

ABSTRACT

A Comparison of Children Living in Extreme Urban Poverty Participating in an Enrichment Program with a Control Group on Narrative Skills Using Responses to a Story Telling Task

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Economic disadvantage is linked with harsher environments, which lead to poor cognitive, social, academic, and emotional consequences for children involved. It has been shown that an early period of schooling is of critical importance for future academic success among low-income children. This study intended to determine the effectiveness of the treatment method Talitha Koum Nurture Center Program. This was done by assessing how the children receiving intervention differ in narrative skills from children from comparable backgrounds. The procedure instructed children to complete stories after the stem of the story (or beginning) about everyday problems had been given to them by the examiner. The experimental children participated in the Talitha Koum intervention program from two months of age until time of testing or age five. The control children were recruited from a low-income housing neighborhood highly similar to the neighborhoods of the experimental children. Of the thirty-one children between the ages of three and five that were part of this study, 16 told stories that could be coded; seven from the experimental group and nine from the control group. The results showed that TK children told more stories and longer stories than the control group. The language used was more complex as indicated by the significantly higher mean MLU and significantly higher use of descriptors, qualifiers, and internal state terms than the control group.

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PARTICIPATING IN AN ENRICHMENT PROGRAM WITH A CONTROL GROUP
ON NARRATIVE SKILLS USING RESPONSES TO A STORY TELLING TASK

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CHAPTER ONE

Introduction

Literature Review

Children living in impoverished areas are often exposed to perils that ultimately affect their general proficiency and competence. Scarcity creates an environment that causes children to have poor school readiness which is directly related to academic success for later years. Poverty is widespread among youth. Currently, 19.8% of Canadian children and 18.2% of American children live in disadvantaged environments (Fiorentino & Howe, 2002, p. 280). It has been established that economic disadvantage is connected to harsher, less caring parenting, which can lead to “poor cognitive, social, academic, and emotional outcomes for children involved” (Benedict, p. 29). Academic difficulties are problematic because low-income children are often unable to catch up to grade level expectations when they enter school developmentally unprepared, which leads to low grades and problematic behaviors in the classroom. Therefore, school readiness is especially an important concern because the numerous risks apparent in the disadvantaged child’s environment: health problems, academic difficulties, and social problems, are likely to contribute to future school hardships.

Research shows that enrichment programs can have a dramatic effect on learning for students who come from impoverished upbringings. The long-term benefits of high-quality early education programs are well documented. Indeed, instructors and policymakers are placing further importance on early teaching of the 19 million children in the United States under the age of five, in order to exploit didactic gains (Jensen,

2009). Furthermore, children's narrative abilities have been linked to social and cognitive outcomes, which may have implications for school readiness. Therefore, narratives children generate have become a more recent approach to evaluating associations between development and school readiness.

Effects of Early Experiences on Psychological Development

Essential to the field of developmental psychopathology are inquiries about the mechanisms by which early exposures and experiences may have permanent effects on the individual (O'Connor, 2006). O'Connor (2006) details several conceptual models that focus on early experiences: sensitive period models, adaptive or programming models, and life course models. Sensitive period models hypothesize that there is a critical period in the life of an individual when environmental input is essential for normal development to occur. Next, adaptive or programming models expect differences among individuals within the same species depending on their early environmental experiences. Last, life course models suggest that the accumulation through the development of an individual's particular profile of risk and protective experiences is the result of individual differences in psychological development. Recent research directed toward this topic in human research is extensive. For example, maternal or caregiving deprivation has been studied to determine the effects of early experience. Findings from the English and Romanian Adoptee Study (O'Connor, et al. & the English and Romanian Adoptee Study Team, 2003) provided the strongest evidence to date that "early institutional deprivation is associated with persisting disturbances in attachment and social relations" (O'Connor, 2006, p. 219).

Poverty circumstances create increased stress for the family, which may put families at risk for maltreatment (Edelman, 1987; McLoyd & Wilson, 1991; Waldfogel, 2000). The results of one study conducted by Manly and colleagues (2001) highlighted how severity of emotional maltreatment in the infancy and preschool period affected the infant's behavior; "severity of physical neglect, particularly during the pre-school period, was associated with internalizing symptomatology and withdrawn behavior" (Manly et al., 2001, p. 760). According to Cicchetti and Valentino, "when environments fall outside the expectable range, normal development is impeded" (2006, p. 129). It has also been found in some studies that individuals internalize whole relationships, rather than parental values, such that relationship history can influence children's attitudes and cognitions, ultimately organizing the self and shaping individual development (Sroufe & Fleeson, 1988). In fact, there is evidence that children with low socioeconomic backgrounds have a high percentage of hardships at school; "maltreated children appear to be at heightened risk for maladjustment at school as a function of their socioeconomic status" (Egeland & Abery, 1991, p. 272). Hence, the experience of child maltreatment along with poor-quality parental care, exert a deleterious impact on psychological processes.

