Kindergarten Kickstart: Outcomes of a Research-Based Summer Pre-K Program

by

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# Table of Contents

Acknowledgements ....................................................................................................... 3
Abstract ......................................................................................................................... 4
Introduction ................................................................................................................... 5
Kindergarten Kickstart Program ................................................................................. 21
Study 1: Standardized Assessments of School Readiness ........................................... 31
  Methods ................................................................................................................... 31
  Results ..................................................................................................................... 34
  Discussion ............................................................................................................... 39
  Limitations ............................................................................................................. 41
Study 2: Interviews with Middletown Community Members ..................................... 42
  Methods ................................................................................................................... 42
  Results ..................................................................................................................... 44
  Discussion ............................................................................................................... 61
  Limitations ............................................................................................................. 63
General Discussion ..................................................................................................... 64
  Implications and Future Directions ......................................................................... 65
Conclusion .................................................................................................................. 69
References ................................................................................................................... 70
Appendix A .................................................................................................................... 83
Appendix B .................................................................................................................... 85
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Abstract

Preschool helps prepare students with the cognitive and social skills they need to be successful in school. However, many children, especially those from low-income families, do not have access to high-quality preschool programs. Using both quantitative and qualitative measures, this thesis evaluated the outcomes of Kindergarten Kickstart, a research-based summer pre-K program targeting children from low-income families in Middletown, Connecticut with little to no prior preschool experience. Study 1 examined Kindergarten Kickstart’s effects on students’ levels of school readiness. Students ($n = 65$) were tested at the beginning and end of the program on a broad assessment of school readiness and on assessments of numeracy and executive function. Results indicated that Kickstart students made significant gains on all measures. Furthermore, in 2015, Kickstart students ($n = 14$) exhibited significant growth on school readiness and executive function compared to students who attended a different local preschool ($n = 7$). Study 2 used semi-structured interviews to examine the perspectives that Middletown community members ($n = 14$) held about Kickstart. Participants held overall positive views of the program, reporting that it helped prepare students and their parents for the transition to kindergarten. Taken together, these findings suggest that Kindergarten Kickstart has had positive effects on its students and their families, and provide evidence for the efficacy of a short-term, research-based preschool program. Implications for the field of education are discussed.
Introduction

Over the past several decades, interest in early childhood education has grown greatly, with preschool being increasingly viewed as a worthwhile societal investment (Barnett, 2008; Heckman, 2008). Preschool education helps prepare children with academic, socio-emotional, and self-regulatory skills that are crucial to success in elementary school and beyond (Belfield, Nores, Barnett, & Schweinhart, 2006; Campbell et al., 2012; Camilli, Vargas, Ryan, & Barnett, 2010; Gorey, 2001; Reynolds, 1994). As elementary education in the United States becomes increasingly focused on academics, holding students to higher standards than in the past (Bassok, Latam, & Rorem, 2016), high-quality preschool programs have perhaps never been so important to ensure the success of our nation’s children.

However, the United States is still nowhere near enrolling all of its children in preschool programs, lagging behind many European nations, such as the United Kingdom and Germany, where over 90% of children aged 3 and 4 attend some form of preschool (Organisation for Economic Co-operation and Development, 2015). By contrast, between the years 2011 and 2013, 4.4 million, or 54%, of 3 and 4 year-olds in the US did not attend preschool. This phenomenon was even more pronounced for children from low-income families (i.e., families with an annual income below 200% of the poverty line), 63% of whom did not attend preschool (Annie E. Casey Foundation, 2015). Low-income children tend to have lower levels of development of the domains important for school readiness, and enter elementary school already behind their higher-income counterparts (U.S. Department of Health & Human Services, 2000). As early academic skills strongly predict later school achievement
(Duncan et al., 2007), it is often difficult for them to “catch up” to their peers later on in school. Low-income children have been shown to exhibit stronger gains than middle-income children after participation in high-quality preschool programs (Weiland & Yosikawa, 2013). Thus, although they stand to benefit the most from preschool experience, low-income children are also the ones with the least access to it.

**Developmental Domains Predicting School Readiness**

Several domains in development have been shown to influence children’s school readiness, including numeracy, literacy and language, socio-emotional skills, and executive function.

**Numeracy.** Early numeracy is the single biggest predictor of academic achievement in the later elementary grades (Duncan et al., 2007). A meta-analysis of six studies, using data from tens of thousands of students, found that children’s math ability at the time they entered elementary school was strongly correlated with their later achievement in math and reading, more so than their early literacy, attention skills, and socioeconomic status.

A number of smaller-scale studies have also demonstrated the importance of early numeracy ability. Specifically, number sense, or basic knowledge of counting, addition, and subtraction (Jordan, Kaplan, Olah, & Locuniak, 2006), predicts later math achievement. Children’s number sense at the end of kindergarten significantly predicts their mathematical ability in second grade, more so than their spatial cognition, reading, and verbal abilities (Locuniak & Jordan, 2008, see also Jordan et al., 2010).
Low-income children consistently demonstrate lower numeracy skills than their higher-income counterparts (Jordan et al., 2006; Siegler & Ramani, 2008). However, short-term, targeted interventions have been shown to significantly improve low-income children’s numeracy abilities. An intervention by Siegler and Ramani (2008) consisted of low-income children playing a linear, numerical board game for 4 sessions of 15 minutes each. Participants’ ability to estimate numerical magnitudes improved significantly after the intervention; in fact, their scores increased enough to be indistinguishable from the scores of middle-income children on the same task.

**Literacy and language.** Children’s early literacy and language skills are also highly predictive of their later achievement in school. Preschool students’ phonological sensitivity and letter knowledge predicts their ability to decode words in kindergarten (Lonigan, Burgess, & Anthony, 2000). In another longitudinal study, Catts and colleagues (1999) found that kindergartener’s phonological processing and oral language skills predict their reading comprehension and word recognition in 2nd grade. Even more strikingly, first graders’ reading ability has been found to significantly correlate with their reading ability and exposure to print ten years later, in 11th grade, suggesting that children who acquire the ability to read early will have more opportunities throughout their school years to continue developing their skills (Cunningham & Stanovich, 1998).

The language input that young children receive is crucial to their language development. A recent study found a significant relationship between the complexity of language that children were exposed to at home (i.e., the proportion of sentences
spoken to them by their parents that had multiple clauses) and children’s production of complex language. Furthermore, children’s production of multiclause sentences was related to their comprehension of multiclause sentences, suggesting that exposure to complex language indirectly predicts children’s comprehension of complex language (Huttenlocher et al., 2002).

Preschool-aged children of low socioeconomic status demonstrate lower abilities on measures of language and literacy development comprehension than children from more advantaged backgrounds (Hart & Risley, 2003; Huttenlocher et al., 2002). These disparities persist into elementary and middle school (National Center for Education Statistics, 2009).

However, a growing body of research provides encouraging evidence that targeted interventions can have positive effects on the language and literacy development of low-income preschoolers. Lonigan et al. (2011) studied the effects of a research-based literacy curriculum employed during one preschool year in Head Start and Title 1 preschools. The curriculum consisted of child-centered activities promoting language and literacy, many of them delivered through small group instruction. At the end of the year, children who had received the intervention significantly outperformed children in a control group on measures of phonological awareness, oral language, and print knowledge. In another study, Head Start teachers received training in strategies for reading books aloud and fostering children’s oral language development (e.g., by asking open-ended questions, teaching vocabulary, asking reflection questions after completing a book reading, and providing detailed feedback to them about their accomplishments). After 9 months, children receiving
the intervention did significantly better than control children on measures of expressive and receptive vocabulary (Wasik, Bond & Hindman, 2006).

**Socio-emotional skills.** Children’s early social and emotional skills are also associated with their later academic achievement. A recent study found that preschoolers’ emotion knowledge was positively associated with their preliteracy skills (alphabet knowledge, and print and phonological awareness). Additionally, children who were identified as being more cooperative and sensitive (i.e., with better abilities to express and regulate their emotions) demonstrated significantly higher preliteracy skills than children identified as being more anxious and withdrawn (Curby, Brown, Bassett, & Denham, 2015). A longitudinal study examined the relationship between children’s prosocial behavior in 3rd grade and their academic achievement when they were in 8th grade. Children’s levels of helpfulness, sharing, kindness, and cooperativeness, as measured by self-, peer, and teacher reports, significantly predicted their academic achievement five years later (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000). These findings were corroborated in a recent review by Raver (2003), who reported that children’s emotional adjustment is related to their success in early elementary school, including their ability to make friends, to not be disruptive in class, and to receive feedback and instruction from teachers.

Teachers also report the importance of elementary school students’ social and emotional skills. A study by Lin, Lawrence, and Gorrell (2003) asked over 3,000 kindergarten teachers about the social and academic skills they considered to be important for their students’ levels of school readiness. Children’s social skills, such
as the ability to tell their wants and thoughts, take turns, share, and not be disruptive, were more likely than academic skills (e.g., counting to 20 or higher, knowing most of the alphabet) to be rated as “essential” or “very important” for school readiness.

While children from low-income families are more likely than their higher-income counterparts to display emotional and behavioral difficulties, including aggressive behavior and lack of appropriate emotion regulation (Anthony, Anthony, Morrel, & Acosta, 2005; Dodge, Pettit, & Bates, 1994), programs targeting children’s social and emotional skills have been found to have significant positive impacts. Children attending a preschool program enhanced with PATHS, a curriculum consisting of lessons designed to promote children’s emotional regulation and expression and prosocial behavior, displayed significantly higher levels of social competence and emotion knowledge (Moore et al., 2015). A recent meta-analysis of 213 school-based interventions targeting social and emotional skills found that overall, students who had received such interventions displayed significantly improved socio-emotional skills, attitudes towards themselves and towards others, and positive social behaviors. They also displayed lower levels of conduct problems and emotional distress, as well as significantly improved academic performance. (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011).

**Executive function.** Executive function consists of many skills including working memory, response inhibition problem solving, planning, and the ability to shift between tasks (Diamond & Lee, 2011; Garon, Bryson, & Smith, 2008). Between the ages of 3 and 5, children undergo substantial executive function development (Garon et al., 2008). Early executive function also predicts executive function skills
later on in life. For example, Eigsti and colleagues (2006) found that children’s performance on a delay-of-gratification task at age four was significantly correlated with their performance on a task requiring inhibitory control 14 years later. Low-income children have lower rates of executive function ability compared to higher-income children (Evans & Rosenbaum, 2008; Hackman & Farah, 2009).

Early executive function abilities also predict a variety of academic and life outcomes, often above and beyond general intelligence. In one study, preschoolers’ levels of cognitive flexibility, inhibitory control, and ability to plan predicted their achievement in mathematics two years later, even after controlling for their IQ and reading achievement (Clark, Pritchard, & Woodward, 2010, see also Normadeau & Guay, 1998). A study of over 1,000 participants found that children identified as having high levels of restlessness, impulsivity, and inattention (i.e., low levels of executive function) between the ages of 3 and 11 were significantly more likely at age 32 to have serious cardiovascular or respiratory health problems, be at risk for substance dependence, have financial difficulties, and to have ever been convicted of a criminal offense (Moffitt et al., 2011).

A review of executive function interventions indicates that a variety of interventions, including targeted school curricula, can have substantial positive effects on the executive function development of children ages 4-12. Children who start off with the lowest executive function abilities benefit the most from such interventions (Diamond & Lee, 2011).

Overall, the domains of early numeracy, literacy, socio-emotional development, and executive function have all been found to predict children’s later
achievement in school, to be less developed in low-income children, and to increase significantly when children participate in an intervention designed to foster those skills.

**Quality of Preschool Programs**

Preschool programs have been found to significantly improve children’s levels of school readiness (Camilli et al., 2010; Gorey, 2001). However, children show fewer gains if they attend lower-quality preschools (Peisner-Feinberg et al., 2001), and most preschools in the United States are considered to be of mediocre quality (National Institute of Child Health and Human Development Early Child Care Research Network, 2000). In particular, low-income children are more likely than middle-income children to attend low-quality preschool programs (Scarr, Eisenberg, & Deater-Deckard, 1994).

Preschool quality is measured according to structural and process variables. Structural quality refers to elements of the classroom itself, including teacher-child ratio, class size, and education and training of teachers. Process quality includes classroom materials, type of instruction, teacher-child interactions, and classroom environment (Espinosa, 2002).

**Selected Elements of High-Quality Preschool Programs.**

*Teacher-child ratio, class size, and teacher-child relationships.* The National Association for the Education of Young Children recommends that preschool classrooms serving children ages 4-5 years have no more than 20 children per class, with a maximum teacher-child ratio of 1:10 (NAEYC, 2013). However, recent research suggests that even smaller classes, with a greater number of teachers per
child, can have beneficial effects on student development and achievement. In the Tennessee class size experiment (also known as Project STAR), students in 79 school districts were randomly assigned to small classes (13-17 students), larger classes (22-26 students), or larger classes with both a teacher and a classroom aide. Students remained in classes of the same size from kindergarten through third grade. When the students were evaluated at the end of 8th grade, those who had been assigned to the small class condition significantly outperformed students from the other conditions on both math and reading assessments (Nye, Hedges, & Konstantopoulos, 1999).

