Assessing the School Readiness of First Grade Jordanian Children: A Pilot Study

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Report Summary

The main objective of this pilot study was to determine the reliability of the Early Years Evaluation Instrument. Also investigated were differences among first grade children's achievement abilities according to their gender, kindergarten attendance, residential area (urban, rural), and geographical location (north, middle, south). The sample of the study consisted of 302 first grade children who were administered the evaluation instrument in September of 2003. The instrument consisted of five domains; social skills and behavior, awareness of self and environment, cognitive skills, language and communication, physical development.

Data analysis indicated evidence for the high reliability of the EYE instrument (.91) and its domains. Validity results indicated some discrepancies between the conceptualized domains of the EYE Instrument and analysis generated domains. Analysis also showed the existence of differences among children with regard to kindergarten attendance, residential area, and geographical regions. Children who attended kindergarten and those from urban areas had higher achievement outcomes than children from rural areas and those who did not attend kindergarten. Children from the middle region of Jordan achieved higher outcomes on some domains while not on others when compared to children from the north and the south. No gender differences were found between the children as determined by the instrument.

It is recommended that the Early Years Evaluation Instrument be used in the national survey in September of 2004 due to its suitability as determined by this pilot study.

School Readiness: A Review

Children's learning processes begin at birth and so does their readiness for school. Research on early learning and readiness indicates that children's early experiences have lasting effects, that early childhood is the crucial period of neurological and social development, and that all children enter early childhood programs with active minds (Katz, 1997). The early childhood years provide the foundation for many of the knowledge bases and skills required for successful school adjustment and later adult competence. It is for these reasons that school readiness has been a widely recognized issue by researchers, parents, policy makers, and educators. There are several factors that present themselves as positive bridges between the child and his/her future success in school and general well-being. Crucial among them are stability and safety (National Education Goals Panel, 1998). Children who are exposed to stable, loving, primary caretakers, who protect them and respond to their needs, are more likely to be ready for school and succeed in their endeavors. A safe and predictable family environment also contributes to the well-being of the developing child. Such an environment provides children with the continuous opportunity to develop their cognitive, language, social, emotional, moral, and physical skills.

School readiness is the result of a complex process of interactions between the child's genetic abilities and the environment they are exposed to. It involves much more than simply teaching children to read, write, and learn how to count. Edwards (1999) defined readiness as the preparedness of children to learn what schools expect or want them to learn. The

tendency to view readiness as defined by Edwards prompted researchers to clarify this erroneous belief. Willer and Bredekamp (1990) summarized six misconception concerning the concept of school readiness and these are: (1) learning occurs only in school, (2) readiness is an inherent condition present within each child, (3) readiness can be easily measured, (4) readiness develops as a function of time, (5) children are ready to learn when they are able to sit quietly and listen to the teacher, (6) there is no place in schools for children who are not ready to learn. These misconceptions were limited through efforts of professional groups, organizations, and associations such as the National Education Goals Panel and the National Association for the Education of Young Children.

According to the National Education Goals Panel (1997), the concept of school readiness refers to children's readiness to enter school, school's readiness for children, and family and community support that contribute to children's readiness. To promote readiness for school, children need to be exposed to secure, nurturing relationships with their parents and be provided with good nutrition and numerous opportunities for physical activities. It is also recommended that children are provided with high quality early childhood care and education. Improving the quality of early childhood care and preschool programs through teacher training and developmentally appropriate curriculums also supports young children's readiness for school and ability to learn. Special attention and effort should also be given to the transitions in the child's life, such as the transition into kindergarten and first grade.

Getting schools ready for children is a strategy that enables schools to be responsive to the wide range of backgrounds, experiences, and needs of the children who are starting school (National Association for the Education of Young Children, 1995). NAEYC stated that schools are

responsible for meeting children's needs as they enter school and should provide all services needed in a developmentally appropriate environment to enable each child to reach his/her fullest potential. To establish this goal, schools have a responsibility to prepare for the differences in family cultures, and strive for continuity between early childhood programs and elementary school experiences (National Education Goals Panel, 1997). Making schools more responsive to the needs of individual children requires that teachers and administrators fully comprehend children's development and learning processes (NAEYC, 1995). A developmentally appropriate curriculum should be planned for and implemented with greater emphasis on interactive procedures as opposed to strict demarcations between subject areas. Ready schools are also considered as learning organizations committed to the success of every child, teacher, and adults who come in contact with children during the school day. Those schools introduce approaches that have been shown to raise achievement and alter unbeneficial practices and programs through their strong leadership (Murphy & Burns, 2002).

Another contributing factor to school readiness is improving support for families and communities. Parents need to be provided with the education, support, and training that enables them to provide their children with safe, nurturing environments. Those parents need to be continuously associated with social support systems that promote their parenting skills.