General Narrative Development and Narrative Diversity

Language acquisition is "the complex product of both developmental and societal variables", according to Stavans and Goldzweig (2008, p. 231). Thus, even though language development evolves within the child, it is also generated by the diverse aspects of the language to which the child is exposed. Consequently, parent/adult-child communicative interactions are essential during the child's early critical period in order

to ensure an adequate development of his or her narrative skills. Moreover, according to Champion, McCabe, and Colinet, “one key aspect of acquiring communicative competence is developing the ability to tell the kind of personal narrative valued in a child’s community” (2003, p. 381). Therefore, cultural differences influence how children narrate stories.

Children who come from impoverished backgrounds are at risk for verbal language and reading hardships. Reese, Leyva, Sparks, and Grolnik’s (2010) study focused on the comparison of the effects of teaching low-income mothers two types of training programs: shared book reading and conversations about shared past events. Shared book reading or dialogic reading in the home “is associated with higher levels of children’s oral language development” because it promotes the development of their vocabularies, which is related to better reading skills (Reese et al., 2010, p. 320). Moreover, shared past event narratives included helping children to narrate the events on the story and to communicate their experience of the happening. The results of this research concluded that mothers who were trained to be more elaborative improved the quality of their children’s stories as well as children’s narrative comprehension when compared to dialogic reading. Overall, this study showed the importance of parent/adult-child interactions and how parents and adults can effectively enhance children’s narrative development through interactions that focus on increased open-ended questions, which allow children to actively participate in the conversations.

Stavans and Goldzweig’s (2008) study scrutinized the relationships between storytelling interactions at home and the development of children’s narrative abilities. The procedure required the parents to tell their child a book story and then the children

were instructed to relate the same narrative to an adult examiner. The study's main purpose was to compare the differences in narrative productions in terms of parental narrative input, children's narrative output, and the differences between both. Stavans and Goldzweig argued that "there is a close relation between the language and linguistic experience to which a child is exposed" (2008, p. 251). Their results demonstrated that the narratives children generated were shorter than their parents'; however, as children grow older, they seem to acquire their narrative ability as their narratives start to bear a resemblance with that of their parents. This study is evidence that the development of children's narrative abilities might be related to the parental input embedded in parent-child interactions.

The hypothesis of one study conducted by Champion (1998) was that "African American children acquire a repertoire of narrative structures, which are influenced by a broad range of factors" (Champion, 1998, p. 252) including cultural upbringing, interpersonal background, and storytelling interactions. The participants in this study were fifteen African American children between the ages of six and ten who were drawn from a low-income background. Narrative data was collected over a period of five months during which examiners motivated narrative productions by engaging each child in a topic of conversation derived from short stories. High-point analysis (which focuses on the evaluation of the complicating action in the story) and alternative analysis (which allows for narratives to be considered as communicative and social events) resulted in the classification of eight different narratives. It is worth noting that moral centered and performative narratives were connected to the African American culture. Therefore, these results support the study's initial hypothesis that African American children acquire

and use a range of narrative structures. Consequently, the results in this study suggest that cultural backgrounds influence children's narrative structures.

Another study explored the structure of personal narratives of Haitian-American children. There are ethnographic studies of "classroom miscommunication between African-American children and European North American teachers in classrooms" (Champion et al., 2003, p. 386) which is an area of concern. Indeed, African-American children whose families have lived in the US for generations have narrative skills that are appreciated in their culture, but not in school. In this study, personal narratives were collected from ten Haitian-American children aged seven to eight years, who were first generation immigrants. Their narratives were then analyzed using high point analysis, story grammar, and Africanist analysis, which was created for this study. First, high-point analysis requires a narration to have a beginning, middle, and end. Next, story grammar analysis states that a narrative must contain certain components, such as "events, motivating states, attempts, and consequences" (Champion et al., 2003, p. 384) in order to be considered well-organized. When the researchers used high point analysis and story grammar analysis, the results "relegated Haitian-American children's narratives to relatively primitive categories" (Champion et al., 2003, p. 395). Nevertheless, when they used the Africanist approach analysis, which was based on literary analysis of West African oral literature, some of those 'primitive' narratives were considered to display moderate or extensive repetition and parallelism. These results showed how the Haitian American children's narratives are best appreciated from this point of view. This research gives insight of the critical importance for educators and other professionals

working with immigrant children to appreciate their narrative diversity instead of criticizing them for coming from different narrative traditions.

According to Applegate, Smith, Justice, and Piasta, artfulness refers to “the extent to which the narrator goes beyond simply recounting the events in a story to captivate the attention of the listeners through embellishment” (2010, p. 469). These types of elaborate narratives contain interesting words and expressive devices, which make them interesting and enjoyable to hear. This research investigated the artfulness of fictional oral narratives created by 43 children aged three and four. This study addressed several objectives: to describe and examine the relations between artfulness and narrative complexity, productivity, and lexical diversity, as measures of narrative quality and the relations between artfulness and general measures of language of fictional narratives produced by young children. First, complexity refers to how children create sentences to express themselves when they narrate their stories. Next, productivity conveys the length of the narration that the child tells. Finally, lexical diversity indicates the variety and types of words children use during storytelling. The results of the study confirmed that “narrative artfulness positively correlated with narrative complexity, productivity, lexical diversity, as well as standardized measures of general language ability” (Applegate et al., 2010, p. 479). Moreover, children who created more artful stories attained higher scores on measures of overall language performance. In conclusion, these results suggest that “artfulness and general language development grow together”, making artfulness a valid measure of quality in children’s narratives (Applegate et al., 2010, p. 487).