Small teacher-child ratios and class sizes allow for teachers and their students to form closer relationships, which can in turn have long-term positive effects on children’s development (Reynolds, 1998). Preschoolers’ relationships with their teacher correlate with their levels of academic ability (Choi & Dobbs-Oates, 2014; Howes, et al., 2008; Palermo, Hanish, Martin, Fabes, & Reiser, 2007), and predict their academic achievement and social and behavioral skills through second grade (Peisner-Feinberg et al., 2001).

**Parental involvement.** In a review of early childhood programs for at-risk children, Reynolds (1998) found that parental involvement was a feature of many programs with a long-term impact on their students. Programs can engage their students’ parents through workshops, home visits, and inviting them to volunteer in the classroom or chaperone field trips. A recent study found that 8th and 10th graders whose parents were more actively involved in their education (as evidenced by involvement in parent-teacher organizations, volunteering in the classroom, and discussing school programs and activities with their children) spent more hours per
week doing homework, were less likely to skip school, and intended to complete more years of education (McNeal, 2014). Thus, engaging parents and familiarizing them with the school environment early on in their children’s education could have positive effects on their children’s development even well beyond the preschool years.

**Child-centered approach.** Two common methods of early childhood education are the didactic and child-centered approaches. The didactic approach focuses on teacher-led instruction of academic concepts such as reading and math, while the child-centered approach emphasizes the importance of allowing children to learn through their own exploratory activities, guided but not directed by a teacher (Marcon, 2000; Reynolds, Magnuson, & Ou, 2010). While there has been considerable debate over which instructional approach is more effective, there is recent evidence of the benefits of child-centered instruction. Stipek and colleagues (1995) evaluated preschool and kindergarten didactic classrooms (which included a focus on basic academic skills, less child initiative, and less teacher warmth) and child-centered classrooms (where teacher warmth was higher and there was more child initiative and less focus on basic academic skills). Children from child-centered classrooms had higher perceptions of their own abilities, were more likely to choose a challenging math problem over an easier one, and reported worrying less about school. Furthermore, while children from didactic classrooms did significantly better on a letters and reading assessment, there was no difference between the two groups on a measure of math achievement. Similar effects were seen for children from both high- and low-income families. In another study of over 700 children, nearly 70% of
whom qualified for free or reduced lunch, researchers compared child-initiated classrooms, where teachers believed children should be allowed to choose their own learning activities, to academically-directed classrooms, where teachers reported a preference for teacher-directed learning and direct instruction. Children in child-initiated classrooms significantly outperformed those in academically-directed classrooms on measures of expressive and receptive language, gross motor skills, and personal and interpersonal skills (Marcon, 2000). Thus, child-centered instruction can have positive effects on both children’s motivation in school and their academic skills.

**Teacher qualifications.** The National Institute for Early Education Research (NIEER) recommends that all preschool teachers hold a four-year college degree and specialized training in early childhood (Barnett, 2003). However, recent research suggests that preschool teacher qualifications may not actually be predictive of classroom quality or student outcomes. Using data from seven major studies, Early and colleagues (2007) examined the relationship between teachers’ level of education (i.e., whether they had an Associate’s, Bachelor’s, or graduate degree, and whether they had majored in early childhood education), their classroom quality, measured by the Early Childhood Environment Rating Scale – Revised Edition (Harms et al., 1998), and their students’ academic skills (receptive language, pre-reading skills, and early math). For the most part, the highest degree of a preschool classroom’s lead teacher did not predict a higher-quality classroom, and had either mixed or no effects on student achievement. Whether the lead teacher had majored in early childhood education or another field had no relation to either classroom quality or student
achievement. A similar study of 2,800 preschoolers produced comparable results (Howes et al., 2008). By contrast, research has shown that the amount of support teachers receive (e.g., through workshops and ongoing training) is more predictive of their students’ outcomes (Frede, 1995, Yoon et al., 2007).

Benefits of Preschool for Disadvantaged Children

Several major studies provide evidence of the long-term positive impacts that high-quality preschool programs can have on children at risk for poor educational achievement. One such program, known as the Carolina Abecedarian Project, consisted of a randomized control trial whereby low-income children assigned to the experimental group received childcare and preschool services from infancy (the mean age of entry was 4.4 months) until they entered school at age 5. The preschool program consisted of educational games designed to foster children’s’ cognitive, socioemotional, and motor skills; throughout the program, the teacher-child ratio ranged from 1:3 to 1:6. Participants’ parents were also engaged through workshops and supportive social services (e.g., for families with difficulties accessing food or transportation). A follow-up study, conducted when participants were 30 years old, found that children from the experimental group, compared to those from the control group, who had attended a different childcare program, were more likely to have graduated from college, more likely to be employed full-time, and less likely to have received welfare assistance in the past 7 years (Campbell et al., 2012).

Similarly, the Chicago Longitudinal Study studied low-income children who received a preschool intervention for one to two years, between the ages of 3 and 5. The preschool program included a 1:7 teacher-child ratio, small group and child-
centered activities, health services, teacher training in child development, and field trips. Parents of participants were required to spend at least one half day per week volunteering at the preschool center (Reynolds, 1994). Participants were followed through age 26 and, compared to members of a control group who had attended a different full-day preschool program, were more likely to have finished high school, less likely to have been arrested for a felony, more likely to have health insurance, less likely to have been retained in a grade or have been placed in special education, and had attained more years of education. They also reported higher earnings overall. Children from higher poverty neighborhoods benefitted especially from the program. A cost-benefit analysis indicated that the return on investment to society was $10.83 for every dollar that had been spent on the program (Reynolds, Temple, White, Ou, & Robertson, 2011). The High Scope/Perry preschool program, another similar intervention, has had similar long-term effects on its participants (Belfield, Nores, Barnett, & Schweinhart, 2006).

Additionally, smaller-scale preschool interventions have been found to have positive short-term effects on low-income children’s development. The Kids in Transition to School (KITS) Program is a two-month preschool intervention for low-income children about to enter kindergarten. At the end of the intervention, KITS participants exhibited significantly higher growth in self-regulation, early literacy, and social skills relative to a group of children who did not attend the program (Pears et al, 2014). Similarly, an 8-week summer preschool program specifically targeting children with externalizing behavior problems significantly improved participants’
emotional regulation, executive function, and basic academic skills, both at the end of
the program and at a follow-up period six months later (Graziano et al., 2014).

Barriers to Implementing High-Quality Preschool

Although it is widely accepted that high-quality early childhood education can
have positive effects on children’s development, there are a number of factors that
make it challenging to increase access to preschool programs.

Lack of funding. According to the most recent report from the National
Institute for Early Education Research, 40 states, plus Washington D.C. currently
provide funding for pre-K programs. However, during the 2013-2014 school year,
fewer than 30% of 4 year-olds across the country were served such programs. It is
estimated that it would take 75 years for states to enroll 50% of their four year-olds in
state-funded programs if the 2013-2014 rate of growth of state investments remains
constant. Additionally, during that school year, 20 states actually decreased their
spending on preschool programs (Barnett, Carolan, Squires, Clarke Brown, &
Horowitz, 2015). Thus, it appears that for many policy makers, increasing access to
state-funded preschool is not a high priority.

Increasing academic standards. Over the past several years, with the rise of
initiatives such as No Child Left Behind (NCLB, 2002) and the Common Core State
Standards (National Governors Association Center for Best Practices & Council of
Chief State School Officers, 2010), focus on high-stakes testing has increased and
academic standards for elementary school students have become higher (Berliner,
2011; Kober & Rentner, 2012). This has led to what some refer to as an educational
“push-down,” (e.g., Abbott, 2011), whereby higher standards in one grade require
teachers to begin implementing higher standards in lower grades (Katz, 1999). A recent study found that kindergarten teachers in 2010, relative to kindergarten teachers in 1998, had higher academic expectations of their students; in fact, kindergarten in 2010 was similar to what first grade had been like in 1999 (Bassok et al., 2016). Similarly, many preschool programs have become increasingly academic (Hatch, 2002).

Such an increased focus on academic activities in early education often comes at the expense of one of the most important activities for children: play (Miller & Almon, 2009, Samuelsson & Johansson, 2006). In addition to being enjoyable for children, play helps children develop a number of important skills important for school readiness. Through playing, children learn how to take turns, compromise, and get along well with others; they also expand their language skills and practice setting and achieving goals (Ashiabi, 2007; Han, Moore, Vukelich, & Buell, 2010; Pellegrini, 2008). A recent study found that the amount of time young children spent participating in less-structured activities (including play) was positively related to their executive function ability. By contrast, children who spent more time in structured activities (e.g., tutoring, organized sports, music lessons) displayed poorer executive function (Barker et al., 2014). Thus, there is substantial evidence to suggest that limiting children’s time to play could have detrimental effects on their development.

**The research-to-practice gap.** Despite rising interest in using educational research to inform policy and classroom practice in recent years, there remains a gap between the findings of researchers and the practices of educators, and research is not
being effectively and meaningfully incorporated into most classrooms (Cooper, Levin, & Campbell, 2009; Levin, 2004; Pianta et al., 2009). Educational researchers and practitioners alike are aware of this gap; possible explanations for its existence include practitioners’ beliefs that educational research does not produce many conclusive or practical findings, and researchers’ beliefs that practitioners do not make enough use of the findings (Broekkamp & van Hout-Wolters, 2007). Proposed solutions include creating better communication between researchers and practitioners and having practitioners actually take part in the research process; universities and education research centers are attempting to better disseminate research to practitioners, but many do not have well-developed methods for doing so (Cooper, Levin, & Campbell, 2009). Barriers like lack of time or limited backgrounds in research prevent many teachers from getting involved in the research process or accessing research findings; in fact, most educators receive information about research results from the media or other third party sources (Levin, 2004).

Kindergarten Kickstart

In summary, it is clear that while preschool education can play a key role in preparing children, especially those from low-income families, for kindergarten, it remains difficult to implement high-quality preschool programs. This study reports on Kindergarten Kickstart, a summer pre-K program located in Middletown, Connecticut that was founded in an attempt to address the issues outlined above. Staffed by undergraduate students, employing a child-centered, play-based curriculum, and targeting low-income children with little to no preschool experience, Kindergarten
Kickstart aims to bridge the research-to-practice gap and provide children with a high-quality preschool experience the summer before they begin kindergarten.

**Kindergarten Kickstart Program**

**Program Location**

Middletown is a city in central Connecticut with a population of about 47,000 people, approximately 11% of whom live below the poverty line (Connecticut Economic Resource Center, 2014). Five of its eight elementary schools receive Title 1 funding, meaning that at least 40% of students at those schools are from low-income families. Two of these schools include Macdonough and Farm Hill: over 75% of Macdonough School’s students, and approximately 50% of students at Farm Hill, qualify for free and reduced lunch.¹ Both schools serve ethnically diverse populations.

**Program History**²

Kindergarten Kickstart was founded in 2012 in response to concern among Middletown school personnel that there were a number of rising kindergartners at Macdonough School who had not attended preschool. Wesleyan University psychology professor Anna Shusterman felt that Wesleyan had access to resources (i.e., research, undergraduate students interested in education and psychology) that could be utilized in a preschool program, and founded Kindergarten Kickstart through partnerships with Wesleyan University’s Office of Community Service, Macdonough School, and the North End Action Team (NEAT), a non-profit organization that

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¹ Data provided by the Middletown Board of Education.
² Much of the information in this section was obtained through personal correspondence with two of Kindergarten Kickstart’s founding teachers, Sydney Lewis and Taylor DeLoach.
works to improve the quality of life for residents of Middletown’s urban North End. The goals of Kindergarten Kickstart were (1) to fill a need in the community by providing low-income rising kindergarteners in Middletown who had little to no prior classroom experience with a short-term preschool education the summer, supporting them, their families, and their future kindergarten teachers and (2) to test the efficacy of a short-term preschool program that utilized undergraduate students as teachers, had a child-centered, play-based philosophy, and aimed to employ a research-based curriculum, whereby every classroom practice was grounded in current findings in developmental science and education research.

Kindergarten Kickstart was piloted in the summer of 2012 at Macdonough School, with three Wesleyan University undergraduate psychology students designing the program structure and curriculum in conjunction with Dr. Shusterman (referred to as the program director in the following descriptions). In 2013, Kindergarten Kickstart was awarded a grant from the Liberty Bank Foundation, a Connecticut-based organization that provides grants to non-profit organizations working with low-income populations. The grant allowed Kindergarten Kickstart to expand two sites: one for rising Macdonough students and the other for rising Farm Hill students. Kickstart has operated at two sites every summer since then.