Defining the multidimensional concept of school readiness has been a controversial issue. Another controversial issue concerns school readiness assessment instruments. The specific forms these assessments take vary from screening tests to comprehensive, in-depth child studies (Murphy, 2003). Most schools, however, determine a child's eligibility for school by his or her age, which is one characteristic that children generally share

when they start school. Despite of this shared characteristic, these children vary greatly with respect to their social, emotional, cognitive, and physical development (Saluja, Scott-Little & Clifford, 2000).

Any attempt made to assess children's success in school is significantly affected by five dimensions in which children vary (National Education Goals Panel, 1991). The goals Panel identified these dimensions in which children must be developing in optimally to start school ready to learn. These dimensions are health and physical development, emotional well-being and social competence, approaches to learning, communicative and language skills, cognitive and general knowledge. Despite the difficulties encountered in reliably assessing young children, these five dimensions serve as a guide of what should be measured.

The physical well-being and motor development dimension indicates that for children to be ready for school, they must be physically healthy, immunized, growing well, and have developmentally appropriate fine and gross motor abilities. Socially and emotionally ready children are those who have the self-control and self-regulatory abilities that enable them to interact positively with other children and adults. Ready children also approach learning with curiosity and enthusiasm, are flexible in their approach to problem solving, and have the task persistence appropriate for their age group. The language dimension emphasizes that children must be able to listen and understand, carry on conversation, and use expressive language. Children need rich vocabularies, experience with written text, and emergent pre-literacy skills. Ready children also need to possess cognitive and general knowledge skills such as knowledge of objects, people, concepts, and conventions of their world (National Education Goals Panel, 1991).

Measuring young children's developmental abilities using readiness tools and surveys is a difficult task due to the differences in children's abilities. However, any attempt to assess children should be implemented with the following considerations (Saluja, Scott-Little & Clifford, 2000). Readiness assessments should be used solely for the purposes for which they were designed and only after determining their validity and reliability. They should also be age appropriate and holistic, collecting data on every domain of children's development. Assessments should also be linguistically and culturally appropriate and use a variety of methods to collect information. This information is used to benefit children and the adults who work with them by guiding their instructional strategies.

The Importance of School Readiness for Children and for Society

Children entering school with the expected readiness skills have the opportunity to benefit from all that school has to offer, in both the academic and social domains of development. This readiness allows children to successfully approach and complete tasks, which in return contributes to the development of a positive self-image. The more positively children view themselves, the greater the chances are for their present and future achievement.

During the first six years of their lives, children are exposed to numerous experiences that help shape their personalities and readiness skills. Several factors contribute to this readiness. Positive family support for the developing child is one factor. Another is the quality of preschool and kindergarten programs that children have been enrolled in. A long-term study by Reynolds, Temple, Robertson, and Mann (2001) concluded that children from low-income families highly benefited socially and academically from early childhood education and intervention programs.

These benefits were found to persist until completion of school and into college. Providing comprehensive services and family support to children before they enter school better prepares them for school expectations (National Association for the Education of Young Children, 1995). When children enter school ready to learn, they become better academic achievers with skills persisting into later school years. They are also capable of dealing with the behavioral demands required of them while in the classrooms and in the playgrounds. Cooperative behaviors emerge as a consequence of early school preparedness and promote higher levels of peer acceptance. This acceptance includes the child in various school activities and allows for higher levels of belonging.

Being school ready not only benefits developing children but also the societies they belong to. When children enter school ready to learn, this increases the likelihood that they will complete their elementary and secondary education, find employment, become positive contributors to society as parents and professional (Doherty, 1997). Children who lack readiness skills may require special education services and are more likely to be retained. Grade retention places great financial burdens on government expenditure because it is paying twice to teach the child skills from the grade that was repeated.

Given these positions, it is well worth it that time and effort is placed on getting children ready for school. The benefits of readiness are positively overwhelming to the child and society as a whole.

The Importance of this Pilot Study

Jordan has, in the past decade, taken substantial steps in supporting the field of early childhood education and development. This support was encouraged by the overwhelming global literature that indicates the

importance of these early years. In accordance with the perspective of the international community, The Jordanian Ministry of Education implemented a long term strategy to provide all kindergarten age children with developmentally appropriate preschool services. Currently, approximately 29% of children are enrolled in kindergartens (Ministry of Education, 2002). The vast majorities of these kindergartens are owned by the private sector and provide services to families who are financially capable.

The current pilot study provides policy makers with preliminary information regarding the readiness status of Jordanian children. The Early Years Evaluation Instrument used in this study will be implemented with a national sample of 5,000 first grade children. The information gathered from the final stage of this study may be used by policy makers to benefit preschool children. Most critical is to offer preschool education to all children at the kindergarten level.