Relationship between Early Narrative Development and Later School Readiness

Children's narrative abilities are considered to reflect a comprehension of their own life situations as well as to reveal their language and cognitive capability (ability to create solutions to problems or their general comprehension of relationship dynamics). According to Feagans and Appelbaum, narrative skill is the most important language ability for success in school (1986, p. 359). Therefore, narratives children generate have become a more recent approach to inspecting associations between early narrative development and later school readiness.

Fiorentino and Howe (2002) explored the correlation between preschoolers' receptive language competence, school readiness, and narrative ability. Twenty-five children (mean of 4.8 years) from low socioeconomic backgrounds participated in this research. The procedure consisted of three tasks. During task 1, the participants were asked to draw a picture of the people living in their house. Next, in task 2 PPVT-R was used in order to measure the participant's level of receptive language vocabulary and assess language competence. Each child was given a vocabulary word and 4 pictures and then asked to choose the picture that best depicted the word. Finally, in task 3 the participants completed 3 narratives from the MacArthur Story Stem Battery (MSSB) based on family themes. The focus of the MSSB was to measure narrative ability through verbal story telling. The results showed that there were "significant positive relationships between narrative chronology and organization skills in regards to language competence and school readiness" (Fiorentino & Howe, 2002, p. 286). The conclusion of this study demonstrated that children who had overall inferior levels of language abilities and readiness to learn created narratives that lacked chronology and organization.

Consequently, this research demonstrated that we can indeed examine children's cognitive development by evaluating their ability to tell effective stories.

Teachers nowadays are challenged in fostering the development of writing skills in their students. Therefore, early identification efforts in written language of children would be important in determining which prekindergarten student may be at risk for writing difficulties that might occur during later formal schooling (Hooper, Roberts, Nelson, Zeisel, and Fannin, 2010). This longitudinal study scrutinized the preschool predictors of elementary school narrative abilities. Sixty-five African American children ranging in age from 5 to 5.5 participated in the study (Hooper et al., 2010). The children were followed from infancy through the first six years of schooling. First, examiners administered the predictor measures to the children before their entry to kindergarten. This predictor measures targeted preschool predictors which included "measures of phonological processing, core language abilities, pre-reading skills, and early writing concepts" (Hooper et al., 2010, p. 5). Next, the Written Language Cluster outcome measure was administered during the school grades 3-5. The results of this study concluded that "core language abilities, pre-reading skills, and maternal education at preschool were predictive of the level of writing skills achieved in Grades 3-5." (Hooper et al., 2010, p. 8). The findings in this study are noteworthy for professionals screening for written language difficulties in early preschool and elementary school.

Storytelling is used in most communities as a way to transmit shared beliefs and traditions. According to Schick and Melzi (2010, p. 293), "narratives are a way in which individuals represent and make sense of past experiences, structure and evaluate those in the present, as well as plan and anticipate those of the future." Children must rely on a

mixture of skills in order to share a story efficiently. Some of these skills include memory, language, and knowledge of the social domain (Hudson & Shapiro, 1991). Early narratives are associated with and predictive of increased vocabulary, print knowledge, decoding, story comprehension, and writing skills (Dickinson & Smith, 1994). Moreover, they are also correlated with aspects of socio-emotional and socio-cognitive development, such as emotional recognition, and perspective taking (Fivush & Nelson, 2006). Therefore, early narratives construct the basis for numerous academic and nonacademic features of school-related skills. Schick and Melzi's research studied the dialogue styles teachers use to engage their students in narrative interactions. Research has shown that children whose kindergarten teachers "encouraged them to think about characters' intentions and motivations, to analyze the sequence of events, and to make connections between the storyline and their personal experiences" had achieved better language and literacy skills at the end of preschool and fourth grade (Dickinson & Smith, 1994, p. 115). Ultimately, this research confirmed that "children with better developed narrative skills have an educational advantage over children who enter kindergarten with less well-developed narrative abilities" (Schick & Melzi, 2010, p. 310).

Learning how to effectively convey information in discourse includes "a relatively complete message, adequately explicit referents, and an assumed audience that is not privy to important contextual information" (Snow & Dickinson, 1991, p. 180). Creating discourses with the above characteristics train children to generate more explicit and elaborated written texts, which is a critical skill for reading comprehension, an ability required in many academic settings. Moreover, children use evaluative elements such as intensifiers, delimiters, and repetition in order to mark the significance of the information

presented. Therefore, while learning to use these evaluative elements in oral storytelling, “children may also be acquiring skill at using such techniques in their own narrative and other forms of writing” (Griffin et al., 2004, p. 126). Griffin, Hemphill, Camp, and Wolf (2004) investigated relationships between preschooler’s oral discourse and their later skill at writing and reading. The Griffin study included thirty-two children from age five to eight years who participated in this longitudinal study of language development. They first evaluated the early oral discourse abilities at age five and then related that evaluation to measures of written language comprehension and production at age eight. The results of this research demonstrated that children’s ability to mark the significance of narrated events through the use of evaluation as well as their ability to represent information content in expository talk at age five predicted reading comprehension skills at age eight (Griffin et al., 2004). Overall, this study contributes experimental support to the belief that narrative abilities developed in the preschool period may be an important predictor for later school success.

