those not suspected of a disability, participating in the delivery model for at least 6 months based on class enrollment date, and have not entered kindergarten at the time of the data collection.

The groups were identified using the requested data from the district that categorized class placement based on delivery models, age of children enrolled in the delivery models, school of enrollment, date of enrollment, and type of class participation for full day, half day, or distance learning. The data were cleaned to identify the pool of schools based on delivery model groupings then by participants based on inclusion criteria for type of prekindergarten delivery models. The pool of potential participants represented the prekindergarten teachers that can be included in the study.

Participation

To request teacher's voluntary participation in the study, I conducted follow-up activities, email communications, video conferencing and phone calls with teachers to obtain their consent, status of subject identification, completion of electronic tracking forms, and completion of the electronic DP-4 Teacher Checklist via the publisher's link. For teachers returning the consent form, I continued to provide follow-up activities until their data collection was concluded. During the course of data collection, if a teacher did not respond to email communications for an extended period of time, then they were considered to have withdrawn from the study. If the teacher wished to re-enter the study, then they could request the redelivery of the electronic DP-4 Teacher Checklist. If the sample size was reached for that program type, the teacher was notified that the data collection had ended for that group. For any teacher not returning the consent form, two additional attempts were made to obtain confirmation regarding their participation in the study. Based on purposive sampling results, the pool of potential subjects was obtained

from the prekindergarten teachers that were included in the study. The pool of identified subjects of typically developing students were selected from their classroom rosters.

Method for Identification of Subject Sample

After the teacher consent form was received, each consenting teacher identified their sample of subjects who met the inclusion criteria. The teachers were asked to provide up to four subjects that met the study's inclusion criteria. The teachers were provided directions regarding how to determine inclusion and exclusion of their students, a teacher specific tracking log for the selected subjects, and a teacher log with unique identifiers specific to each consenting teacher. The teacher log with unique identifiers was the only document returned to me. The teacher log served as a coding sheet containing the following information: unique teacher identifier, unique student identifiers, program type, class entry date, and the subject's ethnicity, date of birth, age, and gender. Each teacher was asked to review their class list and select subjects based on the inclusion and exclusion criteria. Any student that did not meet the inclusion criterion was excluded from the study's pool of eligible subjects in both groupings.

I used the coding sheet to setup the online DP-4 access for the respondents. Each respondent received separate emails with a link to the online DP-4 Teacher Checklist for each identified subject based on unique student identification codes. The teacher completed one DP-4 instrument for each identified subject. The teacher provided demographic information on the online DP-4 Teacher Checklist as follows: coded unique identifier in lieu of the child's name, teacher's name, length of time the teacher has

known the child, administration date of the instrument, child's age, expressed in years and months, at the time of the instrument's administration,

Informed Consent

In accordance with Walden University's IRB procedures, the informed consent provided my identification and contact information for questions regarding the study, name of the sponsoring institution, the purpose of the study, benefits of participation in the study, identification of the participants for the study, information about safety of the study to avoid risks for the participants, providing notice of confidentiality of the participants and notice of length of the study and information on how to withdraw from the study.

The informed consent provided an opportunity for teachers to express written consent for the study or written notification of nonparticipation in the study. The written consent was provided via email. Further, to inform the respondents of my professional role, the consent form contained a statement identifying my role with the sponsoring institution and indicating that the study was completely separate from that role.

Data Collection Ethics

The data collection regarding the subjects was anonymous and uniquely coded. Other identifying data were kept confidential. All data provided by the sponsoring institution was maintained in a manner to ensure confidentiality of the school, principal, and teacher information. The schools', principals', teachers', or subjects' information was not reported in the study. There were no identifiers in the study's results that revealed the

identity of the study's respondents and subjects. I conducted this study in adherence to the policies and procedures of both institutions.

The respondents consisted of employees of the Sunshine Public School District. During this study, I did not serve in the role of respondent. Those serving in the role of respondent were selected in accordance with the publisher's guidelines. I notified the identified respondents that participation in the primary data collection process was voluntary. I identified the schools from preidentified data provided by the Department of Early Childhood Programs and Department of ESE. Each school principal provided the names of the prekindergarten teachers and special education teachers in their school.

Data Collection

I did not commence the study until approvals were obtained from Walden University IRB (08-30-22-0438953) and Sunshine Public School District (2534). Notedly, the Sunshine Public School District did not assess typically developing prekindergarten children with the DP-4 instrument. Therefore, archival DP-4 scores for typically developing children were not available. Thus, the primary data collection was performed by the respondents. Alpern (2020) indicates that "respondents should have at least one month's experience with the child" (p. 7). Each respondent provided the length of time they have known the subject on the DP-4 Teacher Checklist. The respondents completed the DP-4 Teacher Checklist at their discretion without remote or direct supervision.

In the event that a subject's DP-4 scale score(s) scored in the delayed range, the teacher was notified that the DP-4 score(s) indicated a possible developmental delay. The

teacher was provided the unique identifier for the student in order to follow the sponsoring institution's procedures for submitting a request for assistance with the school's support team and possible referral to the Department of ESE for further evaluation. It was the responsibility of the teacher to submit the needed documents to their school support team. The notification to the teacher fulfilled my child find obligations since the child's identity was not known to me.

At the conclusion of the respondent's data collection, the teacher was provided a gift card for their volunteerism. Each participating respondent received a nominal thank you gift of $5.00 for each submitted survey. I emailed a choice of a Starbucks or Target gift card to each respondent once they submitted the coding sheet, completed online survey(s), and the respondent's data collection was concluded. At the conclusion of data collection for all the consenting teachers from the same school, the school principal was emailed a notification regarding the conclusion of study's data collection with their staff.

DP-4 Scoring Method

Each respondent was provided access to the DP-4 Teacher Checklist via the publisher's link. The publisher provided the following scoring options: hand scoring and online scoring using *Online Evaluation System* (OES) (Alpern, 2020, p. 12). I selected the online scoring option using Western Psychological Services OES (Alpern, 2020). I obtained permission to use the instrument and scoring option from Western Psychological Services (see Permission to Use DP-4 in Scholarly Research in Appendix C).

Instrumentation and Operationalization of Constructs

The instrument for the study was the DP-4 (Alpern, 2020). The DP-4 was developed in 2020 by Gerald D. Alpern, PhD. The publisher of the DP-4 is Western Psychological Services. I selected the DP-4 instrument due to the instrument's effective use "to distinguish between typically developing and delayed children" (Alpern, 2020, p. 4). Additionally, the DP-4 Teacher Checklist provided access to developmental domain data without me having direct contact with a vulnerable population.

The DP-4 instrument is a standardized, norm-referenced instrument based on societal populations and socioeconomic composition changes, as consideration for its building blocks (Alpern, 2020, p. 3). The DP-4 provides "a rapid and accurate measure of development in five essential areas" (Alpern, 2020, p. 4).

DP-4 Reliability

The DP-4 domain scale reliabilities were established through five approaches (Alpern, 2020). The reliability of the DP-4 "General Development Score, which combines the five domain scale scores, was calculated using the formula for reliability of linear combinations" (Alpern, 2020, p. 89). The approaches were the internal consistency, test-retest, interrater, cross-form consistency, and alternate form consistency. The two approaches of interrater and alternate form consistency apply to the Parent/Caregiver Interview and Parent/Caregiver Checklist formats, but not the Teacher Checklist.

Internal Consistency. The internal consistency reliability refers to the extent that all items of the instrument measure the same ability (Alpern, 2020, p. 89). The DP-4 internal consistency reliability was calculated using the raw scores for each of the five

domain scales. The DP-4 Teacher Checklist internal consistency reliability ranged from good to excellent, with the exception of a few scale scores in the upper age ranges of the instrument. For the ages of 3, 4, and 5, the scales' reliabilities for this approach were physical .92, .94, and .89, respectively; adaptive behavior .89, .91, and .87, respectively; social-emotional .95, .93, and .90, respectively; cognitive .92, .91, and .91, respectively; and communication .92, .92, and .88 respectively. The General Development Score reliabilities for this approach were .92, .93, and .89 respectively (Alpern, 2020, p. 91).

Test-Retest. The test-retest reliability represents the stability of the DP-4 scores for the same child at different time intervals (Alpern, 2020, p. 92). The DP-4 test-retest calculates "the correlations between the mean standard scores at Time 1 and Time 2 administration and the effect size of the differences between scores" (Alpern, 2020, p. 92). The "correlations between the mean standard scores between Time 1 and Time 2 for the Teacher Checklist ranged from .70 to .86, making it acceptable for clinical use" (Alpern, 2020, p. 92). The "effect size for the differences between Time 1 and Time 2 for the Teacher Checklist ranged from 0.04 to 0.25, with no clinical meaningful differences" (Alpern, 2020, p. 92). The test-retest correlation and effect size for the DP-4 Teacher Checklist were as follows: physical .74 and 0.13, respectively; adaptive behavior .70 and 0.04, respectively; social-emotional .70 and 0.12, respectively; cognitive .74 and 0.17, respectively; and communication .79, and 0.25, respectively. The General Development Score reliabilities for this approach were .86 and 0.19, respectively (Alpern, 2020, p. 93).

Cross-Form Consistency. The cross-form consistency reliability represents the scores from two respondents using different rating forms for the same child (Alpern,

2020, p. 94). The DP-4 cross-form consistency calculates "the correlations between the mean standard scores and the effect size of the difference the scores" (Alpern, 2020, p. 94). The "correlations for the Teacher Checklist and the Parent/Caregiver Interview ranged from .57 to .68 and Teacher Checklist and the Parent/Caregiver Checklist ranged from .62 to .70" (Alpern, 2020, p. 94). The "effect size for the differences for the Teacher Checklist and the Parent/Caregiver Interview ranged from 0.01 to 0.10 and Teacher Checklist and the Parent/Caregiver Checklist ranged from 0.01 to 0.12" (Alpern, 2020, p. 94). The cross-form consistency correlation and effect size for the DP-4 Teacher Checklist and Parent/Caregiver Interview and Teacher Checklist and Parent/Caregiver Checklist were as follows: physical .61and 0.02; and .65 and 0.01, respectively; adaptive behavior .62 and 0.10; and .62 and 0.01, respectively; social-emotional .57 and 0.02; and .64 and 0.12, respectively; cognitive .68 and 0.01; and .70 and 0.12, respectively; and communication .59 and 0.10; and .65 and 0.11, respectively. The General Development Score reliabilities for this approach were .99 and 0.01; and .73 and 0.07, respectively (Alpern, 2020, p. 95).

DP-4 Validity

The validity for the DP-4 domain scales were established through three approaches (Alpern, 2020). The approaches were content, construct, and convergent.

Content Validity

Content validity addresses that an "item content to measure the construct of interest" (Alpern, 2020, p. 97). The content validity was established from the onset of its development through literature review of the "broad spectrum of developmental skills

and multidimensional view of child development" (Alpern, 2020, p. 97). Additionally, the user input and accurate measures as evidenced by the raw scores increasing across the age groups (Alpern, 2020, p. 97). The content validity was established "DP-4 as a measure of development that increases over time" (Alpern, 2020, p. 97).

Construct Validity

Construct validity is "measured by examining the structural characteristics of the scales through factor analysis, interscale correlations, item-total correlations, and Rasch analysis" (Alpern, 2020, p. 97).