Research Objectives

The overall objective of this pilot school readiness study was to validate the reliability of the Early Years Evaluation Instrument by assessing the social, self and environment, cognitive, language, and physical skills of first grade children. An attempt was also made to gain knowledge of the general abilities of these children. More specifically, this research attempted:

1. To assess the reliability of the Early Years Evaluation Instrument.
2. To determine the validity of the Early Years Evaluation Instrument.
3. To determine gender differences in the abilities of first grade children.
4. To determine if differences exist between first grade children who attended kindergarten and those who did not attend kindergarten.

5. To determine differences in abilities between fist grade children according to their residential area (rural, urban).
6. To determine differences in first grade children's abilities according to geographical region (north, middle, south).

Methodology

Subjects

The sample of the study was selected to represent the national population. It consisted of 302 first grade children; 145 boys and 157 girls. Of the total sample, 194 children had attended kindergarten and 108 had no prior kindergarten experience. The sampling of the subjects was also conducted according to area (rural, urban) and geographic location (north, middle, south). 102 participants were from rural areas, and 200 were from urban areas. The number of participants from the northern region of Jordan was 102, from the middle region 150, and 50 from the southern region. Table 1 presents the distribution of the sample according to the study variables.

Table 1

Distribution of the Sample According to the Study Variables

Variable	Number of Children
Gender	
Boys	145
Girls	157
Kindergarten Attendance	
Yes	194
No	108
Area	
Rural	102
Urban	200
Geographic Location	
North	102
Middle	150
South	50
Total	302

The sample consisted of children whose ages, at the date of entry to first grade, ranged between 5 years and 9 months and 6 years and 6 months. Table (2) shows the distribution of the sample according to the children's age.

Table 2

Distribution of the Sample According to Age

Year: 1997 Month	Number of Children	Valid Percent
January	2	.7
April	4	1.4
May	1	.3
June	6	2.1
July	6	2.1
August	8	2.7
September	71	24.3
October	54	18.5
November	61	20.9
December	79	27.1

Research Instrument

The instrument used in this study (Early Years Evaluation) was developed in Canada as part of a five year World Bank comparative project. This project "Understanding the Early Years" is a Human Resources Development Canada (HRDC) initiative. The main goal of this initiative is to assess children's physical, social, language, and cognitive capabilities for the purpose of improving learning outcomes through a multifaceted approach which involves the community and educational system.

The (EYE) instrument, which measures children's achievement and performance abilities, consisted of 50 items that were categorized into five domains; social skills and behavior (12 items), awareness of self and environment (11 items), cognitive skills (10 items), language and communication (9 items), physical development (8 items). Each item was responded to on a four point scale (unable to perform 1, skill is developing 2, skill occurs sometimes 3, able to perform 4).

The first part of the EYE instrument consisted of a section which provided information about each participating child; name, date of birth, gender, kindergarten attendance, child's height, residential area, geographical region, date of evaluation.

After data collection and analysis, the reliability coefficients (cronbach alpha) for each domain and for the total scale were calculated. The reliability data is presented in Table 3.

Table 3

Reliability Coefficients for Domains in School Readiness Scale

Domain	Number of items	Alpha
Social skills and behavior	12	.841
Awareness of self and environment	11	.805
Cognitive skills	10	.820
Language and communication	9	.793
Physical Development	8	.730
Total score	50	.912

Table 3 shows the reliability coefficients for each domain. The reliability of the domains ranged between .73 and .84; values considered acceptable. The coefficient for the total scale was .91, indicating a high reliability value.

Data Collection

The data for this pilot study was collected during the third and forth weeks of September 2003. The national survey will be conducted on 5,000 first grade children at the onset of the 2004 school year, with a main objective of assessing the level of school readiness. The field researchers collected the data from schools that were identified for their area (rural,

urban) and geographical location (north, middle, south). These distributions were obtained from the Ministry of Education's data base. Each child in the sample was asked by the researchers to respond to the scale items, either by direct answers or through direct observations of practical behaviors. Each session with individual children took an average of 25 minutes to complete. After completion of each session, participating children were presented with a small gift. Each child's teacher was requested to rate children individually on the social skills and behavior domain, through recollection rather than direct assessment.

Data Analysis

The data was analyzed using descriptives for means, standard deviations, and percentages. Data analysis also included t-tests and analysis of variance. Factor analysis was also conducted.

Results

Research Objective (1): Reliability of the Early Years Evaluation Instrument

The main objective of this study was to determine the reliability of the Early Years Evaluation instrument. Tables 4, 5, 6, 7 and 8 show the correlations of the items with their domain and with the total scale.

The correlations of the "social skills and behavior" items with their domain ranged between .35 and .64. These values are considered acceptable and provide evidence for the reliability of the domain (Table 4).