A description of Kindergarten Kickstart follows, including recruitment of participants and teachers as well as an overview of the program structure and curriculum. Note that although the goals and overall structure of the program were consistent from year to year, there were not standardized measures of implementation fidelity (Carroll et al., 2007) to ensure that any particular curricula or classroom
practices were observed. The teachers who originally designed Kickstart intended for
the model to be flexible, whereby each year’s teachers could modify or improve
certain aspects of the program according to what worked best for them. Thus, the
following descriptions refer to the general way in which the Kickstart program was
delivered, with the caveat that there were slight variations from year to year and from
classroom to classroom.

**Recruitment of participants.** Participants were recruited each year at
kindergarten registration events in Middletown. The parents of children identified as
having had little to no preschool experience or other risk factors for low academic
performance in school (e.g., low family income, history of behavior difficulties, low
parental education, low scores on a standardized measure of school readiness) were
notified about Kindergarten Kickstart and encouraged to apply through Middletown’s
Family Resource Center (FRC), an organization providing support to low-income
families in Middletown. The program was advertised as an innovative summer
preschool program to help rising kindergartners prepare for school, offering reading
and writing activities, dramatic play, math and science games, and arts & crafts. The
cost of the program was $125; the fee was lowered or waived for families who
qualified for free or reduced lunch or who were otherwise unable to pay the full
amount.

**Wesleyan student-teachers.** Each Kindergarten Kickstart classroom was
taught by three Wesleyan University undergraduate students. The three teachers of
the 2012 pilot program were personally selected by the program director; beginning
in 2013, teachers were selected through a formal application process. To apply to
teach for the program, Wesleyan students completed a written application and an interview with the program director. Teachers were hired based on their experience studying developmental psychology and working with young children, academic achievement, and personality traits including levels of maturity and creativity.

Certified supervisory teachers. One certified elementary school teacher, selected either by a Middletown school administrator or by the program director, also taught in each Kickstart classroom. The certified teachers both taught alongside the Wesleyan student-teachers and served as supervisors of classroom activities.

Program

Training and planning. Before the start of each program, all Kindergarten Kickstart teachers received a week of training. The program director, along with several other early childhood experts, including a school psychologist, social worker, and professor of education, trained teachers on relevant developmental psychology research, how to design and implement lesson plans, and how to create a positive and nurturing, yet well-structured, classroom environment. Additionally, teachers planned out the curriculum for the program’s five weeks, bought all necessary materials (books, art supplies, blocks, etc.), and set up their classrooms.

Beginning in 2012, the Kindergarten Kickstart program ran each summer for five weeks, Monday-Friday, from 9 AM – 3 PM. Over the program’s four years, the average class size was 13 students, and the average teacher-student ratio was approximately 1:3. The program was held at Macdonough School in 2012, 2013, and 2014, and at Farm Hill in 2014. Due to limited availability of the school buildings, the site serving Farm Hill students in 2013 was located at Middletown’s Green Street
Arts Center, and in 2015, both sites were held in Middletown’s Adult Education center.

**Educational philosophy.** Kindergarten Kickstart was grounded in the idea that while it is crucial for children to develop academic skills (i.e., early literacy, numeracy, and executive function) in order to be prepared for kindergarten, it is just as important to allow them plenty of time to play, explore activities that they intrinsically enjoy, and develop social and emotional skills. Kickstart aimed to provide children with a foundation for school, where they could learn at a developmentally appropriate pace without being pressured to adhere to academic standards, and become accustomed to the structure and routines of classroom without being forced to participate in activities that do not interest them.

Also central to Kickstart’s philosophy was having a consistent classroom routine. Teachers made an effort to follow the same schedule each day, so that children would know what to expect and become as comfortable in the classroom. During each segment of the day, however, there was a good deal of freedom. Kickstart’s curriculum was largely child-centered and play-based; while teachers led or guided students during certain lessons, students had time each day to choose to explore activities that were interesting to them. The program’s low teacher-student ratio allowed for teachers to work often with students in small groups and to provide each student with individualized attention.

**Themed weeks.** Each of Kickstart’s five weeks was assigned a theme around which lessons and classroom activities were centered, in order to familiarize students with relevant cultural references and structure the program’s curriculum. Themes
Daily schedule. Kindergarten Kickstart’s day-to-day activities consisted of the following:

9:00-9:30: Drop-off/Breakfast
9:30-10:00: Circle Time
10:00-10:45: Outdoor Play
10:45-11:00: Snack
11:00-12:00: Centers
12:00-12:30: Lunch
12:30-1:30: Quiet Time
1:30-2:15: Special Activity
2:15-2:45: Outdoor Play

Breakfast, snacks, and lunch. Part of Kindergarten Kickstart’s philosophy was that every part of the day could be turned into a teachable moment. During all meals, teachers sat with students, engaged them in conversation, and facilitated conversations among students. Snack time provided an opportunity for students to try different healthy foods, often for the first time. Teachers brought in a variety of fruits, vegetables, and healthy crackers (aiming to provide students with a different snack every day), and students were encouraged to take note of their color, texture, and taste as they tried them. During meals, teachers often encouraged math talk among students (e.g., by asking them to count how many pretzels they had in front of them).

Circle time. Each morning, the whole class gathered together for circle time, led by one teacher each day (teachers typically rotated this responsibility). This routine began with a welcome song, during which all teachers and students were welcomed individually to the classroom. Next, a teacher announced three jobs - the weather watcher, helping hand, and line leader – and assigned one student to each of them. The teacher then went over the date and day of the week, the weather watcher
checked the window to see what the weather was like, and the class went over the daily schedule, aided by a chart listing each activity.

Next, a teacher read a picture book relevant to the week’s theme and facilitated a short activity or conversation relating to the story. Circle time typically ended with a short song or movement activity.

**Outdoor play.** On average, students played outside for a total of 90 minutes every day. Teachers supervised and played with them on the sites’ playgrounds.

**Centers.** Children chose among following centers: literacy, math, blocks and puzzles, art, and dramatic play, attending three each day and staying at each for approximately 20 minutes. At the literacy center, with the help of a teacher, children read books and practiced identifying and writing the letters of their own name (more advanced students could practice writing other words as well). At the math center, teachers made use of the Wesleyan Preschool Math curriculum, a series of 12 research-based math games developed in the program director’s lab and research methods course. The games had been piloted and refined over the course of seven years, and were designed to be intrinsically motivating, fun, and easily adjustable so as to be appropriate for children at various levels of numeracy development and for both one student at a time and for a group of students to play. At the art center, children had the option of free painting on an easel or completing a teacher-guided art project. The art projects were designed to relate to the week’s theme and allow students to use a variety of materials and practice fine motor skills (e.g., cutting, holding a crayon), while avoiding too much teacher direction and leaving room for students to exercise their creativity. Both the dramatic play and blocks and puzzles
centers consisted of a variety of materials (costumes and props; wooden blocks, Legos, etc.) to encourage high-quality, imaginative play among students.

**Rest time.** After lunch each day, children lay down on cots or under blankets and had the opportunity to nap. Children who did not wish to nap were allowed to quietly read a book to themselves.

**Special activity.** Special activities varied widely from day to day; often, a guest teacher would visit the Kickstart classroom and lead students in activities including American Sign Language lessons, yoga, sing-alongs, dance, and cooking. Kickstart classes went on several field trips in the Middletown community, including to the fire station, library, and children’s museum. Once a week, classes visited the local farmer’s market.

**Family engagement.** Kindergarten Kickstart teachers made an active effort to engage students’ parents in the classroom. The program employed an open classroom policy, whereby parents were invited to visit the classroom at any point during the school day, to check in on their children or participate in classroom activities. Parents were also invited to chaperone field trips. Additionally, Kickstart’s Family Friday program involved inviting parents to eat breakfast in the classroom with their children each Friday before attending a workshop on how to foster their children’s development of a domain of school readiness (e.g., literacy, numeracy). Thus, the program aimed to both familiarize parents with the school environment and to share with them aspects of Kickstart’s curriculum so they could optimally support their children’s development at home.
**Ongoing training and development for teachers.** Over the course of the program, Kickstart classrooms were visited regularly by the program director as well as other experts who had helped train the teachers. They monitored the implementation of the program and helped teachers handle any challenges that arose. Each team of teachers met every morning to prepare for the day’s activities. Teachers also met weekly with the program director to review the week’s activities, discuss any problems they were having in the classroom, and troubleshoot solutions.

**Embedded interventions (2015).** In 2015, Kindergarten Kickstart added two interventions into its curriculum. These interventions, developed in university-based labs, targeted executive function and socio-emotional regulation and consisted of tools and games that were easy to incorporate into the Kickstart day.

**Executive function intervention.** Students received the Circle Time Games intervention (Tomaine & McClelland, 2011), a series of six games developed at Oregon State University designed to foster children’s working memory, task-switching, inhibitory control, and ability to pay attention and follow directions. The games are designed to be engaging (many of them incorporate music and/or movement) and to start off simple and get increasingly complex over time. During the training week, one of the developers of the Circle Time Games taught Kickstart teachers how to implement them. Kickstart teachers delivered the intervention in their classrooms, playing one to two games with the children every day.

**Socio-emotional skills intervention.** Kickstart teachers incorporated into their classrooms part of the Preschool RULER (Rivers et al., in press), an intervention developed at Yale University that promotes social and emotional skills by teaching
children to Recognize, Understand, Label, Express, and Regulate their emotions. Kickstart classrooms used the Mood Meter, a RULER tool that allows students to mark on a large, colorful chart whether they are feeling happy, calm, sad, or angry at any given time. Students were introduced to the Mood Meter during the first few days of the Kickstart program, and used it throughout the summer. Children were encouraged to indicate how they were feeling on the Mood Meter as part of their morning routine, and were free to use the Mood Meter at any time during the day.

The Current Study

The current study evaluated the impact of Kindergarten Kickstart, a summer pre-K program targeting low-income children in Middletown, Connecticut with little to no prior preschool experience. Founded in 2012, Kindergarten Kickstart has operated for four years thus far, serving 75 children in seven classrooms. The goals of Kindergarten Kickstart were two-fold: to test the efficacy of a preschool program with an innovative model and to provide a needed service to members of the Middletown community. Through both quantitative and qualitative measures, the current study aims to evaluate how well Kindergarten Kickstart has achieved its goals:

1. Has Kindergarten Kickstart significantly increased participating students’ levels of school readiness in the short-term?

2. What are the perspectives of Middletown community members who have collaborated with Kindergarten Kickstart (teachers, parents, school administrators, Wesleyan University faculty, non-profit workers) on the program?
In order to address these questions, two separate studies were designed and carried out. The first assessed the scores of Kindergarten Kickstart students on various measures of school readiness. It was hypothesized that Kickstart students would show significant improvement on all measures from the beginning to the end of the program. Additionally, it was hypothesized that Kickstart students would demonstrate significantly more improvement on these assessments from pre- to posttest than children in a control group.

The second study consisted of semi-structured interviews concerning Kindergarten Kickstart with various members of the Middletown community, carried out by the primary researcher.

**Study 1: Standardized Assessments of School Readiness**

**Methods**

**Participants.** During the summers of 2012, 2013, 2014, and 2015, a total of 65 Kindergarten Kickstart students completed pre- and posttests on the Speed DIAL-4, a broad standardized measure of school readiness ($N_{2012} = 11$, $N_{2013} = 18$, $N_{2014} = 22$, $N_{2015} = 14$). The remaining 10 students either did not complete both the pre- and post-test or took the Spanish-language version of the assessment, which is scored differently. At the time of the pretest, the mean age of the participants across all four years was 60.4 months (range = 51 – 71 months). In 2015, Kindergarten Kickstart students were also assessed on a measure of numeracy (Which-Has X) and executive function (Head Toes Knees Shoulders) ($M_{age} = 60.8$ months, range = 55 – 66 months) Data were missing from the Head Toes Knees Shoulders task for one student, who did not complete both the pre- and posttest.
**Control group.** In 2015, a quasi-experimental design was utilized, whereby a control group \( n = 10 \) completed the same assessments as the Kickstart group. Members of the control group attended a summer preschool program at the local YMCA. Their scores were compared to those of the Kindergarten Kickstart students attending the program in 2015. Three children did not complete both the pre- and posttests and were excluded from statistical analyses. Additionally, several children exhibited a bias while completing the Which-Has-X pretest; therefore, the control group’s Which-Has-X scores are not reported here. The final control group consisted of 7 children \( M_{age} = 61.3 \) months, range = 55 – 66 months) who completed the DIAL-4 and the Head Toes Knees Shoulders assessments.

Participants were tested at their preschool site, in a quiet room separate from their regular classroom. Assessments were delivered by trained research assistants from Wesleyan’s Cognitive Development Lab. The pretest and posttest were administered during the first and fifth weeks of the program, respectively.