O’Neill Pearce, and Pick (2004) explored the relationship between early narrative abilities and five different areas of academic achievement, including “General information, Reading recognition, Reading comprehension, Math, and Spelling” (2004, p. 149). In the study, data were collected from a total of 41 three to four-year olds using their narratives and their performance on the TELD-2, “an untimed test comprised of 68 questions assessing receptive, expressive, semantic, and syntactic language skills” (O’Neill et al., 2004, p. 161) as a way to measure the general language ability. These different measures were then scrutinized to find a possible correlation two years later with the five areas mentioned above by administering the PIAT-R, Peabody

Individualized Achievement Test. The results of this study confirmed that the narrative measures of conjunction use, event content, perspective shift, and mental state reference had a positive correlation with later Math scores. Thus, this finding confirms that narrative skills correlate with later academic achievement. This study is significant because it suggests that providing children with stronger narrative skills can later enhance their school readiness and mathematic abilities, an important area of academic achievement.

Intervention to Accelerate Narrative Development

The fact that recent evaluations of educational achievement show that more than one third of fourth graders in America do not to show simple levels of reading skill and one tenth fail to demonstrate levels of writing skill is disheartening. Moreover, it is important to note the vast overrepresentation of children who are impoverished among those students who fail to demonstrate reading and writing skills (Justice, Kaderavek, Fan, Sofka, & Hunt, 2009). According to Dickinson and McCabe, “the past twenty years have brought awareness that full understanding of children’s literacy development must include the preschool years” (2001, p. 198). There is evidence that preschool abilities contribute to children’s later literacy success. Overall, it is evident that a better understanding of children’s literacy developments can help professionals determine when and what type of intervention is most likely to result in long-term improvements. Numerous adoption studies and randomized controlled trials have demonstrated that pedagogic intervention has the potential to decrease the performance gap that occurs across socio-economic status.

Research shows that how rapidly we help these children adjust to school predicts long-term academic outcomes. According to Jensen, “If we want our students to change, we must change ourselves and the environments students spend time in every day.” (Jensen, 2009, p. 46). When working with a group of underperforming children, it is important to keep in mind that brains are designed to change and they reflect the environments they are in. Even though we now know that we can help these children, we also need to know how to help them. For example, some schools try to make their students more competitive by trying to include a longer curriculum; however, children raised in poverty need capacity, rather than content. We need to find a way to mold their brains to be “more capable, more flexible, and faster, with greater processing capacity” (Jensen, 2009, p. 54). Instructors and policymakers are placing further importance on early teaching of the 19 million children in the United States under the age of five, as a determination to exploit didactic gains (Jensen, 2009). This is because the first few years of life are crucial for a child’s learning and cognitive development; many researchers believe that there may be a ‘sensitive’ time, from birth to age five when the brain is more receptive to major remodeling.

Neuroplasticity, the trait that allows changes to occur in the brain due to experience, is a relatively recent concept. Perry (2006) examined therapeutic work with traumatized and maltreated children from a neurodevelopmental perspective. He stated the principle that experiences have the ability to change the way our brain is organized when neural networks communicate between different areas of the brain. Specifically, the brain has the “capacity to connect patterns of neural activity that co-occur in time”, which allows us to create a representation of the world around us (Perry, 2006, p. 31).

Furthermore, he acknowledges the importance of early therapeutic intervention because the human brain is particularly malleable during development, when it is being organized. Indeed, “by age four, a child’s brain is 90% adult size” (Perry, 2006, p. 40).

The long-term benefits of high-quality early education programs are well documented. Research shows that enrichment programs can have a dramatic effect on learning for students who come from impoverished upbringings. Research data include “improved reading, better overall school performance, and higher school grades” (Jensen, 2009, p. 59). Therefore, we should recognize that the human brain is designed to change and reflect the experiences and environments of their surroundings and that we will get positive outcomes over time if we design enough high-quality experiences and environments.

Justice (2009) scrutinized the effect of preschoolers’ participation in print-focused reading sessions for an academic year. According to Justice et al., print knowledge, which is strongly influenced by the environments, includes “knowledge of the way print is organized in various texts and the functions it serves, the names and distinctive features of individual alphabet letters, and the expression of meaning and orthography through writing” (2009, p. 68). Consequently, print knowledge is an important area of children’s early literacy progress, as it constitutes the child’s developing knowledge regarding the functions of written language. The preliminary findings showed that teachers use of a print referencing style during storybook reading sessions in classrooms over an academic year “resulted in educationally significant gains in children’s print concept knowledge, alphabet knowledge, and name-writing ability” (Justice et al., 2009, p. 76) compared to students in classrooms with teachers who used their normal reading style. Hence, this

study supports the claim that print referencing intervention can be utilized within preschool classrooms in order to promote the literacy achievements of children, which are correlated to later achievements in reading.