The correlations of the "awareness of self and environment" items with their domain ranged between .27 and .62. These values are considered acceptable and provide evidence for the reliability of the domain (Table 5).

The correlations of the "cognitive skills" items with their domain ranged between .33 and .64. The values in this domain are acceptable and provide evidence for its reliability (Table 6).

The correlations of the "language and communication" items with their domain ranged between .11 and .70. The item that received a low correlation with its domain as well as with the total scale was the one asking children to understand and follow a two step commands. This item needs to be reconsidered due to its low correlation and its inability to discriminate between children's achievement abilities. The remaining values in this domain are acceptable and provide evidence for its reliability (Table 7).

The correlations of the "physical development" items with their domain ranged between .30 and .50. These values are considered acceptable and provide evidence for the reliability of this domain (Table 8).

Table 4

Means, Standard Deviations, Corrected Item Total Score for Each Item with its Domain and with Total Scale

Social Domain	Item	Mean	Std. Dev.	Corrected Item Total Correlation (domain)	Corrected Item Total Correlation (total scale)
1.	Appears to be unhappy, sad, or depressed	3.13	1.13	.35	.19
2.	Cries a lot	2.97	1.21	.41	.21
3.	Kicks, bites, or hurts other children	2.97	1.37	.39	.11
4.	Gets angry when told to stop an activity	2.83	1.13	.36	.15
5.	Shows social courtesies such as reciprocating a greeting	2.76	1.25	.54	.36
6.	Follows classroom rules and routines	2.81	1.1589	.62	.43
7.	Takes turns with other children when working or playing	2.84	1.15	.59	.36
8.	Works or plays cooperatively with other children for 15-20 minutes	2.87	1.16	.64	.33
9.	Works on assigned seatwork with minimal supervision for 15-20 minutes	2.84	1.14	.60	.36
10.	Verbalizes feelings with appropriate language	2.82	1.15	.59	.36
11.	Tries to help or comfort other children who are in distress	2.77	1.12	.45	.28
12.	Controls own emotional reactions when frustrated, angry, or disappointed	2.86	1.04	.50	.30

N= 302

Table 5

Means, Standard Deviations, Corrected Item Total Score for Each item with its Domain and with Total Scale

Self Domain	Item	Mean	Std. Dev.	Corrected Item Total Correlation (domain)	Corrected Item Total Correlation (total scale)
13.	Tells his/ her name	3.97	.26	.27	.19
14.	Tells his/ her age	3.36	1.20	.38	.44
15.	Names where he/she lives	3.22	1.29	.41	.36
16.	Names these body parts and identifies their function	3.51	.90	.60	.58
17.	Tells what these people do: police, doctor, teacher, farmer	3.13	.91	.59	.59
18.	Names four animals	3.31	.97	.59	.52
19.	Names four fruits	2.98	1.12	.62	.47
20.	Names four vegetables	2.83	1.17	.58	.46
21.	Recognizes and points to these animals: cat, dog, cow, monkey, elephant, goat, lion, camel	2.95	.77	.32	.37
22.	Gives culturally appropriate response to: "How do we get water?"	3.78	.72	.33	.24
23.	Gives culturally appropriate response to: "How do we make dinner?"	3.81	.70	.44	.38

N= 302

Table 6

Means, Standard Deviations, Corrected Item Total Score for Each item with its Domain and with Total Scale

Cognitive Domain	Item	Mean	Std. Dev.	Corrected Item Total Correlation (domain)	Corrected Item Total Correlation (total scale)
24.	**Arranges a set of objects from smallest to largest**	**3.60**	**.74**	**.43**	**.37**
25.	**Names or points to missing part of a pictured object (dog without tail, face without mouth)**	**3.67**	**.73**	**.50**	**.50**
26.	**Matches item with its function (e.g., needle and thread)**	**3.39**	**.88**	**.59**	**.51**
27.	**Sorts objects by size, color, shape, category**	**3.41**	**.87**	**.63**	**.54**
28.	**Identifies the picture which does not belong**	**3.16**	**1.30**	**.38**	**.38**
29.	**Understands relational concepts: more/less, on top/under, right/left, short/long**	**3.70**	**.59**	**.43**	**.36**
30.	**Counts 15 identical objects**	**3.32**	**.99**	**.64**	**.61**
31.	**Matches equal sets of objects, up to five**	**3.02**	**1.24**	**.51**	**.56**
32.	**Solves simple math problems with pictures**	**3.39**	**1.12**	**..51**	**.56**
33.	**Gives culturally appropriate response to: "what would you do if you dropped and broke an egg?"**	**3.60**	**.93**	**.33**	**.33**