**Measures**

**School readiness.** Students were assessed on the Speed-DIAL-4™ (Mardell & Goldenberg), a shortened version of the Developmental Indicators for the Assessment of Learning, a widely used measure of school readiness. The Speed-DIAL-4 consists of 10 subtests measuring language, fine and gross motor skills, and conceptual development. The language subtests include Articulation, Actions (students are shown a series of objects and asked to name them and explain their function), Letters and Sounds (including knowledge of the alphabet song, letter naming, and letter-sound correspondence), and Problem Solving (students are shown
a series of pictures depicting situations where something has gone wrong and asked how they would solve the problem). The motor skills subtests include Hop, Skip, and Jump (standing on one leg, skipping, and jumping) and Copying (students are shown a series of symbols and asked to replicate them using a pencil). The DIAL-4’s subtests measuring conceptual development consist of Body Parts, Rapid Object Naming (object identification and rapid naming), Colors, and Meaningful Counting (counting blocks and identifying number relationships). In 2015, children completed a modified version of the assessment; the Rapid Object Naming and Articulation subtests were omitted, and the Meaningful Counting and Letters and Sounds subtests were shortened to include only counting blocks and letter naming/letter-sound correspondence, respectively. The total DIAL-4 scores of this cohort were adjusted so as to be comparable to those of cohorts from previous years. Additionally, students’ raw scores on each subtest of the DIAL-4 were converted into the total percentage of items that they answered correctly before being analyzed. The Speed-DIAL-4 takes approximately 20 minutes to administer. The nationally normed average score is 100.

**Numeracy.** In 2015, Kickstart and control children completed a modified version of the Which-Has-X (WHX) task (Wynn, 1992). Children were shown a binder containing a series of pairs of stimuli (e.g., a page with one butterfly and a page with two butterflies) and asked to indicate which page contained a particular quantity (e.g., “Which page has two butterflies?”). The task consists of 24 items, containing both small number comparisons (between the numbers 1-5) and large number comparisons (between the numbers 7, 10, 15, 25, 30, and 50). The task takes
approximately 5 minutes to administer. Children’s performance was measured based on the percentage of items that they answered correctly.

**Executive Function.** In 2015, Kickstart and control children were also tested on the Head-Toes-Knees-Shoulders (HTKS) task (Ponitz et al., 2009). Children were first told to follow two pairs of verbal commands: “touch your head” and “touch your toes;” and “touch your shoulders,” and “touch your knees.” Next, the paired rules were switched, and children were instructed to do the opposite of what the verbal command tells them (e.g., to touch their head if they heard “touch your toes,” or to touch their knees if they heard “touch your shoulders”). The task takes 5-7 minutes to administer. Scores on the HTKS range from 0 – 60.

**Results**

The main hypothesis of this study was that Kickstart students’ scores would improve from pretest to posttest, and thus, one-tailed t-tests were performed unless otherwise stated. We also assessed whether the 2015 Kindergarten Kickstart cohort showed significant improvement relative to the 2015 control group.

**DIAL-4 Scores, 2012-2015.** A paired-samples t-test indicated that Kindergarten Kickstart students’ scores on the DIAL-4 improved significantly by the end of the program, $t(64) = -4.16$, $p < .001$. 
A follow-up analysis was performed to assess the improvements Kickstart children made on the DIAL from pre- to posttest after controlling for pretest score. Students were divided into approximately equal groups based on whether their initial DIAL score was relatively low (below 90, \( n = 25 \)), in the mid-range (between 90 and 104, \( n = 20 \)) or relatively high (above 104, \( n = 20 \)). Separate related-samples t-tests were performed on each of these three groups of children. Results indicated that initially low-performing students showed the most marked improvement, \( t(24) = -3.68, p < .001 \), while students who initially scored in the mid-range showed less, though still significant, improvement, \( t(19) = -2.83, p < .01 \). Children who scored relatively high at pretest did not improve significantly from pre- to posttest, \( t(19) = -.23, p = .41 \). The number of points gained by each group of students on the DIAL-4 is shown in Figure 2.

*Figure 1.* Kindergarten Kickstart participants' DIAL-4 pre- and posttest scores, 2012-2015. Error bars represent ±1 SE of the mean. **\( p < .001 \).
Figure 2. Points gained by Kindergarten Kickstart students, 2012-2015, on the DIAL-4 by pretest DIAL-4 score.

**DIAL-4 subtests.** Analyses of each of the 10 subtests of the DIAL-4 were performed; descriptive statistics are summarized in Table 1. Kindergarten Kickstart students improved significantly on five subtests: Stand, Hop, and Skip, $t(64) = -3.28$, $p = .001$; Copying, $t(64) = -5.97$, $p = .02$, Meaningful Counting, $t(64) = -2.72$, $p = .004$, Actions, $t(64) = -4.97$, $p < .001$, and Letters and Sounds, $t(64) = -2.15$, $p = .02$. Students’ improvements on Colors, $t(64) = -1.67$, $p = .05$, and Articulation, $t(51) = -1.62$, $p = .06$, reached marginal significance. Students’ scores on Body Parts $t(64) = -1.31$, $p = .10$, Rapid Object Naming, $t(51) = -1.53$, $p = .07$, and Problem Solving, $t(64) = -1.34$, $p = .09$, did not improve significantly from pretest to posttest.
Table 1


<table>
<thead>
<tr>
<th>DIAL-4 Subtest</th>
<th>Pretest Mean (SD)</th>
<th>Posttest Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stand, Hop, and Skip</td>
<td>76.3 (25.7)</td>
<td>83.4 (20.6) **</td>
</tr>
<tr>
<td>2. Body Parts</td>
<td>88.8 (11.3)</td>
<td>90.2 (11.8)</td>
</tr>
<tr>
<td>3. Rapid Object Naming (n = 51)</td>
<td>85.9 (9.4)</td>
<td>87.5 (9.6)</td>
</tr>
<tr>
<td>4. Colors</td>
<td>88.9 (18.9)</td>
<td>91.2 (16.5)</td>
</tr>
<tr>
<td>5. Meaningful Counting</td>
<td>51.2 (25.7)</td>
<td>58.1 (23.0) **</td>
</tr>
<tr>
<td>6. Articulation (n = 51)</td>
<td>90.1 (9.8)</td>
<td>91.5 (8.8)</td>
</tr>
<tr>
<td>7. Actions</td>
<td>80.5 (14.2)</td>
<td>87.9 (10.7) ***</td>
</tr>
<tr>
<td>8. Letters and Sounds</td>
<td>51.4 (32.0)</td>
<td>54.7 (32.7) *</td>
</tr>
<tr>
<td>9. Problem Solving</td>
<td>84.2 (21.7)</td>
<td>87.5 (23.8)</td>
</tr>
<tr>
<td>10. Copying</td>
<td>46.0 (20.1)</td>
<td>49.1 (19.3) *</td>
</tr>
</tbody>
</table>

n = 65 unless otherwise noted.

*a* Pretest and posttest scores indicate the percentage of items answered correctly, not the raw score for each subtest.

* *p < .05, one-tailed.

** *p < .01, one-tailed.

*** *p < .001, one-tailed.

**Group comparisons.** In 2015, the scores of Kindergarten Kickstart students on the DIAL-4 and Head-Toes-Knees-Shoulders assessments were compared to those of a control group. Descriptive statistics of the Kickstart group and control group’s test scores are summarized in Table 2. Two-tailed independent samples t-tests
indicated that at pretest, there were no significant differences between the two groups on the DIAL-4, $t(19) = .601, p = .56$; or HTKS, $t(17) = -.537, p = .53$.

**DIAL-4.** An independent samples t-test indicated that there was no significant difference between the two groups at posttest, $t(19) = 1.58, p = .07$. However, while the scores of the Kickstart students on the DIAL-4 significantly improved from pretest to posttest, $t(13) = -2.51, p = .013$, the control group’s DIAL-4 scores did not improve significantly, $t(6) = -.66, p = .27$.

**Which-Has-X.** Kindergarten Kickstart students correctly answered a significantly higher percentage of items on the WHX task at posttest than at pretest, $t(13) = -2.54, p = .01$. Results were not available for the control group.

**Head Toes Knees Shoulders.** Kindergarten Kickstart students’ scores on the HTKS assessment improved significantly from pretest to posttest, $t(12) = -1.89, p = .04$; this result was not seen for the control group, $t(6) = -1.41, p = .10$. An independent samples t-test indicated that there was no significant difference between the two groups at posttest, $t(18) = .03, p = .49$. 
Table 2


<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kindergarten Kickstart (n = 14)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIAL-4</td>
<td>97.5 (15.7)</td>
<td>104.2 (12.1) *</td>
</tr>
<tr>
<td>WHX</td>
<td>81.0 (13.4)</td>
<td>87.2 (11.4) *</td>
</tr>
<tr>
<td>HTKS (n = 13)</td>
<td>10.1 (9.2)</td>
<td>17.5 (12.5) *</td>
</tr>
<tr>
<td><strong>Control (n = 7)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIAL-4</td>
<td>93.6 (10.1)</td>
<td>96.0 (9.3)</td>
</tr>
<tr>
<td>WHX</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>HTKS</td>
<td>12.9 (14.4)</td>
<td>17.3 (17.6)</td>
</tr>
</tbody>
</table>

*p < .05, one-tailed. (Paired sample t-tests comparing pretest to posttest).

Discussion

The results of these assessments suggest that Kindergarten Kickstart students significantly improved their school readiness skills over the course of the five-week program. In particular, children who started the program with relatively low scores on the DIAL-4 exhibited the most improvement. This is consistent with past research showing that children with the lowest levels of academic skills benefit the most from preschool programs (Weiland & Yoshikawa, 2013).

Analyses of Kickstart students’ scores on each of the DIAL-4 subtests revealed that Kickstart students displayed significant improvement on both measures of motor skills (both fine and gross), one measure of concept development.
(Meaningful Counting), and two measures of language (Actions and Letters and Sounds). While students’ improvement on the Colors subtest was marginally significant, their performance on the other two concept development measures, Body Parts and Rapid Object Naming, did not improve significantly. Additionally, the improvement in students’ scores on Articulation reached marginal significance, while their performance on Problem Solving, the other subtest measuring language development, did not improve significantly from pretest to posttest.

It is possible that the areas on which Kickstart students showed the most improvement are areas that the Kickstart program more directly provides opportunities to practice. Throughout Kickstart, students have ample opportunities to develop gross motor skills by playing outside, improve fine motor control by playing with blocks or using art supplies, improve their numeracy skills through playing math games, and increase their letter knowledge and vocabulary though conversations with teachers, book readings, and writing their names. By contrast, while opportunities to improve object recognition and knowledge, articulation, and knowledge of colors and body parts may arise incidentally in the Kickstart classroom, the program does not directly target those skills. Additionally, the lack of significant overall improvement on five subtests of the DIAL could be in part due to ceiling effects; at pretest, on average, Kickstart students scored correctly answered 88.8% of the items on the body part knowledge subtest, 85.9% on rapid object naming, 88.9% on color knowledge, 90.1% on articulation, and 84.2% on problem solving.

In 2015, Kindergarten Kickstart students exhibited significant growth on measures of school readiness, numeracy, and executive function. By contrast,
students in the control group did not improve significantly on the DIAL-4 or Head Toes Knees Shoulders. Results from the comparisons of the Kickstart and control groups in 2015 should be interpreted with caution due to the small sample size of both groups, particularly that of the control group. However, the general pattern of results suggests that Kickstart students, relative to students in the control group, demonstrated more improvement in school readiness and executive function. The growth exhibited by students on the measures of numeracy and executive function could be due to Kickstart’s use of the Wesleyan Preschool Math curriculum and the Circle Time Games, respectively. However, it is difficult to isolate the potential impact of these interventions on those skills from the potential impact of other elements of the Kickstart program (e.g., informal math talk, teaching students to sit quietly for circle time and to raise their hand before speaking).

**Limitations.** Although students in all four years of Kickstart were pre- and posttested on the DIAL-4, only students from 2015 completed the measures of numeracy and executive function ability. Kickstart students were compared to students in a control group only in 2015, and data were not available for the control group’s performance on the measure of numeracy.

Additionally, little demographic information was available about each Kickstart student. Although most students were recruited based on their low-income status, lack of prior preschool experience, and/or low levels of school readiness, information about their annual family income, parental education, and past preschool experience was not systematically collected, and it was not possible to assess whether there were any relationships between these variables and the children’s outcomes.
Study 2: Interviews with Middletown Community Members

In the years since Kindergarten Kickstart’s founding, the program director had mainly received feedback about the program and its impact on participants in the form of anecdotes from people in the Middletown community who had worked with the program in some capacity. The purpose of this study was to formally explore the perspectives on Kindergarten Kickstart of Middletown community members who had collaborated with the program.