Research has shown that book reading in preschool makes significant contributions to young children's literacy development. Evidence suggests that book-reading experiences foster vocabulary growth as well as enhanced story comprehension (Dickinson & Smith, 2001). Dickinson and Smith's (2001, p. 116) study attempted to answer a core question, "Are there ways of characterizing approaches to preschool book reading that reveal long-term effects on children's literacy-related skills?" They found three distinct approaches to reading books: the co-constructive approach (regarded as having extensive talk as books are being read, but limited talk before and after reading), the didactic-interactional approach (characterized by limited talk), and the performance-oriented approach (regards the reading of books as a performance where most of the talk happens before and after the readings). The results of this study indicated that the performance-oriented approach "more successfully supported vocabulary growth and enhanced story comprehension than the didactic-interactional approach" (Dickinson & Smith, 2001, p. 117). Overall, this study leads to the conclusion that how teachers discuss books with four year olds in typical early childhood classrooms is related to long-term evolution in vocabulary development and narrative comprehension skills. Consequently, these findings imply that teachers in intervention programs attempting to support vocabulary acquisition and foster comprehension skills may be able to improve children's literacy growth by enhancing the effectiveness of their book reading time.

Present Study: Talitha Koum Nurture Center Program

In conclusion, numerous studies and randomized controlled trials have demonstrated that pedagogic intervention has the potential to decrease the performance gap that occurs across socio-economic status. However, an untested approach that could be used to maximize the effectiveness of interferences is to focus programs on the neurocognitive abilities, which include “working with memory, vocabulary, ability to defer gratification, self-control, and language skills” (Jensen, 2009, p. 51). Overall, there is limited research that has scrutinized associations between preschoolers’ school readiness and narrative ability. Ultimately, this research intends to create a connection between early intervention and narrative development. The study intends to determine the effectiveness of the treatment method Talitha Koum Nurture Center Program by assessing how the children receiving intervention differ from children from comparable backgrounds in narrative skills.

We looked at narrative skills because it is a compelling way to assess if academic development has occurred. The procedure in the present study instructed children to complete stories after the stem of the story or beginning had been given to them by the examiner using the Story Stem Assessment Profile (SSAP) and the MacArthur Story Stem Battery (MSSB). This method directed the children to complete stories about everyday problems to determine how the child would solve these conflicts. It was predicted that children experiencing the Talitha Koum Nurture Center Program would tell longer, better organized, and more elaborated stories than the control group, who received no intervention.

CHAPTER TWO

Methods

Subjects

The experimental group included 10 children at least three years of age who were enrolled in the Talitha Koum Therapeutic Nursery for the infant years. These children entered the program at approximately two months of age. All of the children were still enrolled in the program or had gone on to Kindergarten at the time of assessment. There were three girls and seven boys in the group with a mean age of four years and three months with an age range of three years one month to four years 11 months. In order to obtain cooperation from the families, an incentive of \$100 was provided to the parent for each child who completed the study.

All experimental children were recruited from a low-income housing neighborhood before or immediately after birth. All were from families having at least three generations living in extreme poverty. Because of the high levels of violence in the neighborhoods and families and the high number of traumas such as loss of a caregiver, abuse, maternal mental health problems, to name a few, experienced by the children, these families were considered extreme high risk families.

The control group for the study consisted of 21 children ages three to five from highly similar low income housing projects in the Waco area, including the neighborhood where the experimental subjects lived. Recruitment efforts used flyers, word of mouth, and day care settings in the neighborhoods. Children recruited had to live in one (or more) of the housing projects all of their life and not been enrolled in any program, such

as Head Start, Avance, or Parents as Teachers, that offered an enriched environment for the child. Other child care options, such as in home care, care by a relative, or enrollment in a non-educationally based day care, were accepted. There were 14 boys and 7 girls, with a mean age of four years two months and an age range of three years two months to five years 11 months. No child in the control group was related to or had lived with an experimental child in the study. As was true of the experimental group, to obtain cooperation from the families, an incentive of \$100 was provided to the parent for each child who participated in the study.

Procedures

All the children in the study, both the experimental subjects and the control subjects, were tested at a community Psychology clinic. Each child tested was brought to the clinic by the primary caregiver. The primary caregiver was given the informed consent form and once it was signed, the test administration began. The child was administered the Early Screening Profile, a screening test focused on cognition, language, and motor development, which took about 30 minutes, followed by a story-stem task, which took between 30 and 45 minutes. Both were administered in a quiet room with child size tables and chairs and a separate area a few feet away with adult tables and chairs. Brief breaks were provided as needed to maintain the child's attention. While the child was being tested, the primary caregiver, most often the mother, was administered the BASC-2, the SSIS, the PRQ, and a questionnaire about parental stress in another part of the same room where the child was tested. All of the above procedures, except the story telling task, were part of another study with these children and will not be reported here. Although the caregiver was in another part of the room where the child was tested,

the child could see the caregiver during the testing. All questionnaires for the caregivers were administered by an examiner who explained the task and then offered to answer questions or read the questions for the caregiver, depending on her or his choice. When both caregiver and child tasks were completed, the caregiver was given \$100 and asked to sign a form to signify that the money for research participation was received. On one occasion, the child refused a task and in that case, testing was ended and the caregiver was given the \$100 incentive before leaving.