N= 302

Table 7

Means, Standard Deviations, Corrected Item Total Score for Each item with its Domain and with Total Scale

Language Domain	Item	Mean	Std. Dev.	Corrected Item Total Correlation (domain)	Corrected Item Total Correlation (total scale)
34.	**Understands and follows two step commands**	**3.86**	**.57**	**.11**	**.19**
35.	**Repeats a series of four numbers in correct sequence (9, 7, 5, 3)**	**2.72**	**1.02**	**.33**	**.39**
36.	**Communicates orally in 5 or 6 word sentences others can understand**	**3.61**	**.71**	**.53**	**.53**
37.	**Retells a story of 4 or 5 sentences in proper sequence with the help of picture cues**	**3.32**	**.85**	**.56**	**.57**
38.	**Recognizes words that begin with the same sound**	**2.18**	**1.33**	**.60**	**.46**
39.	**Recognizes word pairs that rhyme or sound similar**	**1.61**	**1.01**	**.44**	**.30**
40.	**Identifies which letter is different**	**3.44**	**1.11**	**.55**	**.53**
41.	**Recognizes and names eight alphabet letters**	**2.68**	**1.40**	**.70**	**.63**
42.	**Matches 4 initial letters with a picture of a word beginning with the same sound**	**2.63**	**1.36**	**.62**	**.55**

N= 302

Table 8

Means, Standard Deviations, Corrected Item Total Score for Each item with its Domain and with Total Scale

Physical Domain	Item	Mean	Std. Dev.	Corrected Item Total Correlation (domain)	Corrected Item Total Correlation (total scale)
43.	Draws a tail on a dog	3.50	1.02	.32	.30
44.	Copies two letters and two numbers	3.44	.96	.46	.52
45.	Completes a pattern	2.9934	1.1868	.30	.41
46.	Draws a recognizable person including the head, trunk, arms, legs, and hands	2.82	1.03	.42	.51
47.	Catches a soccer-size soft ball with both hands	3.90	.50	.44	.22
48.	Runs and kicks a soccer-size ball	3.90	.50	.40	.17
49.	Jumps forward 8 times as teacher counts from 1 to 8	3.79	.67	.50	.33
50.	Marches/moves body to rhythm of simple tune	3.26	.99	.38	.35

N= 302

Tables 9, 10, 11, 12, and 13 show the frequencies and valid percentages of children's achievement on each item in the Early Years Evaluation Instrument. Table 9 provides the frequencies of responses on the "social skills and behavior" domain as provided by the teachers. As can be seen from Table 9, the frequencies of responses for "able to perform" ranged between 32% (tries to help or comfort other children who are in distress) and 56% (kicks, bites, or hurts other children). The "able to perform" rating for the latter item was

statistically corrected during the analysis indicating that 56% of the children did not kick, bite or hurt others.

Table 9

Frequencies and valid percentages for the items in the social skills behavior domain

Domain	Item/ item scale	1		2		3		4	
		F.	V. P.	F.	V. P.	F.	V.P.	F.	V.P.
Social **1.**	**Appears to be unhappy, sad, or depressed**	**46**	**15.2**	**44**	**14.6**	**51**	**16.9**	**161**	**53.3**
2.	**Cries a lot**	**60**	**19.9**	**46**	**15.2**	**38**	**12.6**	**158**	**52.3**
3.	**Kicks, bites, or hurts other children**	**70**	**23.2**	**37**	**12.3**	**27**	**8.9**	**168**	**55.6**
4.	**Gets angry when told to stop an activity**	**51**	**16.9**	**67**	**22.2**	**65**	**21.5**	**119**	**39.4**
5.	**Shows social courtesies such as reciprocating a greeting**	**79**	**26.1**	**44**	**14.6**	**51**	**16.9**	**128**	**42.4**
6.	**Follows classroom rules and routines**	**60**	**19.9**	**56**	**18.5**	**67**	**22.2**	**119**	**39.4**
7.	**Takes turns with other children when working or playing**	**60**	**19.9**	**45**	**14.9**	**79**	**26.2**	**118**	**39.1**
8.	**Works or plays cooperatively with other children for 15-20 minutes**	**46**	**15.2**	**52**	**17.2**	**98**	**32.5**	**106**	**35.1**
9.	**Works on assigned seatwork with minimal supervision for 15-20 minutes**	**60**	**19.9**	**43**	**14.2**	**85**	**28.1**	**114**	**37.7**
10.	**Verbalizes feelings with appropriate language**	**46**	**15.2**	**66**	**21.9**	**88**	**29.1**	**102**	**33.8**
11.	**Tries to help or comfort other children who are in distress**	**65**	**21.5**	**38**	**12.6**	**102**	**33.8**	**97**	**32.1**
12.	**Controls own emotional reactions when frustrated, angry, or disappointed**	**44**	**14.6**	**53**	**17.5**	**105**	**34.8**	**100**	**33.1**

1= unable to perform; 2= skill is developing; 3= skill occurs sometimes; 4= able to perform.