Methods

Participants. Members of the Middletown community who had been involved in the Kindergarten Kickstart program in any significant capacity since 2012 were invited to participate in a semi-structured interview. A total of 14 people participated, including three school administrators (the Farm Hill School principal, the superintendent, and the associate superintendent of Middletown Public Schools), four elementary school teachers (one 5th grade teacher from Moody School in Middletown, who had worked as a certified teacher at Kickstart in 2015; and three kindergarten teachers at Farm Hill School, one of whom had worked as a certified teacher at Kickstart in 2014 and 2015), three Family Resource Center employees, the director of the Middlesex Coalition for Children, the director of Wesleyan University’s Center for Community Partnerships, and two parents whose children had attended the Kickstart program. Participants’ involvement with Kindergarten Kickstart included helping the program director found the program in 2012, recruiting families for the program, planning and implementing the Family Friday parent workshops, teaching in a Kickstart classroom as a certified teacher, serving as the
Kindergarten Kickstart parent liaison, and teaching kindergarten students who had previously attended Kickstart. Most participants were contacted individually by the primary researcher; one participant was recruited by a Family Resource Center employee. All but one of the participants were female.

**Interview Design.** Participants occupied a variety of roles in the Middletown community and had interacted with Kindergarten Kickstart in a variety of ways. Therefore, interviews were designed to be semi-structured, in order to minimize the likelihood of participants being asked questions that were not relevant to them and to allow each participants to speak as fully as possible about their experience with the program and their perspectives on it. The primary researcher created a list of questions to guide each interview, which focused on participants’ opinions on Kindergarten Kickstart’s impact on students and families, what they thought Kickstart’s place in the Middletown community was, and whether they thought there was anything that could be improved about the program (see Appendix A for interview script). During the interviews, the primary researcher also asked any other questions she thought would be relevant to the participant(s).

The primary researcher conducted 12 interviews with a total of 14 participants in February and March 2016; two interviews involved two participants at the same time (the superintendent and associate superintendent, as well as two kindergarten teachers at Farm Hill, were interviewed together). Most interviews were conducted at Macdonough or Farm Hill Schools. The purpose of the interview was explained to each participant prior to scheduling and before the interview. Because the primary researcher was connected to the Kindergarten Kickstart program, in order to minimize
interviewer effects, prior to the interview, each participant was encouraged to speak freely and honestly about their perspectives on the program. Participants indicated on the consent form whether they agreed to have their responses audiotaped for data collection purposes. All but one participant consented; only written notes were made during the interview with the participant who did not wish to be audiotaped.

Participants also indicated whether they consented to be mentioned by name in the publication of the study’s results. Twelve participants consented; the names of the other two participants and any comments made by them that identify their role in the community are not mentioned in the results of this study. Participants were told that the interview would take 20-30 minutes; the lengths of the interview varied from approximately 7 to 30 minutes. After the interview, participants were given a debriefing sheet and the contact information of the primary researcher and the Kindergarten Kickstart program director.

All interviews were manually transcribed by the primary researcher. The primary researcher read all the transcripts multiple times and coded them manually (see Appendix B for the codebook). A thematic analysis was performed to identify relevant themes across the interviews (Braun & Clarke, 2006; Joffe, 2012).

Results

The purpose of the interviews was to assess the perspectives on Kindergarten Kickstart Middletown community members who had been involved with the program: what they felt its impact had been, its place in the Middletown community, and whether anything about it could be changed or improved in the future.
During the analysis, it became apparent that participants’ responses could be classified under several broad themes: concerns about school and school readiness in general, opinions about elements of the Kindergarten Kickstart program (including structure and process variables), and suggestions for its future improvement.

**Concerns about School and School Readiness.** Many participants discussed issues relating to school and school readiness in Middletown in general, including access to preschool in Middletown, the fact that early childhood education is becoming increasingly focused on academics, and the importance of children being socially ready for the school environment when they begin kindergarten.

**Preschool in Middletown.** Five participants mentioned the fact that many children in Middletown do not get experience in a high-quality preschool program prior to entering kindergarten. Specifically, several remarked that while the current rate of preschool attendance in Middletown is relatively high (approximately 88%), the quality of preschools varies greatly, with a substantial number of children attending programs that do not adequately prepare them for kindergarten. Thus, there exist great disparities in the levels of school readiness that children exhibit upon their entry into elementary school:

> We have kids that come to school that can count to 20 already, and then we have kids who come to school that can’t identify a number…Letters – same thing, we have kids who can read, and then we have kids that we know have been in preschool programs and they can’t identify a letter. (Dr. Enza Macri, Associate Superintendent of Middletown Public Schools)
Additionally, two participants discussed the fact that low-income families have less access than more affluent families to certain preschool programs because of financial barriers. Dr. Pat Charles, Superintendent of Middletown Public Schools, also explained that certain preschools may not be able to accommodate every child: “There are other preschools, expensive preschools, that are potentially overly selective, too, and kids can’t be successful in that program, either, if you’re a certain type of kid, if you’re really active…there are some programs that aren’t accepting of all kids.” Two Farm Hill elementary school teachers said that they have had children in their classes who have had no preschool experience; one commented on the difficulties that children have adjusting to being in a classroom when they have had no prior experience with a classroom structure, and that such children, in addition to having trouble learning themselves, can disrupt the classroom environment and interfere with other children’s learning.

**Increased focus on academics in kindergarten.** Several participants discussed the fact that the academic standards for elementary school students have increased over the past few years, leading to more of a focus on academic skills in early childhood education. Specifically, three participants mentioned the Common Core State Standards as a factor leading to this outcome. As one Farm Hill kindergarten teacher with 20 years of teaching experience explained, “[Kindergarten has] really changed, in the fact that probably what we used to do is probably preschool now, and what we’re doing is more like first grade. There’s been a big shift over the past 20 years” (Elizabeth Bredefeld). All three kindergarten teachers stated that they have to teach in ways they do not necessarily find developmentally
appropriate, with one remarking that there is less time each day to devote to play. Another teacher said, “I don’t expect kids to be writing sentences, it’s developmentally not appropriate, but we have to do what we’re told to” (Chris Newton, 2014/15 Kickstart certified teacher). The coordinator of the Family Resource Center also remarked that in addition to kindergarten becoming increasingly like first grade, many preschool programs are placing more of an emphasis on academics, which she did not find to be developmentally appropriate.

**Socialization into the school environment.** The necessity of children being socially ready for kindergarten became clear through the interviews. Six participants mentioned either the importance of children having certain interpersonal social skills (e.g., being able to take turns, share, and play with other children) or the importance of children being comfortable with the school environment (e.g., being able to sit in a circle and stand in a line, when appropriate). Three participants felt that interpersonal social skills were even more crucial for school readiness than academic skills. The Farm Hill principal stated that lack of appropriate social skills can interfere with children’s ability to access academics. As one FRC employee said, “I think if [children] are socially well, they’re able to learn better” (Marisa Corso). Two kindergarten teachers corroborated this, stating that being ready to pay attention and focus in the school environment, and having experience with the structure and expectations of kindergarten, were key to academic success for children. One teacher felt that because of the increased focus on academics in kindergarten, there is now less time to devote to fostering social skills, and teachers now have to demand that children have the appropriate skills for being in a kindergarten classroom.
Kindergarten Kickstart: Program Features and Outcomes. Participants commented on many aspects of the Kindergarten Kickstart program and the outcomes of the program that they had seen for both Kickstart students and their families. Their responses are categorized into structure variables (teacher-student ratio and class size, Wesleyan students serving as teachers, and location and timing of the program) and process variables (play-based learning, use of research in the classroom, environment, focus on socio-emotional skills, field trips, and parent engagement).

Structure variables.

Teacher-student ratio and small class size. Four participants commented on Kickstart’s low teacher-student ratio (approximately 4:1) and small class size (no more than 16) as positive elements of the program. Several remarked that having so many teachers in the Kickstart classroom allows them to better respond to individual children’s needs. One of the teachers who had taught with Kickstart in 2015 remarked that while she had originally found it difficult to find a balance of roles when working with three other teachers, the four of them had quickly molded into an effective team. Furthermore, the large number of teachers made it easier to solve problems that arose in the classroom:

We had one child that, every day, there was a meltdown every five weeks, and by the time the five weeks was over, we had maybe a meltdown once a week…Because we all sat down, and there were so many brains coming together to be like, alright, what’s going on, what are we going to do for this child, how are we going to fix it?” (Vicki Shaw, 5th grade teacher at Moody School)
Wesleyan students as teachers. Six participants commented on the fact that Kickstart’s model involves Wesleyan students serving as lead teachers in the classroom; all expressed positive views about this aspect of the program. Both Middletown’s superintendent and associate superintendent expressed support for Wesleyan students working as teachers in the community, hoping that it would lead to more students wanting to become teachers in their future careers.

Program timing and location. Four participants commented on the fact that Kickstart takes place during the summer before children begin kindergarten and is usually held in the elementary schools that students will attend in the fall. Participants viewed these as positive aspects of the program that have allowed both students and their parents to become familiarized with the school environment earlier than they otherwise would, especially if the students had limited or no prior classroom experience. The parent liaison felt that since the program took place only a few weeks before kindergarten began, it significantly helped children transition to kindergarten. Several participants also mentioned the fact that when Kickstart is held in the elementary schools that students will attend in the fall, children and their parents get a chance to become familiar with the layout of the school buildings and the kindergarten classrooms themselves. The associate superintendent remarked that Kickstart stands out in the Middletown community because most local preschool programs in Middletown are not located within public elementary schools:

It would be nice to have one at every school so that they [students] could have an introduction to the school they’ll be at right before they’re about to attend, I think [that] is a positive and something different. (Dr. Enza Macri)
However, one participant also remarked that Kickstart, because it only takes place for a relatively short time during the summer, should not be seen as a replacement for preschool, and that efforts should still be made to ensure that all children in Middletown have access to one to two years of preschool.

**Process Variables.**

**Play-based learning.** Six out of 14 participants commented on Kickstart’s focus on play and play-based learning, expressing positive views of that philosophy. A parent of a Kickstart student from 2015 said that her child learns best from play-based, hands-on activities, and that she agreed with Kickstart’s emphasis on them. The FRC coordinator expressed her belief in the importance of play-based learning, and noted the fact that many children in Middletown, particularly lower-income children, do not have access to programs that emphasize it:

> I also think that the philosophy of the program [Kickstart], which is more play-based learning…is actually really important, and I think that that needs to be…more widespread…A lot of programs are doing a lot more academic, which I don’t think is appropriate. So in some ways I feel like this is holding on to a type of philosophy, and there aren’t many programs in the community that have that philosophy, and the ones that I can think of are probably out of reach for our lower-income families. (Amy Waterman)
One of Kickstart’s past certified teachers explained that since her time teaching with Kickstart, she has begun stressing play in her classroom more than she had previously:

There’s a lot of elements I’ve taken [from the program], and play is one of those things. I always thought play was important, but I brought in different kinds of play into my room, and really stressing, more like, the building of blocks…Those, I think, were important, just the building blocks, giving [the students] more time to reason with each other. (Chris Newton)

Research in the classroom. Five participants mentioned the use of research-based practices in Kickstart. Both of the teachers who had served as certified teachers in Kickstart classrooms reported that they enjoyed incorporating the interventions (the Circle Time games and the Preschool RULER Mood Meter) into the classroom, and that they believed the children benefitted from having been exposed to them; one felt that the interventions were two of the best aspects of the Kickstart classroom. Both certified teachers also felt that they themselves had benefitted from being trained by and being in contact with researchers during Kickstart’s training session. One teacher also reported using the Mood Meter in her current kindergarten classroom:

…and the Mood Meter, which I am using in my classroom. I’ve got one right there. Basically, one of my students responded so well to it during the summer program that I implemented it in the classroom….And it’s been very positive for her, ’cause I know, and I can say when she changes it, what’s the
matter, or why are you sad, or what happened, or why are you happy now? It’s a good conversation for her. (Chris Newton)

The other Kickstart certified teacher commented on her experience co-teaching with Wesleyan students who had a background in research:

Coming from a teaching background myself, and [the Wesleyan students] were coming from a research background which was really cool, so they knew what the data showed and how to find the data and what the data meant and why it was important, and I knew how to take the data and turn it into something, and then we all knew how to take the data and turn it into something, and I felt like we were doing a lot more, even though it was only five weeks… I don’t think there’s that much going into it in a regular Middletown preschool. (Vicki Shaw)

Both certified teachers said that they had not had much experience working with psychology research and/or researchers prior to their tenure as Kickstart teachers, saying that most of their information about research is communicated to them through professional development workshops led by educators. Vicki Shaw remarked, “I get most of my research information on education through reading…We don’t get to see the research side of it as often as we should, I feel like.”