Measures

Narrative Development

This measure was the Story Stem Assessment Profile (SSAP), a tool originally based on the MacArthur Story Stem Battery (MSSB) (Hodges, Steele, Hillman, & Henderson, 2003). The SSAP involved having children tell stories when the beginning of the story is acted out and verbalized by the examiner for the child to then complete. By providing the stem for each story, the procedure directs the child to everyday conflicts to determine how the child solves these problems. Thus, the overall study design was to have the child complete the story telling task while the parent completed the three checklists described earlier. The use of the SSAP method described above was a particular strength of the study as this measure has been established in research as one that can capture the child's representations of relationships which are closely correlated with their adaptive response under stress such as poverty. The results of this analysis will not be reported here. For the study reported here, an additional analysis was developed to assess the narrative abilities represented in the stories for the SAAP.

A coding system based on the narrative analysis used in a study by Reese, Leyva, Sparks, and Grolnick (2010) was specifically adapted for this study to measure narrative skills in the SSAP stories. Narrative quality was calculated from several features identified in the stories. First, t-units were identified. A t-unit is an independent clause and any accompanying clauses. Each unit was marked at the end by / and consecutively numbered. Repetitions of words and dysfluencies were crossed out only if the units contained the same words. Each t-unit in a child's narration was coded for component features of narrative quality, with 1 point given for each instance of the following variables: descriptors, qualifiers, and internal states. Descriptors were identified as the use of adjectives and adverbs that describe objects, actions, or characters. Qualifiers were identified as the use of adverbs or adjectives that amplified or intensified the intended meaning. Internal states were identified as the words that refer to internal states, including verbs that refer to intentions or desires. The variables for each story included the ⁽¹⁾ mean MLU (mean length of t-unit), ⁽²⁾ productivity (total number of t-units per story), ⁽³⁾ total number of descriptors used in the story, ⁽⁴⁾ total number of qualifiers used in the story, ⁽⁵⁾ total number of internal state words used in the story, and ⁽⁶⁾ total of all descriptors, qualifiers, and internal state words used in each story. Also, the number of stems that actually had a verbal story told was recorded as some children acted out the story but did not speak. The specific criteria for coding each variable are found in the Appendix A.

The six variables outlined previously were analyzed using the tests for independent samples, which were chosen as appropriate measures for low numbers of subjects. The hypotheses tested were:

Hypothesis 1: It was hypothesized that children experiencing Talitha Koum Nurture Center Program, hereafter referred to as the TK group, would have a greater mean MLU than the cluster in the control group.

Hypothesis 2: It was hypothesized that the TK group would have more productivity than the cluster in the control group.

Hypothesis 3: It was hypothesized that the TK group would have a larger number of descriptor words than the control group.

Hypothesis 4: It was hypothesized that the TK group would have a larger number of qualifier words than the control group.

Hypothesis 5: It was hypothesized that the TK group would have a larger number of internal state words than the control group.

Hypothesis 6: It was hypothesized that the TK group would have a larger number of descriptor, qualifier, and internal state words than the control group.

CHAPTER THREE

Results

All SSAP sessions were transcribed and videotaped, recording the children's and the examiner's words as well as the children's movements. Of the ten TK subjects, seven subjects told verbal stories to at least three of the story stems. Three others either acted out nonverbal stories or refused to respond to any of the story stems. Of the original 21 control subjects, 11 subjects told verbal stories to at least three of the story stems. Of these, two had technical problems with the recording and had to be dropped from the study leaving a control group of nine subjects. Neither age nor gender predicted a child's participation in the story telling tasks. The remaining ten subjects either acted out nonverbal stories or refused the task. The age of the two groups were compared and were not significantly different (TK mean age=3.714, CG mean age 3.555, $p<.677$). The TK group scores were compared to the scores of the control group regarding the mean number of stories told, mean productivity (total number of t-units per story), mean MLU, and the total number of descriptors, qualifiers, and internal states.

Stories

First, the mean number of stories told by the TK group was compared to the mean number of stories told by the control group. This study included a total of 13 stories. The beginning of the story was acted out and verbalized by the examiner for the child to then complete. A story was counted if it possessed one or more t-units. The results indicate that the TK group told more stories on average (TK mean stories=12.4), than the

control group (CG mean stories=9.89). An independent samples t-test showed that this difference was not significant ($p < .102$). However, the difference still resulted in a large effect size of .81.

Mean Number of T-Units per Story

The mean number of t-units per story was compared between the TK group and the control group. A t-unit is an independent clause and any accompanying clauses. The results demonstrate that the TK group, on average told significantly longer stories, as measured in t-units, than the control group. The results of the t- test for independent samples were significant (TK mean =15.017, CG mean= 6.647, $p < .026$). The effect size for this difference was quite large at 1.19.