Factor Analysis. The factor analysis was conducted the instrument items with oblimin rotation. Alpern (2020) indicated that "oblimin rotation was chosen because it assumes correlated factors which is a theoretically and empirically reasonable assumption for the DP-4" (p. 97). The data revealed that one dominant factor resulted which represented the development factor (Alpern, 2020, p. 97).

Interscale Correlation Analysis. The interscale correlation analysis establishes whether the scales can be viewed as separate aspects of overall development (Alpern, 2020, p. 97). All scales demonstrated a "moderate to high correlation range and support for the separate scoring and interpretation of the five scales" (Alpern, 2020, p. 100).

Item-Total Correlation Analysis. The item-total correlations analyzed the correlation of the item with their assigned scale (Alpern, 2020, p. 100). The correlations were strongly correlated to their scales along with some items having intercorrelation (Alpern, 2020). This outcome supports "the utility of separate scales for interpretation, despite the fact that all areas of development are closely related" (Alpern, 2020, p. 100).

Rasch Analysis. The Rasch analysis "examines the item coverage over the range of abilities intended to be measured by the DP-4 whether the scales can be viewed as separate aspects of overall development (Alpern, 2020, p. 100). The analysis revealed that the measures do show ability levels in accordance with the tasks. Alpern (2020) indicated that "the items do a good job of measurement within the desired skill range (p. 100).

Convergent Validity

The convergent validity examines a test's relationship to other measures of similar constructs (Alpern, 2020, p. 100). The validation of the DP-4 was accomplished by comparing it to four other similar instruments. The instruments that were used to validate the new instrument were the DP-3, the Vineland-3, the DAYC-2, and the ABAS-3 (Alpern, 2020, p. 100).

DP-4 and DP-3. The DP-4 and DP-3 scale scores correlations ranged from .80 to .89 (Alpern, 2020, p. 100). Further, the DP-4 and DP-3 General Development Score correlation was .93 (Alpern, 2020, p. 100). Alpern (2020) indicated the "scale and General Development Score correlation indicate strong relationships between scores and underscores the similarity of the content" (p.100).

DP-4 and Vineland-3. The DP-4 and Vineland-3 teacher forms score correlations ranged from moderate to high, .68 to .79 (Alpern, 2020, p. 102). The correlational findings "between the DP-4 and Vineland-3 across three methods of administration" were a similar pattern (Alpern, 2020, p. 104).

DP-4 and DAYC-2. The DP-4 and DAYC-2 score correlations were moderate, .49 to .67 (Alpern, 2020, p. 104). The correlational findings "support the validity of the DP-4 as a measure of child development in the same manner as another measure of child development" (Alpern, 2020, p. 104).

DP-4 and ABAS-3. The DP-4 Teacher Checklist and ABAS-3 score correlations were moderate, .45 to .77 (Alpern, 2020, p. 105). The correlational findings "support the notion that the DP-4 is related to the construct of adaptive behavior and how it related domains of development" (Alpern, 2020, p. 105).

Intervention Studies or Those Involving Manipulation of an Independent Variable

The prekindergarten classroom setting with two modes of delivery (inclusion or noninclusion) was the independent variable. The experimental group consisted of typically developing children, 3, 4, or 5 years old, participating in a prekindergarten ESE special education inclusion classes or fee supported full-day inclusion classes that included Title I schools based on school boundaries. The control group consisted of typically developing children, 3, 4, or 5 years old, participating in a prekindergarten noninclusion regular education Head Start, Title I, or fee supported full-day programming based on school boundaries.

The groups were identified by requesting data from the district that classified class placement based on delivery models for typically developing students, class placement based on delivery models for students with disabilities, age of children enrolled in the delivery models, date of enrollment, and type of class participation of full day, half day or distance learning. The dataset was cleaned to identify the pool of eligible

prekindergarten programs by school for both groupings based on the exclusion criteria. The pool represented the schools that were included in the study's recruitment efforts.

Data Analysis Plan

Data from this study were analyzed using the Statistical Package for Social Sciences (SPSS), Version 28. SPSS is a statistics software that conducts data analyses to determine if patterns and associations exists within the data. According to Okagbue et al. (2021), "statistical software is used to analyze data emanating from a carefully organized scientific process of observation and experimentation" (p. 1). The results of the data analysis provide a result for the researcher to interpret and extend the knowledge yielded from the data analysis to the field of research (Okagbue et al., 2021). Data analysis is a crucial component which provides evaluation of data, ability to make inferences from data, and to validate findings that are generated from the analysis.

Data Set Preparation

The data set was cleaned prior to analysis to avoid having data that provided inaccurate results. The data cleaning process was done to ensure proper identification of the data set. The first step was to review the data to identify and remove any duplicate data. The second step was to review the naming conventions or labelling to ensure consistent labelling for the entire data set. The third step was to review the data to identify data that presented as outliers that may need to be removed. The fourth step was to determine if data were missing and how to handle the potential missing data. I reviewed the data to determine if the whole data were missing or an item. I determined if the data were inadvertently missed and can be entered. If the data were determined to be

missing, it would be labeled as missing. The labeling would consist of assigning the word *missing* for categorial data and assigning the numerical value of zero for the continuous data. This provided an opportunity to analyze the effects of the missing data. Once the data were cleaned, I verified that the data were captured as intended. Finally, I confirmed that the data set contains the number of subjects met the required sample size to complete data analysis.

Data analysis procedures were designed to address the study's research question. In this study, I used one research question to address the differences in the DP-4 standard scores based on the program delivery setting (inclusion versus noninclusion), as measured by the DP-4 Teacher Checklist (Alpern, 2020).

The research question and hypotheses were as follows:

RQ: To what extent does the type of prekindergarten program delivery setting (inclusion versus noninclusion) effect the DP-4 standard scores for physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains of typically developing children?

H_0: There is no statistically significant difference between the DP-4 standard scores for physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains of typically developing prekindergarten children in inclusion versus noninclusion settings.

H_a: There is a statistically significant difference between the DP-4 standard scores for physical, adaptive behavior, social-emotional, cognitive, and communication

developmental domains of typically developing prekindergarten children in inclusion versus noninclusion settings.

Data Analysis

Descriptive statistics was conducted for the variables in the study. While conducting data analysis, the assumptions were tested before conducting the statistical test to examine the research question and the hypotheses. The one way MANOVA was used to conduct the analysis of the research question and the hypotheses. According to Warner (2013), MANOVA measures "multiple outcome variables that can provide information on the patterns of means on a set of several outcome variables differ in ways that suggest main effects and/or interaction effects with multiple outcome measures" (p. 536). The assumptions that are related to MANOVA are as follows: there should be two or more dependent variables being measured as continuous, there should be two or more categorical independent groups, the observations are independent and separate from the other group and not represented in both independent groups, the required sample size will be met, the data set will not obtain any outliers, evidence that multivariate normality is present, that a linear relationship exists between the dependent variables within the group to the independent variable, evidence that homogeneity of variance-covariance matrices is present, evidence that homogeneity of variance is present, and multicollinearity does not exist among the dependent variables (Laerd Statistics, 2015; Salkind, 2010; Warner, 2013).

For the assumption of sample size being met, I conducted the Between-Subjects Factors in SPSS to determine that the groups had an equal number of participants (Laerd

Statistics, 2015). If this assumption was met, then the groups had equal number of participants. If this assumption was not met, then the groups needed to be balanced by ensuring all data were entered or removing data.

For the assumption of having no univariate or multivariate outliers, I determined if outliers were present by running the SPSS statistics for boxplots (Laerd Statistics, 2015). If outliers were present, there was a circle indicated on the graph and for extreme outliers there was an asterisk indicated on the graph (Laerd Statistics, 2015). Based on Laerd Statistics (2015), if an outlier was identified then the data needed to be checked to ensure accuracy or determine if it was a measurement error. If it was determined to be an outlier, then I would keep the outlier and run the test with and without the outlier to determine the impact of the outlier (Laerd Statistics, 2015). If the outlier had a significant impact on the results, then I would remove the outlier and provide an explanation in the study for the reasons for removal (Laerd Statistics, 2015).

For the assumption of multivariate normality, I analyzed the Normal Q-Q Plots using SPSS statistics given the large sample size (Laerd Statistics, 2015). According to Laerd Statistics (2015), the "Shapiro-Wilk test of normality is better suited for smaller sample sizes of 50 or less" (p. 8). Laerd Statistics (2015) indicated that the "one-way MANOVA is fairly robust to deviations from normality" (p. 8). Thus, if the assumption was not met, then I would run the analysis and report the violation in my findings. For the assumption of linear relationship, I created a scatterplot using SPSS statistics. If the assumption was met, then there would be a clustering around the line to show the

relationship (Laerd Statistics, 2015). If the assumption was not met, I would remove the dependent variable and report the reasons in the findings (Laerd Statistics, 2015).

For the assumption of homogeneity of variance-covariance matrices, I performed the Box's M test of equality of covariance in SPSS. According to Laerd Statistics (2015), if there was no statistical significance then the assumption was not violated. However, if there was a statistical significance then that assumption was violated (Laerd Statistics, 2015). If the assumption was not met, I would review the size of my group to determine if they are equal because the unequalness may be contributing to the assumption being violated (Laerd Statistics, 2015).

For the assumption of homogeneity of variance, I performed the Levene's test of equality of variance in SPSS. According to Laerd Statistics (2015), if there was no statistical significance then the assumption was not violated. However, if there was a statistical significance then that assumption was violated (Laerd Statistics, 2015). According to Laerd Statistics (2015), if the assumption was not met, the dependent variables can be transformed "to correct for the unequal variances" (p. 14) and re-run the assumptions again. Another option was to continue the analysis but lower the statistical significance level for the MANOVA (Laerd Statistics, 2015).

For the assumption of multicollinearity not existing, if the correlation between the dependent variables was too high then the assumption would be violated (Laerd Statistics, 2015). To test this assumption, I completed the Pearson correlation-coefficients to determine if the dependent variables had a very strong correlation (Laerd Statistics, 2015). If this assumption was violated, I would combine the dependent variables into a

new dependent variable and rerun the statistical analysis based on the new dependent variable (Laerd Statistics, 2015).

The study outcomes were interpreted within the parameters that yields statistically significant results. According to Denis (2016), confidence intervals are used to "provide a range of values for which one can be relatively certain lay the true parameter being estimated" (p. 117). The results of the study were interpreted using a confidence interval of 80% and the p-value was considered statistically significant at less than or equal to 0.05. The descriptive statistics data were expressed as mean ± standard deviation.

Threats to Validity

External Validity

The threats to external validity could impact the outcome of the study and whether the findings can be generalized. The identified potential threats to external validity were situational factors, sampling bias, and selection bias. The situational factors were accounted for by respondent's completing the DP-4 Teacher Checklist at their discretion as to the optimal time of day. The sampling bias was addressed by having set criterion for subjects to be included in the study. The selection bias was addressed with the nonequivalent grouping in prekindergarten classrooms. The grouping was determined by the sponsoring institution. The potential threats to the external validity were addressed and minimized. Thus, allowing for the possibility of the study being replicated. There were no other known threats to external validity.