*Environment.* Eight participants expressed positive views about the environment that Kickstart teachers and the program director have created for students and their parents. Several cited the program’s high teacher-student ratio as a
factor that allows such an environment to be possible. Amy Waterman felt that Kickstart provided students with a feeling of safety, which is especially important due to the hardships that children from low-income families may be facing:

I think that kids especially that come from lower incomes may have experienced more trauma, and so to have a really safe environment, with the student-teacher ratio, where you can actually solve problems and really talk things out with the kids…it’s really valuable.

Similarly, the superintendent and associate superintendent felt that Kickstart’s high teacher-student ratio allows teachers to more effectively deal with children’s behavior, modelling appropriate ways of behaving rather than taking a corrective, reactive approach. They felt that this environment was especially important for children with limited or no prior classroom experience:

If we take as a baseline that these kids haven’t had that experience before, and they don’t know how to act, and the first thing they get from school is somebody telling them no, no, no… [they] start to feel ostracized right from the very beginning, we don’t want kids to start to feel badly about coming to school or badly about themselves, and so when they can have a positive introduction, you’re paving the way for success later on. (Dr. Pat Charles)

Specifically, two participants, including one of Kickstart’s past certified teachers, felt that Kickstart, although it provided less structure than children would be
exposed to once they started kindergarten, prepared them for that structured environment by giving them a nurturing introduction to school.

I like that the Kickstart model is more…natural, it’s more focused on – let’s create a nurturing environment, and then develop learning, versus let’s push and structure and go crazy until we force learning…it doesn’t necessarily prepare [the kids] for the structure of kindergarten, but I think it does prepare them because a lot of them come in with a lot of baggage…and if they’re not over that hump, and now they’re being forced upon consistency and routines, they’re gonna be all over the place. (Vicki Shaw)

Focus on socio-emotional skills. Twelve participants remarked on how Kindergarten Kickstart has helped to socially prepare children for kindergarten, either because it has provided them with a classroom experience (in many cases, for the first time) or because of the support for social and emotional skill development that teachers provide to students.

One of the certified teachers said of the 2014 program, “[The students] could actually interact with each other, and with all of them coming together in a group…they had a buddy already when they came to kindergarten. So it was nice, just even socially for them, it was a big social part of it” (Chris Newton). Another participant reported that Kickstart has allowed students to come together in a classroom with their peers, learn how to participate in group activities, and learn classroom procedures. One kindergarten teacher, who in a previous year had had a group of several past Kickstart students in her class, felt that, socially, they had been
very well prepared to be in a classroom, and were able to sit, listen to stories, regulate their emotions appropriately, and have positive social interactions with others.

Specifically, two participants commented on Kickstart’s focus on socio-emotional skills as one of the strongest aspects of the program: “If I had to speak to one thing that I definitely saw growth in, it was definitely their social-emotional growth. We had a lot of kids come in that just did not know how to respond to the world, had never been in a setting like that, didn’t know how to interact with other kids…that was where we saw the most growth” (Vicki Shaw). An FRC employee felt that Kickstart focuses more on the development of socio-emotional skills than other local preschool programs.

Both of the certified teachers from Kickstart’s classrooms also discussed the academic activities children experienced during the program. One teacher commented on the fact that kids got practice writing their names, and had many books read to them over the course of the summer. The other certified teacher remarked that some children who entered the program were unable to recognize letters or count, and left the program having developed those skills. Overall, however, participants spoke more about the social benefits of Kickstart. As the director of Wesleyan’s Center for Community Partnerships said, “[At Kickstart] it’s not a curriculum driven in the sense of, like, you’re going to learn your ABCs and your 123s, certainly that’s going to be a part of it…but…it’s more getting kids excited to learn and helping them cognitively and socially and equipping them with those skills” (Cathy Lechowicz)

Field trips. Six participants mentioned the field trips that Kickstart students go on throughout the program as an important and valuable aspect of the program.
Overall, participants felt the field trips provided the students with exposure to places in their community they may not otherwise have been able to access. Two participants mentioned the trips to the North End Farmers Market as being particularly beneficial because they allowed Kickstart students to obtain fresh fruits and vegetables.

I mean, I was born in Middletown and I feel like Kickstart strengthened my relationship with Middletown. I had never been to the Farmers Market before, I had never been to the fire station before. Just those tiny things that these kids got so excited about and it wasn’t anything big, but it was like, this is your town, you should love it, this is where you grew up, we’re gonna develop those roots. So that was pretty cool, letting them walk around Middletown and see different things…we just exposed them to a lot in five weeks that I think made them grow a lot. (Vicki Shaw)

**Parent engagement**

*Parent workshops.* Throughout the interviews, one of the most commonly mentioned aspects of Kindergarten Kickstart was its parent workshop component, with seven participants commenting upon it. Participants expressed favorable views of the workshops as an opportunity to provide parents with information on domains of child development and the transition to kindergarten. The parent liaison, who had conducted a focus group with parents of Kickstart students in 2015, reported that the parents enjoyed the workshops, particularly the Circle of Security workshop, which gave them information on how to strengthen their relationship with their child in
order to facilitate their child’s transition to kindergarten. Another parent, who attended the workshops in 2015, remarked that it was interesting to learn about the activities that she could do with her children, and that, seven months later, her children were still using the math game and literacy activities that she had been given at the workshops. Two Family Resource Center employees, who had facilitated several of the workshops, remarked that the workshops went well and that parents had a positive response to them: “The participants all seemed interested, had great questions, they seemed involved in the Kickstart experience and…had questions in regards to entering kindergarten as well” (Marisa Corso). The FRC coordinator felt that the parent workshops were especially helpful for easing parents’ anxieties about their children transitioning into kindergarten, especially as kindergarten becomes increasingly academic: “I think that gives us a really interesting opportunity to dispel some of these misconceptions of what’s really developmentally appropriate” (Amy Waterman).

Building relationships with people in the schools. Related to the mention of the parent workshops was the frequent mention of parents becoming more familiar with people in the elementary schools over the course of Kickstart. Seven participants discussed the benefits of Kickstart parents beginning to build relationships with school personnel – including teachers and school administrators - prior to the start of kindergarten itself. One teacher also mentioned that, through the parent workshops, parents were able to come together, meet one another, and begin to form a community prior to the beginning of kindergarten. The principal of Farm Hill remarked that Kickstart fills a need in Middletown by engaging families early on who might
otherwise feel disconnected from and have trouble getting involved in the school community. One of Kickstart’s past certified teachers spoke specifically about one student she had taught in Kickstart and was then teaching in her kindergarten class:

“[She] is very needy; it was great for me to meet that child during the summer and to work with that child, because I was able to become familiar with that child’s parents, and the parents and I have a wonderful rapport this year, which is so necessary, because she’s having some difficulty…” (Chris Newton).

All three FRC workers remarked that Kickstart has allowed them to start building relationships with parents prior to the start of the school year, and that doing so has helped parents transition into school once their children begin kindergarten.

It gives us a really nice advantage to meeting the families that are coming in, and start building those relationships earlier, before the kids come into school, so I think it’s really great that it’s here, we can service the Farm Hill kids. (Traci Dubos)

I see the parents have an easier transition into the school when they already have a relationship from someone at the school. So even for Macdonough and Farm Hill families, you know, the first day walking in, they see a familiar face, they’re ready to go. (Marisa Corso)

A kid who was in Kickstart, and had developed a relationship with our parent educator, when he started kindergarten, there were some issues, and there became some communication breakdown within the family and the
school…the mom was not getting along with anybody, but because, I think, that we had had this relationship with the mom before she even started, within Kickstart, the parent educator was able to act as that liaison, and the mom is now fully engaged, she’s coming to parent-teacher conferences, she feels that there is, like, an advocate. So, for us to be able to be there, to provide that, is really important. (Amy Waterman)

**Improvements to Kindergarten Kickstart.** Several participants had ideas about aspects of the Kickstart program that could be improved in the future. In particular, participants suggested increasing communication between Kickstart teachers, Middletown kindergarten teachers, and Kickstart parents; extending the length of the program; and expanding the program to more schools in Middletown.

*More communication with kindergarten teachers and parents of students.* Three participants, including the two Farm Hill kindergarten teachers who had not taught with Kickstart, suggested that Kickstart teachers communicate with kindergarten teachers about the Kickstart program itself, so that kindergarten teachers could better understand the philosophy of the program. All three kindergarten teachers interviewed suggested that future Kickstart teachers become familiar with kindergarten expectations (either through observing a kindergarten class or speaking directly with kindergarten teachers), in order to better understand what will be expected of students once they begin school.

Two kindergarten teachers, as well as the director of Wesleyan’s Center for Community Partnerships, suggested that Kickstart teachers provide kindergarten
teachers with information on each child, particularly a child who had experienced difficulties in the classroom. Kickstart teachers, in the future, could give them a brief report on each child’s successes, things s/he struggled with, and any approaches that Kickstart teachers used in order to help him or her improve. Two kindergarten teachers remarked that they get very little information about their students prior to the beginning of the school year, and that it would be especially helpful to know more about their students with limited preschool experience before having them in their own classrooms.

Two participants also suggested that Kickstart increase communication with the parents of its students. According to several participants, some parents of past Kickstart students had expressed concern that the program is not academic enough, and therefore had not adequately prepared their children for kindergarten. The parent liaison suggested that Kickstart teachers communicate the research and philosophy behind the program to the parents early on in the summer, in order to preemptively address any similar concerns. The superintendent and associate superintendent also recommended that Kickstart teachers reinforce to parents the importance of bringing their children to school every day, on time, well-rested and well-fed, in order to be ready to learn each day.

*Extension of the length of the program.* Three participants expressed a desire to see the length of the Kickstart program extended, both to provide the kids with a longer classroom experience and to fill certain parents’ need for a longer period of childcare over the summer. On the other hand, one participant also mentioned that the
fact that Kickstart is relatively short has been comforting for some parents in the past who were nervous about sending their children to school.

*Expansion to other settings.* Five participants said that they would like to see Kickstart expanded to other elementary schools in Middletown, in order to serve a wider range of children. One teacher remarked, “I wish we could have Kickstart in all the schools, because I think it would be wonderful to have a program…every school has needy kids” (Chris Newton).

Four participants also expressed interest in seeing some of Kickstart’s philosophies implemented in other early childhood education settings. The FRC coordinator felt that Kickstart’s emphasis on play-based learning could be a model for year-round preschools, and another FRC employee said that she would like to see other preschools and schools implement some of the techniques for building social and emotional skills (i.e., the Mood Meter) that Kickstart uses. Another participant wished that other preschools could have access to the same research that Kickstart makes use of. Lastly, one participant suggested that, through increased communication between Kickstart and Middletown kindergarten teachers, some of Kickstart’s philosophies could be embraced in kindergarten classrooms.

**Discussion**

This study examined the views of Kindergarten Kickstart held by members of the Middletown community who had interacted significantly with the program in some capacity. Overall, participants held positive views of the program, reporting that it helped children, especially those with limited preschool experience, and their parents transition into kindergarten.
Several concerns that parents and school personnel hold about school and school readiness in Middletown became apparent through the interviews. Several participants remarked on the fact that many children in Middletown, particularly those from low-income families, do not have access to high-quality preschool programs. This finding is consistent with past research showing that children from low-income families are less likely to attend preschool than their higher-income counterparts, and less likely to attend high-quality programs (Annie E. Casey Foundation, 2015; Peisner-Feinberg et al., 2001). As a result of this, many entering kindergarteners in Middletown do not have all of the skills they need to be successful in school. In particular, many participants felt that being ready for the social expectations of kindergarten was crucial, and that lacking that readiness can lead to children having trouble learning academic skills and even, according to one teacher, to children disrupting the learning of their classmates. This also corroborates past findings that kindergarten teachers often view social skills, such as being able to take turns and share with other students, as being more important for school readiness than academic skills such as knowing most of the alphabet (Lin et al., 2003). Additionally, several participants, including both teachers and school administrators, expressed concern that the academic standards in early elementary school have become too high, and that kindergarteners are now expected to perform many tasks that are not developmentally appropriate.

Participants commented on several aspects of Kindergarten Kickstart that they felt to be beneficial. First, several participants remarked on the benefits of having a program that provided some classroom experience to children who had had only
limited preschool experience, which helped prepare them for the structure of kindergarten. Second, several participants praised Kickstart’s focus on play-based learning, some remarking that they would like to see more preschool programs and even kindergarten classrooms embrace a play-based philosophy. Third, multiple participants felt that the high teacher-student ratio in Kickstart has made it easier for teachers to adapt to children’s individual needs, and that most local preschool programs are not able to have so many teachers per student. Other features of the Kickstart program that were perceived as uncommon by participants were its field trips, location in Middletown public schools, and use of research-based practices. Participants praised the use of research in Kickstart; specifically, both teachers interviewed who had taught in Kickstart reported that they had enjoyed working with research, and had learned from their experience working with Kickstart.