Table 10 shows the frequencies and valid percentages of the individual items in the "awareness of self and environment" domain. As can be seen from the table, children's achievement responses for "able to perform" ranged from 24% (recognizes and points to these animals: cat, dog, cow, monkey, elephant, goat, lion, camel) and 99% (tell his/her name).

Table 10

Frequencies and valid percentages for the awareness of self and environment domain

Domain	Item/ item scale	1		2		3		4	
		F.	V. P.	F.	V. P.	F.	V.P.	F.	V.P.
Self 13.	Tells his/ her name	2	.7			2	.7	298	98.7
14.	Tells his/ her age	61	20.2			9	3.0	232	76.8
15.	Names where he/she lives	74	24.5	3	1.0	7	2.3	218	72.2
16.	Names these body parts and identifies their function	16	5.3	35	11.6	28	9.3	223	73.8
17.	Tells what these people do: police, doctor, teacher, farmer	20	6.6	51	16.9	112	37.1	119	39.4
18.	Names four animals	22	7.3	42	13.9	57	18.9	118	59.9
19.	Names four fruits	54	17.9	50	16.6	76	25.2	122	40.4
20.	Names four vegetables	60	19.9	55	18.2	62	20.5	125	41.4
21.	Recognizes and points to these animals: cat, dog, cow, monkey, elephant, goat, lion, camel	9	3.0	70	23.2	150	49.7	73	24.2
22.	Gives culturally appropriate response to: "How do we get water?"	16	5.3	4	1.3	12	4.0	270	89.4
23.	Gives culturally appropriate response to: "How do we make dinner?"	15	5.0	1	.3	17	5.6	269	89.1

1= unable to perform; 2= skill is developing; 3= skill occurs sometimes; 4= able to perform.

Table 11 shows the frequencies and valid percentages for the items in the "cognitive skills" domain. As can be seen from the table, the frequency of responses for "able to perform" ranged between 56% (matches equal sets of

objects, up to five) and 80% (names or points to a missing part of a pictured object).

Table 11

Frequencies and valid percentages for the items in the cognitive skills domain

Domain	Item/ item scale	1		2		3		4	
		F.	V. P.	F.	V. P.	F.	V.P.	F.	V.P.
Cognitive skills **24.**	**Arranges a set of objects from smallest to largest**	**8**	**2.6**	**22**	**7.3**	**56**	**18.5**	**216**	**71.5**
25.	**Names or points to missing part of a pictured object (dog without tail, face without mouth)**	**8**	**2.6**	**22**	**7.3**	**31**	**10.3**	**241**	**79.8**
26.	**Matches item with its function (e.g., needle and thread)**	**16**	**5.3**	**32**	**10.6**	**71**	**23.6**	**183**	**60.6**
27.	**Sorts objects by size, color, shape, category**	**13**	**4.3**	**38**	**12.6**	**63**	**20.9**	**188**	**62.3**
28.	**Identifies the picture which does not belong**	**76**	**25.2**	**7**	**2.3**	**11**	**3.6**	**208**	**68.9**
29.	**Understands relational concepts: more/less, on top/under, right/left, short/long**	**3**	**1.0**	**12**	**4.0**	**60**	**19.9**	**227**	**75.2**
30.	**Counts 15 identical objects**	**26**	**8.6**	**38**	**12.6**	**50**	**16.6**	**188**	**62.3**
31.	**Matches equal sets of objects, up to five**	**65**	**21.5**	**33**	**10.9**	**35**	**11.6**	**169**	**56.0**
32.	**Solves simple math problems with pictures**	**47**	**15.6**	**13**	**4.3**	**18**	**6.0**	**224**	**74.2**
33.	**Gives culturally appropriate response to: "what would you do if you dropped and broke an egg?"**	**30**	**9.9**	**5**	**1.7**	**20**	**6.6**	**247**	**81.8**

1= unable to perform; 2= skill is developing; 3= skill occurs sometimes; 4= able to perform.

Table 12 shows the frequencies and valid percentage of the item in the "language and communication" domain. As can be seen from the table, the frequency of items for "able to perform" ranged between 11% (recognizes word pairs that rhyme or sound similar) and 93% (understands and follows two step commands). 68% of the children in the sample were unable to respond to the item that received the lowest frequency (recognizes word pairs that rhyme or sound similar).