Internal Validity

The threats to internal validity could impact the findings of the study and pose alternate explanations for findings. The identified potential threats to internal validity were experimenter bias, historical events, instrumentation, maturation, statistical regression, testing bias, and mortality. The experimenter bias was addressed by having qualified professionals to be respondents that had knowledge of the children in the age range identified for this study. Additionally, the respondents were identified using the guidelines of the DP-4 instrument as indicated in the DP-4 manual to ensure the reliability and validity of the data collection (Alpern, 2020). The threat of historical events reoccurring was evident based on the manner the COVID-19 pandemic affected daily living worldwide. This internal threat was addressed by only having subjects that were attending a full day traditional classroom setting. The internal threat of instrumentation was addressed by respondents completing the instrument in the manner prescribed by the publisher in order to maintain the reliability and validity of the scores. The internal threat of maturation was addressed by the norming process of the DP-4 standardized instrument. The typically developing students may mature at various rates throughout the study. The internal threat of statistical regression was addressed by limiting the scope of time the study was conducted. The internal threat of testing bias was addressed by the DP-4 instrument being completed by a respondent once for each identified subject during the study. The internal threat of mortality of respondents dropping out of the study may impact the sample size of the study. This was addressed by ensuring the recommended sample size was achieved so that the threat of mortality did

not impact the outcome. The potential threats to the internal validity for the study were addressed and minimized.

Construct Validity

The construct validity was addressed through using the correct measures to analyze the data. It was important to select the correct statistical analysis to address the research question in order to eliminate a threat to construct validity. Further, the instrument was a standardized, normed assessment that has strong validity outcomes. The potential threats to the construct validity for the study were addressed and minimized.

Ethical Procedures

I conducted this study following the approvals from the Walden University IRB (08-30-22-0438953) and Sunshine Public School District (2534). The request to conduct research in the sponsoring institution required the Walden University IRB approval to be submitted with the request to conduct research in Sunshine Public School District. All approvals were obtained prior to commencing the study. All documentation for permission to access prekindergarten teachers to obtain voluntary consent for their participation in the study, data acquisition, school site administrators, and district employees, as it relates to the study, was provided to the Walden University IRB.

All respondents in the study were treated in an ethical manner and not used for economic or personal gain. I provided the respondents a consent form to request their voluntary participation in the study. The respondents and the selected subjects remained anonymous, and all personally identifiable information was redacted. Respondents that chose not to participate in the study were not included in the study. For any respondents

that decided to withdraw from the study, at any time, were removed from the study at the point of receipt of notification of withdrawal. The identity of the respondents was kept confidential. The names of the schools and teachers were not identified in the study. There was no identifiable information that were shared in the results that revealed who participated in the study. I conducted this study in adherence to the policies and procedures of both institutions.

I was associated with Sunshine Public School District but there were no possible barriers or conflicts of interest regarding my professional role. I did not have any direct supervision or direct work function with early childhood programs or prekindergarten instructional programs in Sunshine Public School District. I informed the respondents of my professional role in the consent form. I identified my role with the sponsoring institution and indicated that this study was completely separate from that role.

All confidential information collected was secured on a password protected flash drive. I secured the flash drive in a locked safe and access was limited to me. The research material will remain protected. After the conclusion and final approval of the study, the confidential information and data will be stored for five years and then securely destroyed.

Summary

This quantitative, quasi-experimental, nonequivalent study provided data that may determine how DP-4 standard scores differ between typically developing students that participate in the prekindergarten program delivery models of inclusion and noninclusion. By examining the research question, the results may yield new knowledge that may

inform the research and assist educational organizations in addressing a gap in the literature and inform educational policy for typically developing prekindergarten children in an inclusive setting and its effects on their developmental domains. The data were analyzed to determine its effect on how it may inform the practice. In Chapter 4 the statistical analysis based on the research question was interpreted and explained.

Chapter 4: Results

The purpose of this quantitative, quasi-experimental, nonequivalent study was to compare the effects of inclusive versus noninclusion regular education prekindergarten programs on the developmental skills of typically developing children in the physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains. I used the DP-4 Teacher Checklist to obtain data on standard scores in the domain areas of physical, adaptive behavior, social-emotional, cognitive, and communication (see Alpern, 2020). I compared the DP-4 standard scores data of typically developing children who participated in an inclusion prekindergarten program to typically developing children who participated in a noninclusion regular education prekindergarten program.

Research Question and Hypotheses

RQ: To what extent does the type of prekindergarten program delivery setting (inclusion versus noninclusion) effect the DP-4 standard scores for physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains of typically developing children?

H_0: There is no statistically significant difference between the DP-4 standard scores for physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains of typically developing prekindergarten children in inclusion versus noninclusion settings.

H_a: There is a statistically significant difference between the DP-4 standard scores for physical, adaptive behavior, social-emotional, cognitive, and communication

developmental domains of typically developing prekindergarten children in inclusion versus noninclusion settings.

I used a MANOVA to address the research question and the hypotheses. The independent variable was the prekindergarten classroom setting with two modes of delivery (inclusion or noninclusion). The dependent variables were the physical, adaptive behavior, social-emotional, cognitive, and communication standard scores of typically developing children, as measured by DP-4, based on the program delivery setting (inclusion versus noninclusion).

In this chapter, I interpret the study's results and explain the recruitment and data collection, the sample's descriptive and demographic characteristics, evaluation of the statistical assumptions, analysis of the study's data, summary of the findings and response to the research question.

Data Collection

I conducted this study with approval from the Walden IRB and Sunshine Public School District. I obtained all approvals prior to commencing the study. On August 30, 2022, Walden IRBs approval was obtained under number 08-30-22-0438953 and expired on August 29, 2023. The sponsoring institution's approval was obtained on September 26, 2022, under number 2534 and expired on June 30, 2023. In order to complete data collection with the sponsoring institution, an extension was requested. The sponsoring institution approved an extension of approval number 2534 with an expiration date of June 30, 2024 (see Appendix B).

The population I studied were children participating in prekindergarten programs in the Sunshine Public School District. The total population size of the children participating in prekindergarten inclusion and noninclusion classes were approximately 7,150 students. There were a variety of program offerings available within Sunshine Public School District which included prekindergarten offerings in special education inclusion, Head Start, Title I, fee supported full-day programming and fee supported half-day programming. The special education prekindergarten classes consisted of approximately 2,700 students. The Head Start prekindergarten classes consisted of approximately 750 students. The Title I prekindergarten classes consisted of approximately 3,000 students. The fee supported full-day prekindergarten classes consisted of approximately 700 students. The sample in this study represented the early childhood population of inclusion and noninclusion programming in the sponsoring institution in similar proportions to the total population.

The perspective pool represented schools from various areas within the sponsoring institution. Based on the data provided in November 2022, there were 217 schools that had prekindergarten programming that consisted of 130 inclusion and 357 noninclusion prekindergarten classes meeting the inclusion criterion. After review of the programming for inclusion and noninclusion classes, I excluded six schools from the recruitment efforts. Three of the schools were excluded because the self-contained prekindergarten programming did not meet the inclusion criteria. I excluded one of the schools because the early prekindergarten programming did not meet the age inclusion criteria. This school did not have any other types of prekindergarten programming. Two

of the prekindergarten programs were overseen by the migrant education department. During the course of the recruitment efforts, I determined that permission to conduct the study could not be obtained by a school principal.

The pool of schools consisted of the remaining 211 schools. The recruitment efforts were commenced in mid-February 2023 and concluded in July 2023. The recruitment efforts from the remaining 211schools resulted in 36 principals providing permission for the study to occur with their staff, five principals not permitting the study to occur with their staff, and 170 school principals provided no response regarding the study. From the 36 schools, 65 teachers were invited to participate and 34 consented to participate. Two consenting teachers were withdrawn from the study due to their students being excluded based on the inclusion and exclusion criteria. During the course of the data collection, seven consenting teachers were withdrawn from the study.

During mid-February 2023, for schools remaining in the pool, I emailed the principals to request permission to conduct the study. I emailed each principal and conducted follow-up phone calls to obtain permission. One principal indicated that additional permission was needed from their supervisor before permission could be granted. Two principals requested additional information regarding the study and video conferencing were held to provide the study and data collection process. Both principals provided their consent after the video conferencing session.

I reached out to the district's contact person that initially provided the programming data to review the pool of schools. After a review of the pool of schools, I learned that the prekindergarten programs were conducting assessments and preparing for

the upcoming school recess. I sent a follow-up email to the principals prior to the spring break recess. By the end of March 2023, I received five responses that indicated their staff were not available due to other school site demands, being involved in showcasing the prekindergarten classroom for the district, already committed to another study and did not want to burden their teachers unduly or simply they did not want their staff to participate in the study.

During the month of March 2023, for the principals that provided consent to conduct the study, I reached out to their identified teachers. Several of the teachers agreed to volunteer for the study. The process of data collection had begun. The respondents were eager to participate and very responsive to email communications. I noted that the majority of my data collection was being done with teachers in the noninclusion setting. I reached out to the district again to determine if there were any unforeseen barriers that may be affecting the response rate. I determined that the teacher's work obligations at the time of the study were very demanding. The district's contact person encouraged me to continue to reach out to the principals and the other district officials to notify them of the approved study.

During the month of April 2023, I noticed the response rate for permission was increased. Further I noted that some teachers were not interested in participating in the study. All teachers were told that their participation was voluntary. It was apparent that the response rate for the noninclusion teachers was higher than the inclusion teachers. The needed sample size for the noninclusion grouping was almost fulfilled. Some of the consenting teachers, indicated that they were interested in participating but it would be

after the close of the school year. Additional subjects that met the inclusion criteria were still needed. By the end of April 2023, the needed sample size for the noninclusion group was reached. As such, data collection from the noninclusion group respondents was concluded.

During the month of May 2023, all of my recruitment efforts focused on prekindergarten inclusion classes. I followed up based on the pool for recruitment with emails and phone calls to the school principals to ask them to consider the study, specifically for the inclusion classrooms since the sample size had not been reached. Afterwards, additional principals provided permission for the study to be conducted with their inclusion teachers. Once the teachers volunteered, I continued to monitor the response rates for the inclusion group. I conducted follow-up emails to check-in with the teachers and offer support, if needed. Several teachers emailed that they had not forgotten about the study but needed to fulfill school obligations. Some teachers volunteered to submit additional subjects that met the inclusion criteria than the requested four subjects.

During the month of June 2023, I closely monitored the response rate and continued to seek respondents. The sponsoring institution's approval was slated to expire on June 30, 2023. In mid-June, the rate of response increased, and seven subjects' responses were needed to reach the sample size. Toward the end of the month, one subjects' response was needed to reach the sample size. I requested an extension of the approval. The extension was granted. In the month of July 2023, the sample size for the inclusion group was achieved. The data collection was concluded in July 2023.

The 25 consenting teachers that completed all aspects of the data collection represented 15 inclusion mode of instruction and 10 noninclusion mode of instruction. The total number of subjects submitted were 145, of which 73 represented typically developing students that participated in an inclusion mode of instruction and 72 represented typically developing students that participated in a noninclusion mode of instruction.

The process of cleaning the data included considering the assumption of outliers. To address the assumptions of outliers and having evenly distributed groupings, nine subjects were removed from the study. The cleaned data have a total of 136 subjects of which 68 represented typically developing students that participated in an inclusion mode of instruction and 68 represented typically developing students that participated in a noninclusion mode of instruction. The clean data set of 136 subjects met the required minimum of 135 subjects for the sample size and 136 subjects in order to distribute the subjects evenly into two mode of instruction groups. The groups consisted of subjects that were 3, 4, and 5 years old with 64 males and 72 females being primarily in the ethnic groups of Hispanic and Black/African American non-Hispanic (see Tables 2 - 4 below).