One of the most frequently mentioned and praised aspects of Kickstart was its parent engagement: educating parents through workshops, familiarizing them with the school their children will attend in the fall, and allowing them to begin to form relationships with each other and with school personnel. This finding is aligned with substantial previous research that has highlighted parent involvement as an important feature of preschool programs targeting children from low-income families (Reynolds, 1998). Overall, participants seemed to feel that Kickstart filled a gap in the preschool landscape in Middletown.

**Limitations.** Although the participants in the interviews occupied a wide variety of roles, both in Kickstart and in Middletown, there were several relevant Middletown community members who did not participate in the interviews, including
one school principal and two kindergarten teachers who had taught past Kickstart students. Additionally, only two parents of Kickstart students participated in the interviews. It is possible that these people would have had different opinions on the program; in the future, interviews could be conducted with them, in order to obtain a wider range of perspectives. Specifically, parents of Kickstart students could be invited to participate in an interview right after the end of the Kickstart program, in order to increase participation.

**General Discussion**

This study investigated the impact of Kindergarten Kickstart, a research-based summer preschool program for rising low-income kindergartners in Middletown, Connecticut with little to no prior preschool experience. The impact of Kindergarten Kickstart was assessed both through students’ improvements on measures of school readiness, numeracy, and executive function and through interviews with Middletown community members who had collaborated with the program.

Overall, Kindergarten Kickstart students from 2012-2015 completed the program with significantly higher levels of school readiness than when they had begun, as measured by the Speed-DIAL-4. In 2015, Kindergarten Kickstart students were compared to a control group; while Kindergarten Kickstart students demonstrated significant improvement on the DIAL-4 and on a measure of executive function from the beginning to the end of the program, no such differences were seen for children in the control group.

Interviews with Middletown community members, including school administrators, teachers, non-profit workers, and parents, indicated that many people
who had collaborated with Kindergarten Kickstart had an overall positive view of the program. Participants praised many aspects of Kickstart, and several felt that Kindergarten Kickstart filled a need in the Middletown community by serving children with little to no preschool experience, allowing them and their parents to become more comfortable in a school environment.

**Implications and Future Directions**

Kindergarten Kickstart has operated for four years and will continue in its fifth year in the summer of 2016. In the future, Kickstart students will be tested on all three standardized assessments (DIAL-4, WHX, and HTKS), and efforts will be made to employ a quasi-experimental design, with a control group of at least $n = 10$. Information could also be collected on each student’s prior preschool experience (e.g., length of time they had attended, half- or full-day program), race/ethnicity, family income level, and parental education, in order to evaluate any relationships between these variables and participants’ levels of school readiness at the beginning and end of the program. Since Kickstart students who began the program with relatively high DIAL-4 scores showed the least improvement at the end of the program, future teachers could design more advanced activities to deliver to those students, in order to further their development as much as possible. Additionally, in order to assess potential long-term outcomes of the program, Kickstart students could be followed up with in elementary school and tested on measures of academic ability, executive function, and socio-emotional skills.

In the next iteration of the program and in the years to come, steps could be taken to standardize the program in order to better ensure consistency between
classrooms and from year to year. Teachers and administrators could develop an official curriculum manual for the program and create a measure of implementation fidelity. Although one of the hallmarks of Kickstart so far has been its relatively flexible curriculum and structure, research has shown that preschool interventions that are carried out with more fidelity produce better outcomes for students (Hamre et al., 2010). Measures could be developed to make sure that Kickstart realizes its ideals (e.g., positive teacher-student interactions, ample daily time for free play, books read aloud every day) as much as possible. Standardizing the program curriculum and practices would also make it easier to replicate the program in other settings. In the future, Kickstart classrooms could also be assessed on the Classroom Assessment Scoring System® (Pianta et al., 2008), a widely used indicator of classroom quality that measures the organization, emotional support, and organizational support of a classroom.

In the interviews, several participants expressed a desire to see Kickstart extended to longer than five weeks and/or to expand to other sites in Middletown. Thus far, practical concerns, including limited access to public school classrooms over the summer, have prevented Kickstart from continuing for longer than five weeks; however, in the future, extending the program to seven or eight weeks could be possible. Additionally, the program could be expanded to a third site in Middletown within the next few years.

Several interview participants also suggested that Kickstart teachers increase communication with Middletown kindergarten teachers, both to become more familiar with kindergarten expectations and to provide information at the end of the
program to teachers about Kickstart students, so that teachers could be as prepared as possible when school started in the fall. In future years, prior to beginning the program, Kickstart teachers could observe a kindergarten class and meet with kindergarten teachers, and could deliver a short report to kindergarten teachers on each child (detailing that child’s strengths, struggles, and any strategies that work well for him/her) at the end of the program.

Several participants, including two Middletown teachers who had taught in Kickstart classrooms, expressed favorable opinions about incorporating psychology research into the classroom. In the future, Kickstart teachers will continue to make use of research-based activities, using the Wesleyan Preschool Math curriculum, Circle Time Games, and Preschool RULER. Kindergarten Kickstart was also recently awarded a Seed Grant through Wesleyan University’s Patricelli Center for Social Entrepreneurship, which will allow Kickstart teachers to research and develop a literacy intervention to use in their classrooms as well.

Through the interviews with Middletown community members, it was clear that teachers and school administrators view preschool as being very important to children’s development and school readiness. Thus, we believe that Kickstart, due to its short duration, should not be seen as a replacement for year-round preschool. Rather, it should be viewed as a helpful addition to the existing preschool landscape in Middletown, providing preschool experience to students who have either had none or who could benefit from more classroom experience before beginning kindergarten. In the future, efforts to increase access to high-quality preschool, especially for low-income children, both in Middletown and across the country, will help ensure that as
many children as possible begin kindergarten with appropriate levels of school readiness.

The current study contributes to the current literature on preschool interventions by providing evidence of a short-term, summer preschool program that has had significant positive effects on low-income students’ school readiness skills. Additionally, this study indicates that Kickstart’s model - using undergraduate students as teachers, employing a play-based, child-centered philosophy, and incorporating research-based interventions (Circle Time Games and RULER) into its curriculum – is effective at helping children get ready for kindergarten.

Although the majority of teachers in each Kickstart classroom were not certified teachers, Kickstart students still made significant gains on all standardized assessments over the course of the program, suggesting that the Wesleyan students were competent teachers. Future studies could examine on a larger scale the efficacy of having well-trained, well-supported undergraduate students lead short-term preschool programs. Such programs would have the potential to be implemented at relatively low cost, since undergraduates would likely not need to be paid as much as certified teachers. This approach could be an affordable way to increase the number of available preschool programs, which would be beneficial considering the slow rate at which many states have increased their funding of preschool in recent years (Barnett et al., 2015).

Kindergarten Kickstart employed a research-based curriculum, both through its play-based, child-centered approach and through its research-based activities (the Wesleyan Preschool Math curriculum, Circle Time Games, and Preschool RULER).
The findings from this study add to the current literature on the importance of play and a child-centered approach in early childhood education and suggest that such elements of preschool programs should continue to be emphasized. Additionally, the ease with which Kickstart has incorporated developmental science research into a practical educational setting suggests that more early childhood programs could have success doing the same. In the future, developmental science and education researchers could increase outreach to teachers and school administrators, in order to share with them current findings in an accessible way, learn more about their needs as educators, and attempt to involve them in the research process in a more meaningful way. Although increased communication and collaboration between researchers and teachers would have little direct effect on educational policymakers’ decisions about what programs or academic standards to actually implement, it could lead to better mutual understanding and therefore to a narrowing in the gap that currently exists between research and practice in education.

**Conclusion**

Preschool education can foster children’s development of early numeracy, literacy, executive function, and socio-emotional regulation, equipping them with skills that they will need in order to succeed once they begin elementary school (Gorey, 2001; Camilli et al., 2010). Many low-income children do not attend preschool programs prior to beginning kindergarten and enter school with lower levels of school readiness than higher-income children (Annie E. Casey Foundation, 2015; Lee & Burkham, 2002). The results of this study suggest that Kindergarten Kickstart has helped to prepare low-income children in Middletown for kindergarten,
helping them, as well as their families, transition into elementary school. While universal access to high-quality, year-round preschool programs still seems to be a worthwhile goal for policymakers and educators to pursue, until it is realized, Kindergarten Kickstart can fill an important need in the Middletown community, while also serving as a model of a short-term, high-impact, research-based preschool program.
References


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promotes low-income children’s numerical development. *Developmental
Science, 11*(5), 655-661.


instructional approaches on young children’s achievement and motivation.

randomized trial using circle time games to improve behavioral self-regulation in

America’s children and youth. Office of the Assistant Secretary for Planning
and Evaluation.

literacy intervention on Head Start children and teachers. *Journal of
Educational Psychology. 98*, 63–74.

children’s mathematics, language, literacy, executive function, and emotional
skills. *Child Development, 84*(6), 2112–2130.
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student achievement. Issues & Answers. REL 2007-No. 033. Regional
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Appendix A
Interview Script

Introduction

Thank you very much for taking the time to talk to me today. As you know, I am from Wesleyan University, and the interview that you are about to participate in is part of my senior project. This interview focuses on the perspectives of Middletown community members who have collaborated with Kindergarten Kickstart over the past few years. The purpose of this study is to get an idea of what Kickstart has been doing well and what aspects of the program could be improved. Information from these interviews will help Anna Shusterman and Kickstart teachers improve Kickstart, in order to maximize its future impact on students and their families.

As you know, I have worked for Kickstart and remain connected to the program. That being said, I encourage you to feel comfortable speaking freely and honestly about Kickstart during this interview.

Signing the informed consent form
Before you using the interview consent form, I would like to tell you the details and procedure.

This interview will last roughly 20-30 minutes. You may discontinue the interview or take a break at any tie. Participation in this study is voluntary. If you are comfortable being recorded, your responses will be audiotaped for data collection purposes only. The audiotape will be kept confidential and stored securely at the research lab.

Here is the consent form for this interview. Do you have any questions about the procedure of the interview? *(Participant reads and signs the consent form).*

START RECORDING

Interview Questions
Please tell me about your involvement in the Middletown community: In what capacity do you work/have you worked in Middletown? For how long?
Are you a resident of Middletown? How long have you lived in Middletown?
Please describe your involvement in Kindergarten Kickstart: In what capacity have you been involved in the program, and for how long?

In your view, what impact has Kindergarten Kickstart had on participating children that you know? What impact has it had on participating families that you know? What specific outcomes have you seen for these children and families? What aspects of the program do you think have led to these outcomes?

In your opinion, what is Kindergarten Kickstart’s place in the broader Middletown community? For example, does it offer anything different from what other local preschool programs offer?

What could Kindergarten Kickstart be doing better in order to better support children? In order to better support families? How do you think Kindergarten Kickstart could be improved in the future? What would you like to change about Kindergarten Kickstart in the future?

Is there anything else that you’d like to add?

Debriefing
Thank you very much for completing the interview. We appreciate your help!

So far, the information that we have on Kickstart’s impact on its students and their families has come from standardized tests or anecdotal information. The purpose of this study is to get a clearer idea of what Middletown community members who have been involved in the development and/or implementation of Kickstart think about the program. We hope to both get a better understanding of what Kickstart’s impact has been so far and obtain information about how we could improve the program in the future.

If you are interested in learning more about this study, or if you have concerns about your rights as a participant, please contact Professor Anna Shusterman or me. (Give participant debriefing form).