Table 12

Frequencies and valid percentages for the items in the language and communication domain

Domain	Item/ item scale	1 F.	V. P.	2 F.	V. P.	3 F.	V.P.	4 F.	V.P.
Language **34.**	**Understands and follows two step commands**	**10**	**3.3**			**12**	**4.0**	**280**	**92.7**
35.	**Repeats a series of four numbers in correct sequence (9, 7, 5, 3)**	**45**	**14.9**	**77**	**25.5**	**98**	**32.5**	**82**	**27.2**
36.	**Communicates orally in 5 or 6 word sentences others can understand**	**6**	**2.0**	**22**	**7.3**	**56**	**18.5**	**218**	**72.2**
37.	**Retells a story of 4 or 5 sentences in proper sequence with the help of picture cues**	**13**	**4.3**	**37**	**12.3**	**93**	**30.8**	**159**	**52.6**
38.	**Recognizes words that begin with the same sound**	**151**	**50.0**	**37**	**12.3**	**22**	**7.3**	**92**	**30.5**
39.	**Recognizes word pairs that rhyme or sound similar**	**204**	**67.5**	**43**	**14.2**	**23**	**7.6**	**32**	**10.6**
40.	**Identifies which letter is different**	**39**	**12.9**	**17**	**5.6**	**18**	**6.0**	**228**	**75.5**
41.	**Recognizes and names eight alphabet letters**	**83**	**27.5**	**58**	**19.2**	**35**	**11.6**	**126**	**41.7**
42.	**Matches 4 initial letters with a picture of a word beginning with the same sound**	**104**	**34.4**	**43**	**14.2**	**16**	**5.3**	**139**	**46.0**

1= unable to perform; 2= skill is developing; 3= skill occurs sometimes; 4= able to perform.

Table 13 shows the frequencies and valid percentages for the items in the "physical development" domain. The frequencies of items in this domain for

"able to perform" ranged between 33% (draws a recognizable person including the head, trunk, arms, legs, and hands) and 96% (catches a soccer-size soft ball with both hands).

Table 13

Frequencies and valid percentages for the items in the physical development domain

Domain	Item/ item scale	1		2		3		4	
		F.	V. P.	F.	V. P.	F.	V.P.	F.	V.P.
Physical 43.	**Draws a tail on a dog**	**39**	**12.9**	**2**	**.7**	**30**	**9.9**	**231**	**76.5**
44.	**Copies two letters and two numbers**	**26**	**8.6**	**23**	**7.6**	**46**	**15.2**	**207**	**68.5**
45.	**Completes a pattern**	**57**	**18.9**	**42**	**13.9**	**49**	**16.2**	**154**	**51.0**
46.	**Draws a recognizable person including the head, trunk, arms, legs, and hands**	**38**	**12.6**	**77**	**25.5**	**88**	**29.1**	**99**	**32.8**
47.	**Catches a soccer-size soft ball with both hands**	**7**	**2.3**	**2**	**.7**	**4**	**1.3**	**289**	**95.7**
48.	**Runs and kicks a soccer-size ball**	**6**	**2.0**	**3**	**1.0**	**8**	**2.6**	**285**	**94.4**
49.	**Jumps forward 8 times as teacher counts from 1 to 8**	**12**	**4.0**	**6**	**2.0**	**18**	**6.0**	**266**	**88.1**
50.	**Marches/moves body to rhythm of simple tune**	**29**	**9.6**	**34**	**11.3**	**69**	**22.8**	**170**	**56.3**

1= unable to perform; 2= skill is developing; 3= skill occurs sometimes; 4= able to perform.

Research Objective (2): To determine the validity of the Early Years Evaluation Instrument.

The content validity for the EYE instrument was established through the critical review of early childhood professionals in Jordan during the pre-pilot phase of this study. Modifications to the instrument were made according to the

specific comments provided by the evaluation group. Some of the items from the original instrument were either modified or deleted.

The EYE instruments' discriminant validity was established through this study. The analysis presented previously shows that the instrument was able to distinguish among the various groups of participants. The instrument discriminated for example between children who attended kindergarten and those who did not attend kindergarten. It also discriminated between the achievement abilities of children from various residential areas and geographical locations.

To explore the item level structure of results, a principal-components analysis using varimax rotation was applied. This analysis was run for five factor solutions. The five-factor solution accounted for 43.76% of the total variance. Factor-loadings by item are noted in Table 14.