Table 2

Age Frequencies

Age		
	N	%
3	4	2.9%
4	65	47.8%
5	67	49.3%

Table 3

Gender Frequencies

Gender		
	N	%
Male	64	47.1%
Female	72	52.9%

Table 4

Ethnicity Frequencies

	N	%
Hispanic	72	52.9%
White non-Hispanic	14	10.3%
Black/African American non-Hispanic	40	29.4%
Asian non-Hispanic	3	2.2%
Multiracial non-Hispanic	5	3.7%
Other non-Hispanic	2	1.5%

The descriptive statistics included information regarding the independent variable for each group by the mean, standard deviation and number of cases based on the dependent variables (see Table 5 below). The data are expressed in terms of mean ± standard deviation. Typically developing children in the inclusion group for physical, social-emotional, cognitive and communication DP-4 standard scores were higher (104.1 ± 12.3, 110.7 ± 15.6, 110.3 ± 16.9, and 113.5 ± 15.9, respectively) than the noninclusion group (100.0 ± 15.3, 109.4 ± 16.9, 105.7 ± 17.1, and 110.0 ± 18.3, respectively). Typically developing children in the noninclusion group for adaptive behavior DP-4

standard score was higher in the noninclusion group (114.8 ± 15.7) than the inclusion group (112.2 ± 18.3).

Table 5

Descriptive Statistics

	Program Type	Mean	Std. Deviation	N
Physical Std Score	Inclusion	104.07	12.343	68
	Noninclusion	100.00	15.332	68
	Total	102.04	14.016	136
Adaptive Behavior Std Score	Inclusion	112.24	18.336	68
	Noninclusion	114.78	15.718	68
	Total	113.51	17.062	136
Social-Emotional Std Score	Inclusion	110.71	15.619	68
	Noninclusion	109.44	16.922	68
	Total	110.07	16.235	136
Cognitive Std Score	Inclusion	110.32	16.928	68
	Noninclusion	105.68	17.108	68
	Total	108.00	17.115	136
Communication Std Score	Inclusion	113.49	15.915	68
	Noninclusion	110.03	18.335	68
	Total	111.76	17.192	136

Treatment and/or Intervention Fidelity

The sponsoring institution provided the inclusion and noninclusion prekindergarten classes beginning August 2022. The programs were implemented as planned without any challenges or adverse events. The required six-month implementation period was from mid-August 2022 to mid-February 2023. The prekindergarten classroom setting with two modes of delivery (inclusion or noninclusion) were implemented for at least 6 months prior to data collection, as planned. The period of implementation ranged from 6 months to 10 months based on administration dates of the DP-4 Teacher Checklists.

The experimental group were 3, 4, and 5 years old typically developing children who participated in prekindergarten ESE special education inclusion classes, fee supported full-day inclusion classes that included Title I schools based on school boundaries. The control group were 3, 4, and 5 years old typically developing children who participated in prekindergarten noninclusion regular education Head Start, Title I, or fee supported full-day classes based on school boundaries.

The prekindergarten classroom setting modes of delivery (inclusion or noninclusion) were determined by reviewing the data from sponsoring institution regarding prekindergarten delivery models for typically developing students, data on students with disabilities class placement based on delivery models, age of children enrolled in the delivery models, date of enrollment, and type of class participation of full day, half day or distance learning. The data were cleaned to identify the pool of eligible prekindergarten programs by school for both groupings based on exclusion criteria. The pool represented the schools that were included in the study's recruitment efforts.

Dissertation Results

The dissertation results yielded the findings outlined hereafter in this section. The assumptions that were related to MANOVA were examined using SPSS statistics.

Statistical Assumptions

Assumption 1. The first assumption of having "two or more dependent variables that are measured at the continuous level" is needed for the MANOVA analysis (Laerd Statistics, 2015, p. 3). The dependent variables were the DP-4 standard scores in the domain areas of physical, adaptive behavior, social-emotional, cognitive, and

communication standard scores of typically developing children, as measured by the DP-4 Teacher Checklist (see Alpern, 2020). In evaluating this assumption, it was verified that there were five dependent variables, and they were measured as continuous. This assumption was met.

Assumption 2. The second assumption of having "one independent variable that consists of two or more categorical, independent groups" is needed for the MANOVA analysis (Laerd Statistics, 2015, p. 3). In evaluating this assumption, it was verified that there was one independent variable separated into two categorical, independent groups. The independent variable was the prekindergarten classroom setting with two modes of delivery (inclusion or noninclusion). This assumption was met.

Assumption 3. The third assumption of having "independence of observations" is needed for the MANOVA analysis (Laerd Statistics, 2015, p. 3). In evaluating this assumption, it was verified that the groups had independence of observations with no relationships between the groups. This assumption was met.

Assumption 4. The fourth assumption of having "no univariate or multivariate outliers" is needed for the MANOVA analysis (Laerd Statistics, 2015, p. 7). In evaluating this assumption, the assumption test revealed that there were outliers present based on the box plots. To assist with determining which outliers warranted removal, the DP-4 General Development Score was used to provide insight into overall scope of the subjects' development scale scores that may be contributing to the outliers. The General Development Score revealed five subjects that were classified as "Delayed". This represented 3.45% of the total sample. One of five subjects had delays noted in all five

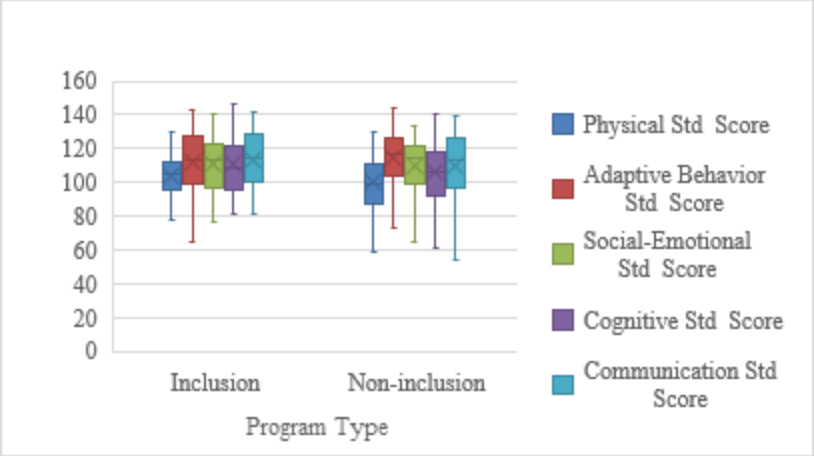
developmental domain areas. This represented 0.69% of the total sample. One of five subjects had delays noted in three developmental domain areas. This represented 0.69% of the total sample. Three of five subjects had delays noted in two developmental domain areas. This represented 2.07% of the total sample.

In order to address the presence of outliers, the assumption test for outliers was repeatedly completed using SPSS statistics to achieve a data set with no outliers. It was noted that removing one subject may generate another subject as an outlier. I conducted several trials of removing outliers or extreme outliers using different combinations in the trials to identify persistent outliers. This resulted in identifying that the subjects with three or more delays were presenting as outliers in multiple trials. Also, subjects that were 3 years old or a subject with four or more "Well Above Average" standard score descriptive range presented as contributing factors to outliers in the box plots.

The data set outliers were removed with consideration to the assumptions. Once the data were cleaned, it was determined there were no univariate outliers based on the inspection of the boxplots (see Figure 1 below). Further with evaluating this assumption, it was verified that there were no multivariate outliers in the data, as assessed by Mahalanobis distance ($p > .001$) (Laerd Statistics, 2015, p. 12). This assumption was met.

Figure 1

Boxplots Statistics



Assumption 5. The fifth assumption of having multivariate normality is needed for the MANOVA analysis. In evaluating this assumption, it was verified through statistical analysis based on assessed Normal Q-Q Plots, the data set was normally distributed (Laerd Statistics, 2015). The inclusion and noninclusion groupings were evenly distributed for each developmental domain as assessed by Normal Q-Q Plots (see Figures 2 – 6 below). This assumption was met.