Mean MLU

Next, the mean MLU across all t-units was calculated. MLU is the mean length of t-unit (all the words in the t-units were added up and then divided by the number of t-units). The t-test for independent samples comparing the TK group and the control group showed a significant difference between groups (TK mean MLU=4.833, CG mean MLU= 3.583. $p < .035$, effect size = .79). The children in the TK group used longer utterances on average than the children in the control group.

Descriptors, Qualifiers, and Internal State Words

The total number of descriptors uttered by the TK group was compared to those used by the control group. Descriptors are adjectives and adverbs used to describe objects, actions, or characters. The results indicate that the TK group used more descriptors (TK total descriptors=4.57) on average than the control group (CG total

descriptors= 1.89). An independent samples t-test showed that this difference was not significant ($p < .185$) but showed a large effect size of 1.22.

The total number of qualifiers used by the TK group was compared to those used by the control group. Qualifiers are adverbs or adjectives used to amplify or intensify the intended meaning. The results indicate that the TK group used more qualifiers (TK total qualifiers= 4.43) than the control group (CG total qualifiers= 1.22). An independent samples t-test showed that this difference was significant ($p < .030$) with an extremely large effect size of 3.10.

The total number of internal state words articulated by the TK group was compared to those used by the control group. Internal state words are words that refer to internal states, including verbs that refer to intentions or desires. The results of the t-test for independent samples approached significance (TK total internal states= 8.57, CG total internal states=0, $p < .088$) with a very large effect size of 1.70.

The total number of descriptors, qualifiers, and internal state words spoken by the TK group was compared to those used by the control group. The results show that the total number of descriptors, qualifiers, and internal state words used by the TK group is much larger than the total number used by the control group. The t-test for independent samples comparing the TK group and the control group showed a significant difference between groups (TK total all three= 17.57, CG total all three= 3.11, $p < .020$, effect size for all three= .78).

CHAPTER FOUR

Discussion and Conclusions

As noted in the introduction, academic outcomes have long been considered a major measure of the success of early interventions. Numerous studies have supported that early pedagogic intervention is of critical importance for future academic success among low-income children. In fact, adoption studies and randomized controlled trials have demonstrated that early intervention has the potential to decrease the performance gap that occurs across socio-economic status. In this study, the effectiveness of Talitha Koum Nurture Center Program was established by assessing how the children receiving intervention differ from children from comparable backgrounds in narrative skills. The results of this study support the effectiveness of Talitha Koum Nurture Center Program in area of cognitive skills. All of the hypotheses tested referred to narrative skills. As were documented in the Introduction, Narrative skills in preschoolers have been shown to be predictors of school performance both in reading and math achievement (O’Neill et al., 2004).

Mean MLU and Productivity

First, hypotheses 1 and 2 refer to mean length of t-unit and the total number of t-units per story or productivity. As stated in the introduction, Reese et al. (2010) focused on the comparison of the effects of teaching low-income mothers two types of training programs. Their study concluded that shared book reading is associated with higher levels of children’s oral language development because this type of parent/adult-child

interaction promotes the development of their vocabularies. In addition, mothers who were trained to be more elaborative improved the quality of their children's stories. Furthermore, the study conducted by Applegate et al. (2010), addressed several objectives. One of them was to describe and examine the association between artfulness and narrative productivity as measures of narrative quality. Productivity refers to the length of the narration. The results of the study confirmed that narrative artfulness positively correlated with narrative productivity or longer stories. Consequently, mean MLU and productivity are valid measures of quality in children's narratives. In the present study, there was a significant difference between the mean MLU of the TK group and that of the control group. The children in the TK group used longer utterances on average than the children in the control group. This supports hypothesis 1 which states that the TK group would have a greater mean MLU than the control group. Moreover, hypothesis 2 stated that the TK group would have more productivity in their stories than the control group. Indeed, the results indicate that the TK group told significantly longer stories, as measured in t-units, than the control group and this difference was calculated to be significant with a quite large effect size.

Embellishment Techniques

Next, hypotheses 3, 4, 5, and 6 refer to the number of words used by children in order to embellish their stories as a way to make their narratives more interesting to the listener. As stated in the research literature, in the study conducted by Applegate, Smith, Justice, and Piasta, they investigated the artfulness of fictional oral narratives created by children (Applegate et al., 2010). Artful narratives contain interesting words and expressive devices, which captivate the attention of the listeners through embellishment.