Do you have any other questions or comments about anything you did today or anything we have talked about? Thanks again for your participation!
## Appendix B

### Codebook

<table>
<thead>
<tr>
<th>Code</th>
<th>Code Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Role in Middletown community</strong></td>
<td><strong>Participant’s involvement in the Middletown community</strong></td>
</tr>
<tr>
<td>FRC</td>
<td>Participant works at the Family Resource Center</td>
</tr>
<tr>
<td>Wesleyan CCP</td>
<td>Participant is the director of Wesleyan’s Center for Community Partnerships</td>
</tr>
<tr>
<td>Farm Hill</td>
<td>Participant works at Farm Hill</td>
</tr>
<tr>
<td>Middlesex Coalition for Children</td>
<td>Participant is the director of the Middlesex Coalition for Children</td>
</tr>
<tr>
<td>Kindergarten teacher</td>
<td>Participant is a kindergarten teacher</td>
</tr>
<tr>
<td>5th grade teacher</td>
<td>Participant is a 5th grade teacher</td>
</tr>
<tr>
<td>Former teacher</td>
<td>Participant previously worked as a teacher</td>
</tr>
<tr>
<td>Principal</td>
<td>Participant is a school principal</td>
</tr>
<tr>
<td>Superintendent</td>
<td>Participant is the superintendent of Middletown Public Schools</td>
</tr>
<tr>
<td>Associate superintendent</td>
<td>Participant is the associate superintendent of Middletown Public Schools</td>
</tr>
<tr>
<td>Middletown resident</td>
<td>Participant lives in Middletown</td>
</tr>
<tr>
<td><strong>Kickstart role</strong></td>
<td><strong>Participant’s involvement in Kindergarten Kickstart</strong></td>
</tr>
<tr>
<td>Parent</td>
<td>Participant’s child attended Kickstart</td>
</tr>
<tr>
<td>Certified teacher</td>
<td>Participant worked as the certified teacher in a Kickstart classroom</td>
</tr>
<tr>
<td>Parent workshops</td>
<td>Participant planned and/or facilitated parent workshops</td>
</tr>
<tr>
<td>Recruiting</td>
<td>Participant helped recruit students for Kickstart</td>
</tr>
<tr>
<td>Parent liaison</td>
<td>Participant is the Kickstart parent liaison</td>
</tr>
<tr>
<td>Planning</td>
<td>Participant has helped plan aspects of Kickstart</td>
</tr>
<tr>
<td>Has taught past Kickstart students in kindergarten</td>
<td>Participant has taught former Kickstart students in her kindergarten class</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>School/School Readiness Concerns</strong></td>
<td><strong>Concerns about school readiness and school in general</strong></td>
</tr>
<tr>
<td>Not all Middletown children have high-quality preschool</td>
<td>Participant mentions that not all children in Middletown attend a high-quality preschool</td>
</tr>
<tr>
<td>Lack of access for low-income families/children to high-quality preschool</td>
<td>Participant mentions that some low-income families in Middletown may not have access to high-quality preschool</td>
</tr>
<tr>
<td>Students not fully prepared for kindergarten who haven’t attended preschool</td>
<td>Participant mentions having taught students who had not attended preschool and were not fully prepared for kindergarten</td>
</tr>
<tr>
<td>Importance of social skills for kindergarten readiness</td>
<td>Participant mentions that social skills are important for children’s school readiness</td>
</tr>
<tr>
<td>Social skills above academics important for school readiness</td>
<td>Participant feels that social skills are more important for school readiness than academic skills</td>
</tr>
<tr>
<td>Practices that are not developmentally appropriate in preschool/kindergarten</td>
<td>Participant mentions or describes practices in preschool or kindergarten that she does not think are developmentally appropriate</td>
</tr>
<tr>
<td><strong>Common Core</strong></td>
<td>Participant mentions the Common Core State Standards as a cause for concern</td>
</tr>
<tr>
<td>Kindergarten becoming more academic</td>
<td>Participant thinks kindergarten is becoming more academic</td>
</tr>
<tr>
<td>Kindergarten standards becoming higher</td>
<td>Participant thinks kindergarten standards are becoming higher</td>
</tr>
<tr>
<td>Kindergarten becoming less social</td>
<td>Participant thinks kindergarten is becoming less social</td>
</tr>
<tr>
<td>Preschool becoming more academic</td>
<td>Participant thinks preschool is becoming more academic</td>
</tr>
<tr>
<td>Trying to keep play in kindergarten</td>
<td>Participant tries to keep play in her kindergarten classroom</td>
</tr>
<tr>
<td><strong>Elements of Kickstart</strong></td>
<td><strong>Participant describes an element of the Kindergarten Kickstart program</strong></td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Parent workshops</td>
<td>Participant mentions Kickstart’s parent workshops</td>
</tr>
<tr>
<td>Positive response to workshops</td>
<td>Participant expresses or mentions someone else’s positive response to the parent workshops</td>
</tr>
<tr>
<td>Parent education</td>
<td>Participant mentions that parents can learn about child development and/or school through Kickstart</td>
</tr>
<tr>
<td>Parents gaining familiarity/building relationships with people involved in the school</td>
<td>Participant mentions that parents can gain familiarity and/or build relationships with people involved in the elementary schools through Kickstart</td>
</tr>
<tr>
<td>Parents building relationships with FRC</td>
<td>Participant mentions that parents can build relationships with FRC employees through Kickstart</td>
</tr>
<tr>
<td>Parents building relationships with teachers/principal</td>
<td>Participant mentions that parents can build relationships with a school teacher and/or principal through Kickstart</td>
</tr>
<tr>
<td>Parents gain familiarity with faces in the school</td>
<td>Participant feels parents can gain familiarity with faces in their child’s elementary school through Kickstart</td>
</tr>
<tr>
<td>Parents gain familiarity with school/classroom</td>
<td>Participant mentions that parents can become familiar with the school and/or classroom their children will attend through Kickstart</td>
</tr>
<tr>
<td>Parents build relationships with each other</td>
<td>Participant mentions that parents can build relationships with each other through Kickstart</td>
</tr>
<tr>
<td>Parents familiar with kindergarten expectations</td>
<td>Participant mentions that parents can become familiar with kindergarten expectations through Kickstart</td>
</tr>
<tr>
<td>Parent concerns about transition to kindergarten</td>
<td>Participant mentions parents’ concerns about the transition to kindergarten</td>
</tr>
<tr>
<td>Kindergarten Kickstart: Outcomes of a Pre-K Program</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Trying to ease parent concerns about kindergarten</td>
<td>Participant mentions that during Kickstart, FRC have tried to ease parents’ concerns about kindergarten</td>
</tr>
<tr>
<td>Parent concerns about Kickstart</td>
<td>Participant mentions or describes parents’ concerns about the Kickstart program not being academic enough</td>
</tr>
<tr>
<td>Parent involvement in education (in general) is important</td>
<td>Participant feels that it is important for parents to be involved in their children’s education</td>
</tr>
<tr>
<td>Sometimes families feel disconnected from school</td>
<td>Participant describes or gives an example of families feeling disconnected from school</td>
</tr>
<tr>
<td>Summer program located in Middletown schools</td>
<td>Participant mentions the fact that Kickstart takes place over the summer in Middletown public schools</td>
</tr>
<tr>
<td>Kickstart can’t take the place of 1-2 years of preschool</td>
<td>Participant feels that Kickstart should not be seen as a replacement for 1-2 years of preschool</td>
</tr>
<tr>
<td>Benefit of Kickstart being short</td>
<td>Participant mentions a benefit of Kickstart being a short-term program</td>
</tr>
<tr>
<td>Children gain familiarity with faces in school</td>
<td>Participant feels Kickstart students gain with faces in their elementary school</td>
</tr>
<tr>
<td>Children gain familiarity with the school</td>
<td>Participant feels Kickstart students become familiar with the school they will attend</td>
</tr>
<tr>
<td>Children gain familiarity with classroom (both actual classroom and a classroom in general)</td>
<td>Participant feels that students have become familiar with the classroom environment (either a classroom in general or the actual classroom where they will attend kindergarten)</td>
</tr>
<tr>
<td>Children gain familiarity with structure of kindergarten</td>
<td>Participant feels that Kickstart has familiarized children with the structure of kindergarten</td>
</tr>
<tr>
<td>Topic</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Lack of structure (relatively) in Kickstart</td>
<td>Participant comments on the lack of structure in Kickstart, relative to other early education settings</td>
</tr>
<tr>
<td>Children meet their peers</td>
<td>Participant mentions that children have met their peers prior to beginning kindergarten</td>
</tr>
<tr>
<td>Kickstart students well prepared for kindergarten</td>
<td>Participant feels former Kickstart students have been well-prepared for kindergarten</td>
</tr>
<tr>
<td>Working with research/researchers</td>
<td>Participant mentions the use of research and/or working with researchers in Kickstart</td>
</tr>
<tr>
<td>Benefitting from training</td>
<td>Participant (certified teacher) feels she benefitted from the training provided to Kickstart teachers</td>
</tr>
<tr>
<td>Lack of research in education</td>
<td>Participants mention that, as teachers, they don’t have much interaction with researchers</td>
</tr>
<tr>
<td>Currently incorporating things learned in Kickstart in kindergarten classroom</td>
<td>Participant mentions that she is currently incorporating aspects of the Kickstart program into her kindergarten classroom</td>
</tr>
<tr>
<td>RULER Mood Meter</td>
<td>Participant mentions the RULER Mood Meter</td>
</tr>
<tr>
<td>Play/play-based learning</td>
<td>Participant mentions play or play-based learning in Kickstart</td>
</tr>
<tr>
<td>Informal learning during Kickstart</td>
<td>Participant mentions informal learning that took place during Kickstart (e.g., during lunchtime)</td>
</tr>
<tr>
<td>Social/emotional skills addressed in Kickstart</td>
<td>Participant feels that social and emotional skills are addressed in Kickstart</td>
</tr>
<tr>
<td>Focus on social/emotional skills in Kickstart</td>
<td>Participant feels that focus on social and emotional skills is an important part of Kickstart</td>
</tr>
<tr>
<td>Socio-emotional growth in Kickstart</td>
<td>Participant describes Kickstart students having made socio-emotional growth</td>
</tr>
<tr>
<td>Field trips</td>
<td>Participant comments on Kickstart’s field trips</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Exposure to experiences</td>
<td>Participant feels that Kickstart exposes its students to a variety of experiences</td>
</tr>
<tr>
<td>Kickstart helps with transition to kindergarten</td>
<td>Participant feels that Kickstart has helped students transition to kindergarten</td>
</tr>
<tr>
<td>Teacher-student ratio</td>
<td>Participant comments on the teacher-student ratio in Kickstart</td>
</tr>
<tr>
<td>Teacher-student ratio allows teachers to address individual needs</td>
<td>Participant feels Kickstart’s high teacher-student ratio allows Kickstart teachers to address children’s individual needs</td>
</tr>
<tr>
<td>Wesleyan students as teachers</td>
<td>Participant comments on Wesleyan students working as Kickstart teachers</td>
</tr>
<tr>
<td>Wesleyan students connecting with Middletown community</td>
<td>Participant feels that teaching at Kickstart allows Wesleyan students to connect more fully with the Middletown community</td>
</tr>
<tr>
<td>Increase Wesleyan students’ interest in teaching</td>
<td>Participant expresses hope that teaching with Kickstart will get Wesleyan students interested in being teachers</td>
</tr>
<tr>
<td>Difficulties working with multiple teachers in a classroom</td>
<td>Participant mentions having had difficulty working with several other teachers in the Kickstart classroom</td>
</tr>
<tr>
<td>Balancing working with multiple teachers</td>
<td>Participant mentions having found a balance while working with several other teachers in the Kickstart classroom</td>
</tr>
<tr>
<td>Environment of Kickstart</td>
<td>Participant comments on Kickstart’s environment</td>
</tr>
<tr>
<td>Welcoming for families</td>
<td>Participant feels that Kickstart provides a welcoming environment for students’ families</td>
</tr>
<tr>
<td>Safe</td>
<td>Participant feels that Kickstart provides a safe environment</td>
</tr>
<tr>
<td>Nurturing</td>
<td>Participant feels that provides a nurturing environment</td>
</tr>
<tr>
<td>Flexible/adaptive</td>
<td>Participant feels that Kickstart provides a flexible/adaptive environment</td>
</tr>
<tr>
<td>Positive environment</td>
<td>Participant feels that Kickstart provides a positive environment</td>
</tr>
<tr>
<td>Academics in Kickstart</td>
<td>Participant mentions or describes academic activities done in Kickstart</td>
</tr>
<tr>
<td>Excitement to learn</td>
<td>Participant mentions that an element of Kickstart is getting children excited to learn</td>
</tr>
<tr>
<td>Academic growth over the course of the summer</td>
<td>Participant mentions or describes Kickstart students having made academic growth</td>
</tr>
</tbody>
</table>

**Suggestions for improvement**

<table>
<thead>
<tr>
<th>Participant suggests a way in which Kickstart could be improved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make program longer</td>
</tr>
<tr>
<td>Bring program to other schools</td>
</tr>
<tr>
<td>Increase communication with parents</td>
</tr>
<tr>
<td>Reinforce kindergarten expectations to parents</td>
</tr>
<tr>
<td>More communication with kindergarten teachers</td>
</tr>
<tr>
<td>Give kindergarten teachers report on Kickstart children</td>
</tr>
<tr>
<td>Share Kickstart philosophy with kindergarten teachers</td>
</tr>
<tr>
<td>Kindergarten Kickstart: Outcomes of a Pre-K Program</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
</tr>
<tr>
<td>of Kickstart with Middletown kindergarten teachers</td>
</tr>
<tr>
<td>Kickstart teachers learning about kindergarten expectations</td>
</tr>
<tr>
<td>Participant suggests that Kickstart teachers observe a kindergarten class or talk to kindergarten teachers to become familiar with kindergarten expectations</td>
</tr>
<tr>
<td>Wanting to extend Kickstart’s philosophy/approaches to other settings</td>
</tr>
<tr>
<td>Participant expresses a desire to see aspects of Kickstart’s philosophy/approaches implemented in other educational settings</td>
</tr>
<tr>
<td>Giving preschool/classroom experience to kids who have limited/no prior experience</td>
</tr>
<tr>
<td>Participant remarks that Kickstart provides children who have limited or no prior classroom experience with a preschool/classroom experience</td>
</tr>
</tbody>
</table>