Figure 2

Physical Standard Score Q-Q Plot

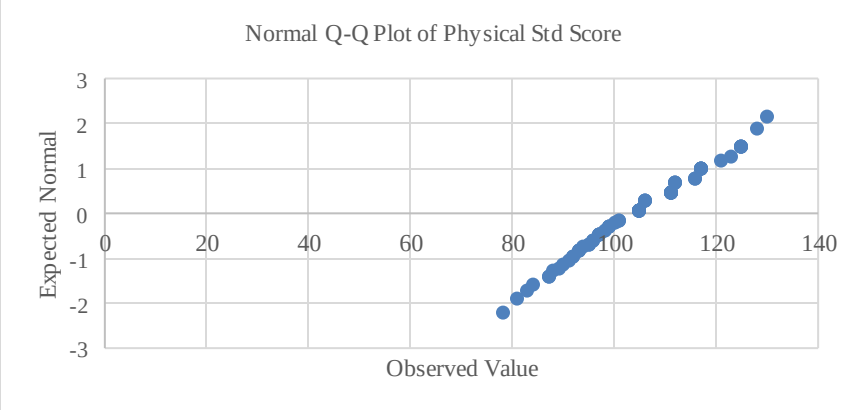


Figure 3

Adaptive Behavior Standard Score Q-Q Plot

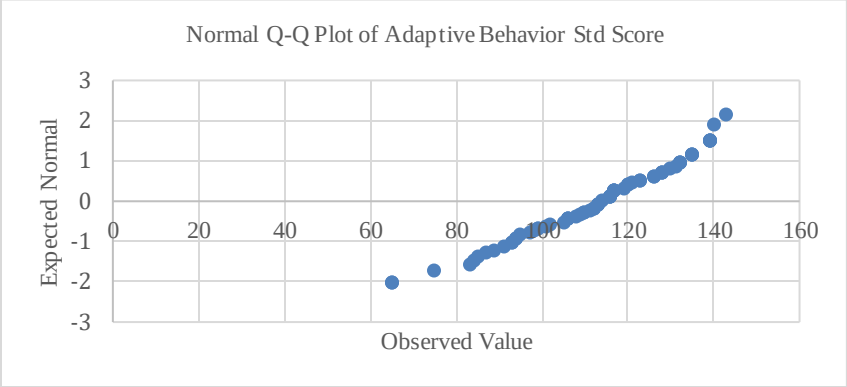


Figure 4

Social-Emotional Standard Score Q-Q Plot

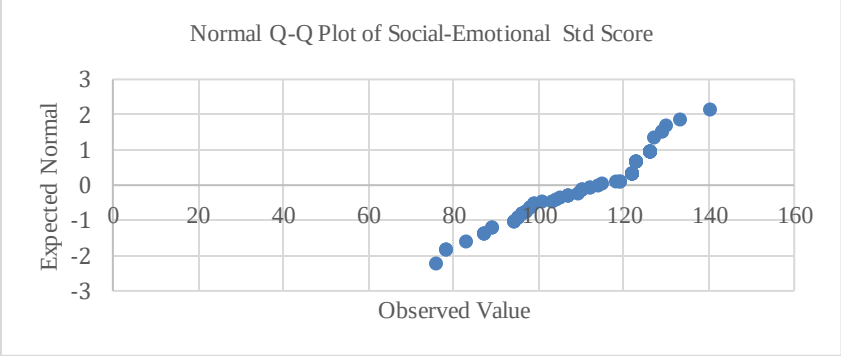


Figure 5

Cognitive Standard Score Q-Q Plot

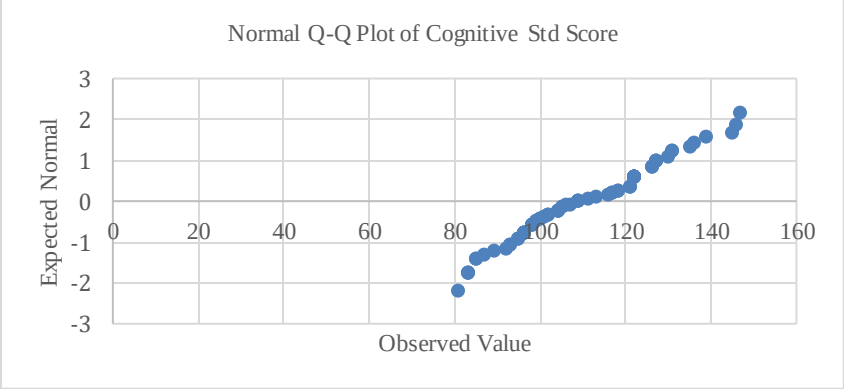
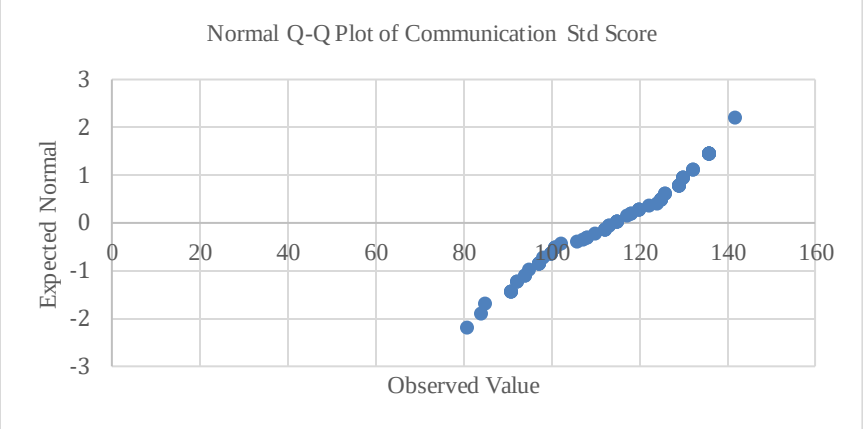


Figure 6

Communication Standard Score Q-Q Plot



Assumption 6. The sixth assumption of having "no multicollinearity" is needed for the MANOVA analysis (Laerd Statistics, 2015, p. 9). In evaluating this assumption, it was verified that multicollinearity did not exist among the dependent variables evidenced by multivariate normality being present based on assessment of Pearson correlations. There was no multicollinearity (see Table 6 below), as assessed by Pearson correlation ranges of r = .44 to .79, p < .001. This assumption was therefore met.

Table 6

Pearson Correlations

		Physical Std Score	Adaptive Behavior Std Score	Social-Emotional Std Score	Cognitive Std Score	Communication Std Score
Physical Std Score	Pearson Correlation	1	.471**	.444**	.573**	.599**
	Sig. (2-tailed)		<.001	<.001	<.001	<.001
	N	136	136	136	136	136
Adaptive Behavior Std Score	Pearson Correlation	.471**	1	.788**	.626**	.601**
	Sig. (2-tailed)	<.001		<.001	<.001	<.001
	N	136	136	136	136	136
Social-Emotional Std Score	Pearson Correlation	.444**	.788**	1	.650**	.636**
	Sig. (2-tailed)	<.001	<.001		<.001	<.001

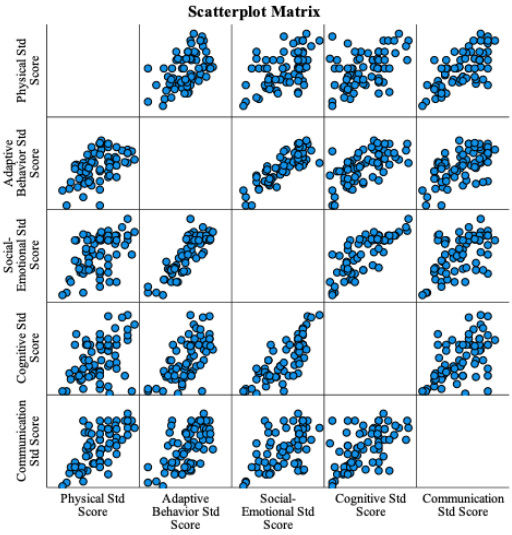
	N	136	136	136	136	136
Cognitive Std Score	Pearson Correlation	.573**	.626**	.650**	1	.618**
	Sig. (2-tailed)	<.001	<.001	<.001		<.001
	N	136	136	136	136	136
Communication Std Score	Pearson Correlation	.599**	.601**	.636**	.618**	1
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	
	N	136	136	136	136	136

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

Assumption 7. The seventh assumption of having "a linear relationship between the dependent variables for each group of the independent variable" is needed for the MANOVA analysis (Laerd Statistics, 2015, p. 10). In evaluating this assumption, it was verified that there was a linear relationship between the dependent variables within the group to the independent variable based on assessed scatter plots (see Figure 7 below). This assumption was met.

Figure 7

Scatterplot Matrix



Assumption 8. The eighth assumption of having "adequate sample size" is needed for the MANOVA analysis (Laerd Statistics, 2015, p. 3). In evaluating this assumption, it was verified that with the data collected, the independent groups were not equal in size. Thus, the data were cleaned by removing the outliers as described herein to obtain equal number of subjects in each independent grouping. The balancing of each independent grouping was done in conjunction with consideration of the assumption of having no outliers. The initial removal of all of the outliers identified in the box plots subjects caused the sample size to be below the required minimum. Therefore, multiple trials of removing different combinations of identified outliers were done to achieve the required sample size. The Between-Subject Factors statistical analysis indicated that the groupings were evenly distributed, and the study's required sample size was achieved (see Table 7 below). This assumption was thus met.

Table 7

Between-Subjects Factors

		Value Label	N
Program Type	1	Inclusion	68
	2	Non-inclusion	68

Assumption 9. The ninth assumption of having "homogeneity of variance-covariance matrices" is considered for the MANOVA analysis (Laerd Statistics, 2015, p. 3). In evaluating this assumption, it was verified that the homogeneity of variance-covariances matrices was not present, as assessed by Box's test of equality of covariance matrices ($p < .001$) (see Table 8 below). Laerd Statistics (2015) indicated that "if you have equal sample sizes (i.e., groups have similar sizes), a violation of the homogeneity of variances-covariance matrices should not concern the researcher" and the analysis of data can continue "using Pillai's Trace instead of Wilks' Lambda" (p. 14). This assumption was assessed, and it was determined to continue with the statistical analysis.

Table 8

Box's Test of Equality of Covariance Matrices

Box's M	56.668
F	3.627
df1	15
df2	72296.526
Sig.	<.001

Note. Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.
a. Design: Intercept + Program Type

Assumption 10. The tenth assumption of having "homogeneity of variances" is needed for the MANOVA analysis (Laerd Statistics, 2015, p. 3). In evaluating this assumption, it was verified that homogeneity of variance was present, as assessed by Levene's Test of Homogeneity of Variance ($p > .05$) (Laerd Statistics, 2015, p. 14) (see Table 9 below). This assumption was met.

Table 9

Levene's Test of Equality of Error Variances

		Levene Statistic	df1	df2	Sig.
Physical Std Score	Based on Mean	3.467	1	134	.065
	Based on Median	3.491	1	134	.064
	Based on Median and with adjusted df	3.491	1	129.146	.064
	Based on trimmed mean	3.551	1	134	.062
Adaptive Behavior Std Score	Based on Mean	1.349	1	134	.248
	Based on Median	1.364	1	134	.245
	Based on Median and with adjusted df	1.364	1	131.816	.245
	Based on trimmed mean	1.314	1	134	.254
Social-Emotional Std Score	Based on Mean	.049	1	134	.825
	Based on Median	.024	1	134	.878
	Based on Median and with adjusted df	.024	1	121.139	.878
	Based on trimmed mean	.020	1	134	.889
Cognitive Std Score	Based on Mean	.238	1	134	.626
	Based on Median	.203	1	134	.653
	Based on Median and with adjusted df	.203	1	131.289	.653
	Based on trimmed mean	.239	1	134	.625
Communication Std Score	Based on Mean	.749	1	134	.388
	Based on Median	.557	1	134	.457
	Based on Median and with adjusted df	.557	1	124.234	.457
	Based on trimmed mean	.691	1	134	.407

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Program Type

It was determined by the first three assumption tests that the MANOVA was the correct statistical test to be used to analyze the data set. The other seven assumptions were tested to determine how the data fit with the model. Given the outcome of the assumptions as being met and being able to proceed with analysis, conducting the MANOVA statistical analysis using SPSS was deemed appropriate.

Statistical Analysis Findings

Based on the statistical analysis of MANOVA (see Table 10 below), it was noted that there was a statistically significant difference (p = .041) between the program types on the combined dependent variables, $F(5, 130) = 2.397$, $p < .05$; Pillai's Trace = .084; partial $\eta^2 = .084$.

Table 10

Multivariate Tests

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.986	1860.670[b]	5.000	130.000	<.001	.986
	Wilks' Lambda	.014	1860.670[b]	5.000	130.000	<.001	.986
	Hotelling's Trace	71.564	1860.670[b]	5.000	130.000	<.001	.986
	Roy's Largest Root	71.564	1860.670[b]	5.000	130.000	<.001	.986
Program Type	Pillai's Trace	.084	2.397[b]	5.000	130.000	.041	.084
	Wilks' Lambda	.916	2.397[b]	5.000	130.000	.041	.084
	Hotelling's Trace	.092	2.397[b]	5.000	130.000	.041	.084
	Roy's Largest Root	.092	2.397[b]	5.000	130.000	.041	.084

a. Design: Intercept + Program Type

b. Exact statistic

According to Laerd Statistics (2015), "to determine which dependent variable would appear to be contributing to the statistically significant MANOVA, you can inspect the one-way ANOVA result for each dependent variable" (p. 18). The analysis of each dependent variable is provided within the Tests of Between-Subjects Effects statistical analysis (see Table 11 below). The results indicate that there was no statistically significant difference (p =.090) in the group means for physical standard scores between the typically developing children in the two delivery groups of inclusion

and noninclusion, $F(1, 134) = 2.913$, $p > .05$; partial $\eta^2 = .021$. The results indicate that there was no statistically significant difference ($p = .387$) in adaptive behavior standard scores between the typically developing children in the two delivery groups of inclusion and noninclusion, $F(1, 134) = .755$, $p > .05$; partial $\eta^2 = .006$. The results indicate that there was no statistically significant difference ($p = .651$) in social-emotional standard scores between the typically developing children in the two delivery groups of inclusion and noninclusion, $F(1, 134) = .205$, $p > .05$; partial $\eta^2 = .002$. The results indicate that there was no statistically significant difference ($p = .114$) in cognitive standard scores between the typically developing children in the two delivery groups of inclusion and noninclusion, $F(1, 134) = 2.535$, , $p > .05$; partial $\eta^2 = .019$. The results indicate that there is no statistically significant difference ($p = .243$) in communication standard scores between the typically developing children in the two delivery groups of inclusion and noninclusion, $F(1, 134) = 1.378$, , $p > .05$; partial $\eta^2 = .010$.