The results of their study confirmed that narrative artfulness positively correlated with narrative complexity, productivity, lexical diversity, as well as measures of language ability. Their study suggests that artfulness is a valid measure of quality in children's narratives. The present study analyzed the artfulness of children's narratives through the evaluation of descriptors, qualifiers, and internal state words, stated in hypotheses 3, 4, 5, and 6. The results indicate that the TK group used more descriptors than the control group. Although this difference was not significant but only a trend; it showed a large effect size for a difference that great. Therefore, hypothesis 3 is conditionally supported. Hypothesis 4 was accepted because the results showed that the difference between the larger number of qualifiers used by the TK group than the number of qualifiers used by the control group was significant with an extremely large effect size. The results regarding hypothesis 5, the total number of internal state words, suggest that the difference approached significance with a very large effect size. Therefore, this variable is tentatively supported as well. Finally, hypothesis 6 was accepted because the larger total number of descriptors, qualifiers, and internal state words spoken by the TK group compared to the control group was significant. Therefore, we can conclude that the higher total number of descriptors, qualifiers, and internal state words spoken by the TK group compared to the control group demonstrates that the results are meaningful and significant, suggesting the effectiveness of the Talitha Koum Nurture Center Program.

Limitations of the Study

Even though the results in this study were satisfactory, there is a point of concern regarding the low response rate. Only seven children out of ten in the experimental group told verbal stories and ten out of 21 children in the control group did not tell verbal

stories. An explanation for this might be that the TK experimental group was more comfortable with adults and responded better with strangers than the control group. The results of a study conducted by Spere, Schmidt, Theall-Honey, and Martin-Chang (2004) suggested that temperamentally shy children do perform significantly lower than non-shy children on measures of receptive and expressive language. Nevertheless, the temperamentally shy children still performed at their age equivalence on the measures examined. In any case, caution is suggested when interpreting the results in the present study. A follow-up study with a much larger sample group would be recommended.

Implications

Furthermore, the research literature also addresses how children must rely on skills such as memory and language in order to communicate efficiently through oral narratives. These early narratives can be used to predict increased vocabulary, print knowledge, decoding, story comprehension, and writing skills. Consequently, oral narratives construct the basis for several academic features of skills related to school. Oral narratives ultimately train children to generate more explicit and elaborated written texts, which is essential for reading comprehension. This was confirmed by Schick and Melzi's research (2010), which studied the dialogue style teachers use to engage their students in narrative interaction. Their study concluded that children with better developed narrative skills have an educational advantage over children who enter kindergarten with less advanced narrative abilities. In addition, as stated in the research literature, Griffin, Hemphill, Camp, and Wolf (2004) also explored relationships between preschooler's oral narratives and their later skill at writing and reading. They found that children's ability to narrate oral stories at age five predicted reading comprehension skills

at age eight. In the present study, the preschool children experiencing the Talitha Koum Nurture Center Program demonstrated better developed narrative abilities than the control group. Thus, the results of the present study are meaningful because they further demonstrate that early intervention during children's development can have long lasting impacts on their cognitive development.

Follow-up Studies

As stated before, there is limited research that has scrutinized associations between preschoolers' narrative ability and school achievement. Nevertheless, according to Feagans and Appelbaum (1986), narrative skill is the most important language ability for success in school. Furthermore, Fiorentino and Howe (2002) explored the correlation between preschoolers' receptive language competence, school readiness, and narrative ability. Their results showed that there were "significant positive relationships between narrative chronology and organization skills in regards to language competence and school readiness" (Fiorentino & Howe, 2002, p. 286). Consequently, the logical next step to the present Talitha Koum Nurture Center Program study would be to perform a follow-up study several years later with the same TK children in order to investigate if narrative skills are indeed predictive of school readiness and achievement.

Conclusions

Overall, the results of this study suggest that there is a strong relationship between early intervention and narrative development. Thus, the conclusion supports the effectiveness of Talitha Koum Nurture Center Program in the area of cognitive skills. This is significant because a better understanding of children's early development of

narrative abilities can help teachers and professionals recognize when and what type of intervention can result in long-term improvements. Enrichment programs can have a dramatic effect on learning for students who come from underprivileged areas.

Awareness can encourage the implementation of early intervention programs across the country and therefore, help decrease the performance gap that exists across socio-economic status.

APPENDIX

APPENDIX A

SSAP Narrative Code

Step one: identify t-units:

T-units: an independent clause and any accompanying clauses. Each unit is marked at the end by / and consecutively numbered.

Example: “and the little boy was asleep/ and the froggy jumped out/ and when the little boy and the doggy work up they found out that their froggy was lost/.”

Repetitions of words and dysfluencies are crossed out. Cross-out only if same words or meaning. DO NOT cross off if contains any new meaning. See example:

Example: “that she was flying with her kite/ and her kite... and when she... and it was... the wind was blowing harder and the kite flew away.”

Variables scored for each t-unit

MLU: mean length of t-unit: add up all the words in the t-unit.

Evaluation: Not a part of original story prepositions.

Descriptors: Use of adjectives and adverbs to describe objects, actions, objects, or characters.

Child: “He ran to his room quick.”

“They painted the blue chair pink.”

Qualifiers: Use of adverbs or adjectives to amplify or intensify the intended meaning.

Child: “The chair’s way too small.”

Internal states: When children use words that refer to internal states, including verbs that refer to intentions or desires. (e.g., like, think, want).

Child: “Then he was mad.”

“He decided to take the chair.”

“She is thinking he left.”

Variables for each story: mean MLU, productivity, total number of descriptors, qualifiers, and internal states words.

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