Table 11

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Physical Std Score	564.184[a]	1	564.184	2.913	.090	.021
	Adaptive Behavior Std Score	220.066[b]	1	220.066	.755	.387	.006
	Social-Emotional Std Score	54.382[c]	1	54.382	.205	.651	.002
	Cognitive Std Score	734.235[d]	1	734.235	2.535	.114	.019
	Communication Std Score	406.066[e]	1	406.066	1.378	.243	.010
Intercept	Physical Std Score	1415964.184	1	1415964.184	7309.854	<.001	.982
	Adaptive Behavior Std Score	1752213.007	1	1752213.007	6008.419	<.001	.978
	Social-Emotional Std Score	1647800.735	1	1647800.735	6214.811	<.001	.979
	Cognitive Std Score	1586304.000	1	1586304.000	5477.094	<.001	.976
	Communication Std Score	1698600.007	1	1698600.007	5763.079	<.001	.977
Program Type	Physical Std Score	564.184	1	564.184	2.913	.090	.021
	Adaptive Behavior Std Score	220.066	1	220.066	.755	.387	.006
	Social-Emotional Std Score	54.382	1	54.382	.205	.651	.002
	Cognitive Std Score	734.235	1	734.235	2.535	.114	.019
	Communication Std Score	406.066	1	406.066	1.378	.243	.010
Error	Physical Std Score	25956.632	134	193.706			
	Adaptive Behavior Std Score	39077.926	134	291.626			
	Social-Emotional Std Score	35528.882	134	265.141			
	Cognitive Std Score	38809.765	134	289.625			
	Communication Std Score	39494.926	134	294.738			
Total	Physical Std Score	1442485.000	136				
	Adaptive Behavior Std Score	1791511.000	136				
	Social-Emotional Std Score	1683384.000	136				
	Cognitive Std Score	1625848.000	136				
	Communication Std Score	1738501.000	136				
Corrected Total	Physical Std Score	26520.816	135				
	Adaptive Behavior Std Score	39297.993	135				
	Social-Emotional Std Score	35583.265	135				
	Cognitive Std Score	39544.000	135				
	Communication Std Score	39900.993	135				

a. R Squared = .021 (Adjusted R Squared = .014)
b. R Squared = .006 (Adjusted R Squared = -.002)
c. R Squared = .002 (Adjusted R Squared = -.006)
d. R Squared = .019 (Adjusted R Squared = .011)
e. R Squared = .010 (Adjusted R Squared = .003)

The group means were not statistically significant different ($p > .05$). Therefore, I cannot reject the null hypothesis and I cannot accept the alternative hypothesis.

Summary

The overarching research question in this study was to examine the impact of the delivery settings for typically developing prekindergarten children. The RQ examined was: To what extent does the type of prekindergarten program delivery setting (inclusion versus noninclusion) effect the DP-4 standard scores for physical, adaptive behavior,

social-emotional, cognitive, and communication developmental domains of typically developing children?

The one way MANOVA was used to determine the effect of the prekindergarten program delivery setting (inclusion versus noninclusion) effect the DP-4 standard scores for the five developmental domains for typically developing children. Two measures of program delivery setting were assessed: inclusion and noninclusion. The typically developing prekindergarten children participated in the following types of programming for prekindergarten classes: special education inclusion, Head Start, Title I, and fee supported full-day programming. The typically developing students were from different geographical areas within the district: north, central, and south.

Initial assumption checking revealed that there were five dependent variables for developmental domains of physical, adaptive behavior, social-emotional, cognitive, and communication DP-4 standard scores of typically developing children, and they were measured as continuous; that there was one independent variable separated into two categorical, independent groups of two modes of delivery (inclusion or noninclusion); that the groups had independence of observations with no relationships between the groups; there were no univariate outliers based on the inspection of the boxplots and there were no multivariate outliers in the data, as assessed by Mahalanobis distance ($p > .001$), respectively; the inclusion and noninclusion groupings were evenly distributed for each developmental domain as evidenced by Normal Q-Q Plots; there was no multicollinearity, as assessed by Pearson correlation ranges ($r = .44$ to $.79$, $p < .001$); there was a linear relationship between the dependent variables within the group to the

independent variable, based on assessed scatter plots; there was no multicollinearity among the dependent variables evidenced by multivariate normality, as assessed by Pearson correlation ranges ($r = .44$ to $.79$, $p < .001$); the Between-Subject Factors statistical analysis indicated that the groupings were evenly distributed, and the study's required sample size was achieved; and that homogeneity of variance was present, as assessed by Levene's Test of Homogeneity of Variance ($p > .05$). It was noted that the homogeneity of variance-covariances matrices was not present, as assessed by Box's M test of equality of covariance matrices ($p < .001$). Laerd Statistics (2015) indicated that "if you have equal sample sizes (i.e., groups have similar sizes), a violation of the homogeneity of variances-covariance matrices should not concern the researcher" and the analysis of data can continue "using Pillai's Trace instead of Wilks' Lambda" (p. 14). This assumption was assessed, and it was determined to continue with the statistical analysis.

The descriptive statistics provided information regarding the independent variable for each group by the mean, standard deviation and number of cases based on the dependent variables. The data are expressed in terms of mean ± standard deviation. Typically developing children in the inclusion group for physical, social-emotional, cognitive and communication DP-4 standard scores were higher (104.1 ± 12.3, 110.7 ± 15.6, 110.3 ± 16.9, and 113.5 ± 15.9, respectively) than the noninclusion group (100.0 ± 15.3, 109.4 ± 16.9, 105.7 ± 17.1, and 110.0 ± 18.3, respectively). Typically developing children in the noninclusion group for adaptive behavior DP-4 standard scores were higher in the noninclusion group (114.8 ± 15.7) than the inclusion group (112.2 ± 18.3).

There was a statistically significant difference (p = .041) between the program types on the combined dependent variables, $F(5, 130) = 2.397$, $p < .05$; Pillai's Trace = .084; partial $\eta^2 = .084$. The univariate analysis of variance (ANOVA) results indicated that there were no statistically significant differences in the group means for physical standard scores (p =.090), $F(1, 134) = 2.913$, $p > .05$; partial $\eta^2 = .021$; adaptive behavior standard scores (p = .387), $F(1, 134) = .755$, $p > .05$; partial $\eta^2 = .006$; social-emotional standard scores (p = .651), $F(1, 134) = .205$, $p > .05$; partial $\eta^2 = .002$; cognitive standard scores (p = .114), $F(1, 134) = 2.535$, $p > .05$; partial $\eta^2 = .019$; and communication standard scores (p = .243), $F(1, 134) = 1.378$, $p > .05$; partial $\eta^2 = .010$; using a Bonferroni α level of .05.

Therefore, the results of the statistical analysis indicated that the null hypothesis was not rejected, and the alternative hypothesis could not be accepted. This indicates that there is no statistically significant difference between the DP-4 standard scores for physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains of typically developing prekindergarten children in inclusion versus noninclusion settings.

In Chapter 5, the results are reviewed in the context of the theoretical framework, context of the literature review, and positive social change. The results will be examined to determine if the outcome was aligned with the literature and the U.S. Department of Health and Human Services and U.S. Department of Education (2015) joint policy regarding inclusionary practices in early childhood programs. In Chapter 5, the results are

reviewed in respect to an interpretation of the findings, limitations of the study, recommendations, implications, and conclusions.

Chapter 5: Discussion, Conclusions, and Recommendations

The 21st century educational landscape has been formed as a result of many significant paradigm shifts throughout the history of the United States. The Individuals with Disabilities Education Act (IDEA) of 2004 set forth guidelines for inclusionary practices to ensure that students with disabilities were included with their nondisabled peers, a majority of the school day, to the fullest extent possible. In this study, I examined the need to provide information to address the lack of understanding about the effect of prekindergarten program setting types on the developmental progress of typically developing children participating in an inclusion prekindergarten program as compared to a noninclusion prekindergarten program. I used a quantitative methodology, using a quasi-experimental, nonequivalent design to address the overarching RQ: To what extent does the type of prekindergarten program delivery setting (inclusion versus noninclusion) effect the DP-4 standard scores for physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains of typically developing children?

Based on the statistical analysis of MANOVA, there was a statistically significant difference (p = .041) between the DP-4 standard scores for physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains of typically developing prekindergarten children in inclusion versus noninclusion settings. The follow-up univariate ANOVA tests of between-subjects effects analysis results indicated that there were no statistically significant differences in the group means for physical standard scores (p =.090), $F(1, 134) = 2.913$, $p > .05$; partial $\eta^2 = .021$; adaptive behavior

standard scores (p = .387), F(1, 134) = .755, p > .05; partial η^2 = .006; social-emotional standard scores (p = .651), F(1, 134) = .205, p > .05; partial η^2 = .002; cognitive standard scores (p = .114), F(1, 134) = 2.535, p > .05; partial η^2 = .019; and communication standard scores (p = .243), F(1, 134) = 1.378, p > .05; partial η^2 = .010; using a Bonferroni α level of .05. In this chapter, I provide an interpretation of the findings. I will also discuss the limitations of the study, recommendations, implications, and conclusions.

Interpretation of Findings

I sought to answer the following RQ: To what extent does the type of prekindergarten program delivery setting (inclusion versus noninclusion) effect the DP-4 standard scores for physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains of typically developing children? The stated H_0 was: There was no statistically significant difference between the DP-4 standard scores for physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains of typically developing prekindergarten children in inclusion versus noninclusion settings. Based on results of the MANOVA statistically significant results and subsequent follow up univariate ANOVA not being statistically significant, the null hypothesis cannot be rejected, and I could not accept the alternative hypothesis.

Findings in Relationship with the Literature

The findings of this study have yielded information that will impact knowledge in the educational field. The uniqueness of this study is that the results provided a threefold impact of confirming, disconfirming, and extending knowledge in the field of early childhood and related policy.

Odom et al. (1984) researched the progress of nondisabled students in an inclusive classroom as compared to a noninclusion class. The results indicated that there was no significant difference in the developmental outcomes (Odom et al.,1984). The outcomes of this study confirmed the previous research from the 1980s. Peck et al. (2004) indicated that "relatively little attention is given to nondisabled children in research on inclusion" (p. 135). I reexamined typically developing children's developmental progress in a prekindergarten inclusive setting.

Prior to this study the literature asserted that inclusion programs had positive benefits for both disabled and typically developing students (Noggle & Stites, 2018). Further, the effect of inclusion for preschool students with disabilities has been extensively researched to reveal positive developmental benefits of inclusion, especially in the area of social emotional domain (Diamond, 2001; Holahan & Costenbader, 2000). There was a plethora of research on the social benefits of inclusion for disabled learners; however, the benefits for typically developing children remain unclear.

The outcome of this study disconfirms the area of positive developmental benefits of inclusion is especially focused in the area of social emotional domain. The study extended knowledge from the 2000s, that the social emotional domain is the most significant domain that benefits from participating in an inclusion class. Moreover, this study's results provide current data that the social emotional domain is no longer the most significant domain that benefits from participating in an inclusion class. I confirmed that all five developmental domains had positive developmental benefits from participating in inclusion programming.

There was a paucity of information that addressed, in quantifiable terms, the effect of inclusion on the developmental skills of typically developing children. Previous researchers examined the effect of inclusion in the general education setting and its implications for students with disabilities; however, little attention was given to the confluence effect of inclusion for general education students (Gilmour, 2018). I confirmed that inclusion programs do have a positive benefit for typically developing children that participate in inclusion programs. The results indicated that the developmental domains for the typically developing students participating in an inclusion group are not statistically significantly different from the typically developing children in a noninclusionary group. These results reflect that each developmental domains group means indicate that there were no statistically significant differences between the groups. Thus, there are benefits for typically developing children participating in inclusion delivery setting.

This is extremely informative to the field of education and for the impetus of inclusionary practices. This is interpreted that all typically developing children in the study were developing at an expected rate of developmental growth in both groupings of inclusion and noninclusion. This further indicates that there is no apparent negative impact of being in the class setting with students with disabilities based on the group means of the five developmental domains. Moreover, based on this study's outcome, there is a benefit to participating in the inclusion setting as there were no noted developmental delays for typically developing children. This reaffirms the policy of inclusionary practices.

The results of this study have extended the knowledge of the discipline. Staub and Peck (1995) highlighted three common concerns regarding the effects of inclusion for typically developing children as (a) reduction of academic progress, (b) reduction of teacher time and attention, and (c) will undesirable behavior be learned. Staub and Peck (1995) indicated that after 27 years, the questions are still relevant. After 53 years, by examining the research question, this study's results answer these questions with regard to typically developing prekindergarten children. The cognitive developmental domain group means indicated that there were no statistically significant differences between the groups. Thus, there is no indication of a reduction of academic progress for typically developing students due to participation in an inclusion class. In regard to reduction of teacher time and attention, there is no direct measure of whether teacher time and attention was reduced for the typically developing children. However, given that there were no statistically significant differences in the group means for all five developmental domains, the results provide an indication that developmental growth occurred in both settings, inclusive and non-inclusive. I would interpret these results as an indication the typically developing students did not experience a reduction of the teacher's time and attention in the inclusion group. The social-emotional developmental domain group means indicated that there were no statistically significant differences between the groups. Thus, there is no indication of typically developing students demonstrating learned undesirable behavior.

IDEA provided access to opportunities to discover talents, engagement with nondisabled peers and hope in the future. Inclusion in early childhood programs is a

"core value and prominent feature" of early childhood programs (Guralnick & Bruder, 2016, p. 167). The goal of inclusion is to "reshape attitudes and beliefs and raise expectations so that there is a comprehensive system that meets the individualized learning and developmental needs of all children" (U.S. Department of Health and Human Services & U.S. Department of Education, 2015, p. 3). The outcomes of the study extended the knowledge in the field of education and will assist in reshaping beliefs and setting higher expectations for learning and ensuring that a child reaches their full developmental potential.

Findings in Relationship with the Theoretical Framework

The theoretical framework for this study was Arnold Gesell's maturational theory of development (see Gesell, 1925). Gesell (1925) grounded his work in descriptive and comparative data that could be interpreted. His theory was developed over a century ago and has been refined over the years, but still holds merit with professionals as it accurately describes the process of development (Oliveira, 2018; Salkind, 2004).

Gesell (1925) pioneered the use of quantitative data to determine the developmental stages of children. Gesell's purpose for developing and identifying the developmental norms was to provide a guide that identified each child's individual stage of development (Thelen & Adolph, 1992). Gesell pioneered the theory which is based upon the premise that "children grow and mature through a series of predictable stages in a sequential order in a dynamic, continuous and reflective of the pace unique to each child" (Guddemi et al., 2014, p. 3). The theory provided a linkage to how a child's

development occurs in young children and why the DP-4 norm-referenced instrument was ideal to measure developmental stages in children.

Limitations of the Study

A limitation to the study was the age of the population of the study. Given the age of the students involved, they were considered a vulnerable population. I sought Walden University IRB guidance regarding working with a vulnerable population. During the IRB proposal review phase, I worked with the IRB to ensure compliance with all ethical guidelines. The guidance of the IRB was invaluable, especially in regard to working with children Ages 3, 4, and 5. After the IRB review of the proposal, I was encouraged to use another approach for the data collection given the age group of the subjects, the number of subjects needed, and the study's impact on the educational environment. Given these concerns being raised, I searched for an instrument that could provide the information needed to address the gap in the literature. I researched various instruments that would provide information on developmental domains without me having direct contact with the subjects. The DP-4 Teacher Checklist (Alpern, 2020) was a recent release of the updated version of the DP-3 instrument. The teacher checklist questionnaire allowed for the desired information to be gathered without me having direct contact with the sample population. Instead, the data were collected from the classroom teacher that had direct contact with the subjects and his/her position allowed daily observations of the subjects' growth over time. Moreover, the DP-4 Teacher Checklist "was a quick and accurate way to gather the five developmental domain measurements" (Alpern, 2020).

Another limitation of the study was being dependent upon principal's approval to conduct the study with their staff. It became abundantly clear that obtaining the principal's approval was a barrier that needed to be overcome in order to gain access to the teachers of typically developing children in the selected inclusion and noninclusion classrooms and to meet the needed sample size. Another barrier was that the teachers of typically developing children in the selected inclusion and noninclusion classrooms would not automatically consent to participate in the study if principal permission were given. The district's approval did not guarantee the approval of the principal. Likewise, the principal's approval did not guarantee the consent of the teachers.

Another limitation of the study was the need for a sample size of 136 subjects with at least 68 subjects in each delivery setting of inclusion and noninclusion regular education prekindergarten classrooms. The barrier that presented during the course of the study was the potential to not recruit enough inclusion teachers to provide the needed sample size for the inclusion grouping. A few of the teachers were withdrawn from the study, due to the DP-4 Teacher Checklists not being completed even with reminders being sent. The limitation of teacher nonparticipation was attributed to the completion time of the DP-4 Teacher Checklist may have been longer than anticipated and that their personal time constraints presented a barrier to their continued participation in the study. I realized overcoming the intangible barriers that are inherent to an inclusion classroom would require a focused effort to recruit a sufficient number of the inclusion teachers to participate in the study that would yield the needed sample size.

Another limitation considered was the impact of another COVID-19 worldwide pandemic. During the study, there were no occurrence of a COVID-19 pandemic that affected the world, governmental operations, school operations, or the study. Therefore, this limitation was not present. There were no COVID-19 emotional stressors, impediments to social interactions, parent involvement, lack of resources and instructional supports and lack of typical supports and established routines noted during the study.

The scope of the study was not limited by distance learning schooling options. All subjects were enrolled in a traditional brick and mortar class setting for at least 6 months. The limitation of the length of time approved by the sponsoring institution to implement the data collection needed for the study was addressed by obtaining an extension. The extended approval was for one additional year which removed the limitation completely.

Recommendations

This quantitative, quasi-experimental, nonequivalent study provided data that provided insight about how DP-4 standard scores differ between typically developing students that participate in the prekindergarten program delivery models of inclusion and noninclusion. By examining the research question, this study's results yielded new knowledge that can inform the research, provide assistance to educational organizations, and impacting educational policy for all prekindergarten children and effects on their developmental growth. The data were analyzed to determine its effect on how it may inform the practice.

Based on the results of the study, it was noted that the strength of this study was the ability to gain insight about vulnerable population in the early childhood journey of their lives. This insight is helpful since gaining direct contact with this population is not readily approved during a study. Most dissertation studies use archival data to examine this age group to inform the profession. It would be recommended to replicate this study on a larger scale to ensure current information is gained from a national perspective. A nationwide study would provide an opportunity to gleam additional information about early childhood programming in relationship to ethnic groupings, socioeconomic and geographical considerations.

Another recommendation is for a district or state approach to replicate the study with prekindergarten teachers of inclusion and noninclusion programming through an open invitation method through teacher groups in the workplace. This would allow for additional respondents to be reached that may consider participation if they had full awareness of the opportunity. Another replication recommendation is to conduct a longitudinal study to analyze the data with the DP-4 standard scores over a period of time. The longitudinal study could examine the children beginning at age 3 or 4 and follow their progress in an inclusion setting through the early years of elementary schooling, kindergarten to third grade. This study could be replicated to compare the effects of inclusion programs for typically developing children based on socioeconomic factors and federal funding (i.e., Title 1 and Head Start) which could further inform the field for early childhood programming. Further, this study could be replicated to compare the effects of inclusion programs for typically developing children based on the DP-4

Parent and Teacher checklists for parents and teachers. This could further inform the field for early childhood considering how parents rate their child's development as compared to their child's teacher. Alpern (2020) indicated that "multiple respondents of two parents or one parent and one teacher provide more comprehensive information about the child's skills and difference in scores can be evaluated for significance" (p. 7). Another consideration would be to conduct a mixed method study to gleam additional information about teacher observations in the delivery models. This may provide insight about the intangible barriers that are inherent to an inclusion classroom versus the noninclusion classroom. Lastly, it would be recommended to incorporate an examination of which developmental domains are impacted at a higher rate for the inclusion versus noninclusion groupings.

Implications

This research study provided information to address a lack of understanding and knowledge about the quantifiable progress of developmental skills for typically developing children participating in inclusive prekindergarten programs. The significance to theory, significance to practice, and significance to social change will be shared.

Significance to Theory

The theoretical framework for this study was based on Arnold Gesell's maturational theory of development (Gesell, 1925). This theory was developed over a century ago and has been refined over the years, but still holds merit with professionals as it accurately describes the process of development (Oliveira, 2018; Salkind, 2004). Gesell's theory focuses on how children develop in a predetermined manner in fixed

developmental stages in which all children progress through the defined stages (Gesell, 1925; Guddemi, 2016). Gesell pioneered studies that focused on the developmental stages of young children. His concept that development occurs in stages and is characterized by the child's developmental age and the child's chronological age, which may differ (Gesell, 1925, 1928; Oliveira, 2018; Salkind, 2004).

I used the maturational theory of development as the theoretical framework to examine development in this study. In respect to developmental milestones, the maturational theory of development has been a strong foundation in the contributions to the work on developmental stages in children. Also, the theoretical framework provided a solid foundation for the five domains DP-4 standard scores measured. Further, comparing the extent to which the five domains DP-4 standard scores differ by type of prekindergarten program delivery setting (inclusion versus noninclusion) was appropriate for determining the stage of development. Gesell's maturational theory of development speaks to the relevance of the theoretical framework and its theory, even a century old, still informs research.

Significance to Practice

The effect of inclusion for preschool students with disabilities has been extensively researched to reveal positive developmental benefits of inclusion, especially in the area of social emotional domain (Diamond, 2001; Holahan & Costenbader, 2000). However, the benefits for typically developing children remain unclear in recent research. There was a paucity of information that addressed, in quantifiable terms, the effect of inclusion on the developmental skills of typically developing children.

This information would benefit the district and school leaders as they provide guidance to parents when inquiries or concerns arise regarding class placement. The practice of inclusion is supported by the results of this study given that there were no statistically significant differences found in the growth of typically developing students in inclusion versus noninclusion class groupings. This is useful in planning for educational placement since that data indicates that there is no negative impact from participating in these types of settings.

The outcome of this study disconfirms the area of positive developmental benefits of inclusion is especially focused in the area of social emotional domain. Moreover, this conducted study provided current data that the social emotional domain is not the most significant domain that benefits from participating in an inclusion class. The study's results extended knowledge from the 2000s, that the social emotional domain is the most significant domain that benefits from participating in an inclusion class. This study has affirmed that the benefit of inclusion extends beyond the social-emotional domain and confirms that all five of the developmental domains of physical, adaptive behavior, social-emotional, cognitive, and communication had positive developmental benefits from participating in inclusion programming.

It was apparent that all of the typically developing children in the study were developing at an expected rate of developmental growth in both groupings of inclusion and noninclusion. This further indicates that there is no apparent negative impact of being in the class setting with students with disabilities based on the group means of the five developmental domains. The outcome of this study supports that there is a plausible and

viable reason to promote inclusive practices for typically developing students because the data supports that inclusion is beneficial for all students, not solely for students with disabilities. Thus, providing data to consider the posed question of whether early childhood programs were being "designed to meet the needs of the typically developing children or those with special needs" (Hustedt & Barnett, 2011, p. 169).

It is imperative that educational staff continue to reinforce their knowledge of the underpinnings of inclusionary practices. The results of this study support districtwide trainings to inform staff of the benefits of inclusionary practices for typically developing children. These professional learning opportunities will allow staff to understand the components of IDEA and why inclusion is beneficial for all children, specifically for typically developing children. In the light of the significance of this study, the educational practice would benefit from program evaluations, to provide a focused analysis of programming to ensure that decisions are grounded in the policy of enhancing the progress of all children.

The uniqueness of this study is that the results provided a threefold impact of confirming, disconfirming, and extending knowledge in the field of early childhood and related policy. As such, the results of the statistical analysis indicated that the null hypothesis was not rejected, and the alternative hypothesis could not be accepted. This indicates that there is no statistically significant difference between the DP-4 standard scores for physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains of typically developing prekindergarten children in inclusion versus noninclusion settings. This information has provided a new and important

contribution to the research about the positive effects of inclusive programs on the five developmental domains of typically developing children regardless of delivery setting.

Significance to Social Change

Insights gained from this study may assist states and local educational agencies in planning for early childhood educational programs. The outcomes of this study provided research that assists in informing educational policy regarding program planning for inclusive prekindergarten programs. The understanding that inclusion has evolved to positively impact the skills for all students participating in prekindergarten programs.

The group means provided information that typically developing children are thriving in both class settings of inclusion and noninclusion. With this information, the educators and policy makers can promulgate that inclusion provides opportunity for growth in all aspects of a child's development. This may lead to more program offerings of inclusionary prekindergarten classes. Parents can be provided more options to voluntarily include their typically developing prekindergarten child in an inclusionary program. The results of this study provided information that is significant to social change. The new information gleamed from this study informs and fills the gap in literature regarding the benefits for typically developing children participating in prekindergarten inclusion programming. Furthermore, the results of this study provided insight into having better learning outcomes than those experienced more than 50 years ago. Equally important, the ability for children to grow and develop in meaningful ways alongside their peers and to thrive together leading to better lives for all children.

Conclusions

The purpose of this quantitative, quasi-experimental, nonequivalent study was to compare the effects of inclusive versus noninclusion regular education prekindergarten programs on the developmental skills of typically developing children in the physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains. The RQ that I sought to answer was: To what extent does the type of prekindergarten program delivery setting (inclusion versus noninclusion) effect the DP-4 standard scores for physical, adaptive behavior, social-emotional, cognitive, and communication developmental domains of typically developing children?

Based on the SPSS results of the MANOVA analysis, the results yielded a statistically significant result ($p = .041$). The subsequent follow up univariate ANOVA analysis yielded a result of not being statistically significant. Thus, the null hypothesis cannot be rejected, and I cannot accept the alternative hypothesis. These results reflect that each developmental domains group means indicate that there were no statistically significant differences between the groups. Thus, there are benefits for typically developing children participating in an inclusion delivery setting. This is extremely informative to the field of education and for the impetus of inclusionary practices.

I interpreted the data as all typically developing children in the study were developing at an expected rate of developmental growth in both groupings of inclusion and noninclusion. This further indicates that there is no apparent negative impact of being in the class setting with students with disabilities based on the group means of the five developmental domains. Moreover, based on this study's outcome, there is a benefit to

participating in the inclusion setting and there were no noted negative impacts on the developmental domains for typically developing children.

The results of this study have confirmed that all five developmental domains had positive developmental benefits from participating in inclusion programming. It should be noted that there were no statistically significant differences in the means of the groups because the benefit of inclusion yields growth for children and improved outcomes in the classroom. These results reaffirm the policy of inclusionary practices.

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Appendix A: Sponsoring Institution's Approval

September 26, 2022

District Support
Mrs. Danita Duhart
[ADDRESS REDACTED]

Dear Mrs. Duhart:

I am pleased to inform you that the Research Review Committee (RRC) of [DISTRICT NAME REDACTED] has granted approval for your request to conduct the study "Effects of Inclusive Prekindergarten Programs on Developmental Skills of Typically Developing Children" in order to fulfill the requirements of your dissertation at Walden University.

The approval is granted with the following conditions:
1. Participation is at the discretion of the principal and/or administrator of the targeted school and/or office. Please note that even with the approval of the RRC, it is still the responsibility of the principal as the gatekeeper of the school to decide whether or not to participate or not. As stated in Board rule 2605, "… the principal of the individual school has the privilege of deciding if RRC-approved research will be conducted within his/her school." **A copy of this approval letter must be presented/and shared with the administrator of the targeted site**.
2. The purpose of this study is to compare the effects of inclusive versus regular education programs on the developmental skills of typically developing children in the physical, adaptive behavior, social-emotional, cognitive, and communication development domains.
3. As stated in your application, all teachers' consents forms must be obtained before any stakeholders can participate in the study. All targeted participants must be informed of all aspects of the study and its implication in an easy-to-understand language.
4. The data collection will consist of asking the voluntary participation of approximately 40 teachers who will complete a Teacher Checklist questionnaire.
5. If applicable, all students' data must be handled following the strict guidelines and protocols of the Family Educational Right to Privacy Act (FERPA).

It should be emphasized that the approval of the Research Review Committee does not constitute an endorsement of the study. It is simply a permission to request the voluntary cooperation in the study of individuals associated with [DISTRICT NAME REDACTED]**.**

It is your responsibility to ensure that appropriate procedures are followed in requesting an individual's cooperation, and that all aspects of the study are conducted in a professional manner. About the latter, make certain that all documents and instruments distributed within [DISTRICT NAME REDACTED] as a part of the study are carefully edited.

The approval number for your study is 2534. This number should be used in all communications to clearly identify the study as approved by the RRC. The approval expires on 06/30/2023. During the approval period, the study must adhere to the design, procedures and instruments which were submitted to the Committee. Please note that since this study is longitudinal in design, extensions will be granted upon receipt of a request with an updated IRB approval. Finally, please submit to the RRC an abstract of the research findings and/or preliminary findings as they become available.

If there are any changes in the study as it relates to [DISTRICT NAME REDACTED]**, the RRC must be notified in writing. Substantial changes may necessitate resubmission of the request. Failure to notify me of such a change may result in the cancellation of the approval.**
If you have any questions, please call me at [NUMBER REDACTED]. On behalf of the Research Review Committee, I want to wish you every success with your study.

Sincerely,
[CHAIRPERSON'S NAME REDACTED]
Chairperson, Research Review Committee APPROVAL NUMBER: **2534** APPROVAL EXPIRES: **06/30/2023 (*)**

Appendix B: Extension of Sponsoring Institution's Approval

July 7, 2023
Extension - **District Support**

Mrs. Danita Duhart
[ADDRESS REDACTED]

Dear Mrs. Duhart:
I am pleased to inform you that the Research Review Committee (RRC) of [DISTRICT NAME REDACTED] has granted approval for your request for an **extension** to continue the study "Effects of Inclusive Prekindergarten Programs on Developmental Skills of Typically Developing Children" in order to fulfill the requirements of your dissertation at Walden University.

The approval is granted with the following conditions:
1. Participation is at the discretion of the principal and/or administrator of the targeted school and/or office. Please note that even with the approval of the RRC, it is still the responsibility of the principal as the gatekeeper of the school to decide whether or not to participate or not. As stated in Board rule 2605, "… the principal of the individual school has the privilege of deciding if RRC-approved research will be conducted within his/her school." **A copy of this approval letter must be presented/and shared with the administrator of the targeted site**.
2. The purpose of this study is to compare the effects of inclusive versus regular education programs on the developmental skills of typically developing children in the physical, adaptive behavior, social-emotional, cognitive, and communication development domains.
3. As stated in your application, all teachers' consents forms must be obtained before any stakeholders can participate in the study. All targeted participants must be informed of all aspects of the study and its implication in an easy-to-understand language.
4. The data collection will consist of asking the voluntary participation of approximately 40 teachers who will complete a Teacher Checklist questionnaire.
5. If applicable, all students' data must be handled following the strict guidelines and protocols of the Family Educational Right to Privacy Act (FERPA).

It should be emphasized that the approval of the Research Review Committee does not constitute an endorsement of the study. It is simply a permission to request the voluntary cooperation in the study of individuals associated with [DISTRICT NAME REDACTED]**.**
It is your responsibility to ensure that appropriate procedures are followed in requesting an individual's cooperation, and that all aspects of the study are conducted in a professional manner. About the latter, make certain that all documents and instruments distributed within [DISTRICT NAME REDACTED] as a part of the study are carefully edited.
The approval number for your study is 2534. This number should be used in all communications to clearly identify the study as approved by the RRC. The approval expires on 06/30/2024. During the approval period, the study must adhere to the design, procedures and instruments which were submitted to the Committee.
Please note that since this study is longitudinal in design, extensions will be granted upon receipt of a request with an updated IRB approval. Finally, please submit to the RRC an abstract of the research findings and/or preliminary findings as they become available.
If there are any changes in the study as it relates to [DISTRICT NAME REDACTED]**, the RRC must be notified in writing. Substantial changes may necessitate resubmission of the request. Failure to notify me of such a change may result in the cancellation of the approval.**
If you have any questions, please call me at [NUMBER REDACTED]. On behalf of the Research Review Committee, I want to wish you every success with your study.

Sincerely,
[CHAIRPERSON'S NAME REDACTED]

Chairperson, Research Review Committee APPROVAL NUMBER: **2534** APPROVAL EXPIRES: **06/30/2024 (*)**

Appendix C: Permission to Use DP-4 in Scholarly Research

RE: Permission to use DP-4 in Scholarly Research
Thu, Jun 16, 2022, 4:06 PM
rights<rights@wpspublish.com

Hello Danita,

I am pleased to assist with your IRB submission request. This reply serves as your permission from Western Psychological Services to reprint the provided sample of the *Developmental Profile 4 (DP-4)* material for internal board review only, and not for application in administration or any other use in whole or in part, on provision that the reprint bear the following notice:

"Sample DP-4 form copyright © 2020 by Western Psychological Services. Reprinted by D. Duhart, Walden University, for the sole purpose of internal scholarly review. Not to be reprinted in whole or in part for any other purpose without the prior, written authorization of WPS (rights@wpspublish.com)."

Please note that the appropriate file will be sent to you shortly in a separate email via Microsoft One Drive. Please let me know if you encounter any issues accessing the file.

Feel free to let me now if you have any follow-up questions. We look forward to receiving your reply.

Best,

[NAME REDACTED]
Rights and Permissions Assistant
d [NUMBER REDACTED]
o [NUMBER REDACTED]
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Your WPS Research Discount Application; Approved
Feb 10, 2023, 11:14 AM

rights<rights@wpspublish.com

Hello Danita,

This email confirms we have received your completed research discount application. The application has been approved, and you can expect to receive a quote from one of our Customer Service Representatives within 2-3 business days. Please note that the quote will be sent to the email address listed on the application.

Should you have any questions regarding the status of your quote at any point, please contact Customer Service directly at customerservice@wpspublish.com.

Best,

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Appendix D: G*Power Calculation