Table 14

Rotated Factor Matrix for the Early Years Evaluation Instrument
Rotated Factor Matrix

Factor 1		Factor 2		Factor 3		Factor 4		Factor 5	
Item	**Loading**	***Item***	**Loading**	***Item***	**Loading**	***Item***	**Loading**	***Item***	**Loading**
14	.338	***13***	.598	***5***	.699	***33***	.260	***1***	.763
29	.317	***15***	.317	***6***	.776	***47***	.869	***2***	.754
30	.632	***16***	.564	***7***	.784	***48***	.855	***3***	.722
31	.603	***17***	.523	***8***	.822	***49***	.820	***4***	.710
32	.513	***18***	.510	***9***	.799	***50***	.615		
35	.374	***19***	.445	***10***	.717				
36	.474	***20***	.492	***11***	.445				
37	.555	***21***	.405	***12***	.635				
38	.741	***22***	.554						
39	.604	***23***	.588						
40	.597	***24***	.345						
41	.785	***25***	.548						
42	.689	***26***	.519						
43	.271	***27***	.495						
44	.528	***28***	.388						
45	.444	***34***	.323						
46	.498								

Note: Rotation converged in 6 iterations. Extraction Method: Principal Component Analyses. Rotation Method: Varimax with Kaiser Normalization.

The analyses clustered the items of the EYE instrument into five components. The most apparent rotation of items was within the "cognitive

skills" and "language and communication" domains. All of the Language items with the exception of one (understands and follows two step commands) were shifted to form a single component comprising of cognitive and language items. Four items were shifted from the physical domain and were included in the cognitive domain (draws a tail on a dog; copies two letters and two numbers; completes a pattern; draws a recognizable person). Several items from the cognitive domain were shifted and included in the "Awareness of self and environment" domain (arranges a set of items from smallest to largest; names or points to missing part of a pictured object; matches item with its function; sorts objects by size, color, shape, category; identifies the picture that does not belong).

The analysis also separated the items in the "social skills and behavior" domain into two separate components. Component 4 included items portraying positive social behaviors. Component 5 included items portraying negative social behaviors.

Research Objective (3): To determine gender differences in the achievement abilities of first grade children.

Table 15 shows the analysis for differences between children according to their gender. No significant differences between boys and girls on the separate domains and on the total scale were observed.

Table 15

Means, Standard Deviations, and t Scores for Gender Differences

Domain	Gender	Mean	Std. Dev.	t	Significance
Social	**Male**	**33.72**	**7.73**	**-.14**	**.16**
	Female	**35.07**	**8.67**		
Self	**Male**	**36.93**	**6.34**	**.606**	**.55**
	Female	**36.51**	**5.75**		
Cognitive	**Male**	**34.32**	**6.14**	**.17**	**.86**
	Female	**34.20**	**7.13**		
Language	**Male**	**26.02**	**6.12**	**-.073**	**.94**
	Female	**26.07**	**5.70**		
Physical	**Male**	**27.32**	**4.14**	**-1.12**	**.26**
	Female	**27.83**	**3.75**		
Total	**Male**	**158.31**	**22.60**	**-.55**	**.58**
	Female	**159.69**	**20.80**		

N males= 145; N females= 157

Research Objective (4): To determine differences in achievement abilities between first grade children who attended kindergarten and those who did not attend kindergarten

Table 16 shows that children who attended kindergarten had higher scores on all the domains of the Early Years Evaluation Instrument and the total score when compared to their counterparts with no kindergarten experience. An examination of the means reveals that the most apparent discrepancy between the two groups was on the language and communication domain. Children who attended kindergarten showed higher abilities in understanding and following commands, repeated a series of four numbers in correct sequence, used sentences that are readily understood by others, repeated a short story,

recognized words that began with the same sound, recognized rhyming words, identified letters that were different, recognized and named eight letters of the alphabet, and matched letters with pictures of a word beginning with the same sound.

The awareness of self and environment and cognitive domains revealed the second largest discrepancies between children who attended kindergarten and those who did not, followed by the social skills and behavior and physical development domains.

Table 16

Means, Standard Deviations, and t Scores for Differences in Children Attending Kindergarten and Those with no Attendance

Domain	Kindergarten	Mean	Std. Dev.	t	Significance
Social	**Yes**	**35.20**	**8.61**	**2.20**	**.03**
	No	**33.04**	**7.382**		
Self	**Yes**	**38.36**	**5.20**	**6.90**	**.00**
	No	**33.74**	**6.326**		
Cognitive	**Yes**	**36.11**	**4.73**	**7.67**	**.00**
	No	**30.92**	**6.10**		
Language	**Yes**	**28.48**	**5.018**	**11.60**	**.00**
	No	**21.66**	**4.692**		
Physical	**Yes**	**28.58**	**3.49**	**5.90**	**.00**
	No	**25.81**	**3.10**		
Total	**Yes**	**166.74**	**18.64**	**9.26**	**.00**
	No	**145.17**	**19.78**		

N Kindergarten= 194; N without Kindergarten= 108

Research Objective (5): To determine differences in achievement abilities between first grade children according to their residential area (rural, urban)

Table 17 shows the t-test analysis for differences in children's abilities according to area; rural and urban. Significant differences were found between the two groups of children. Children living in urban areas scored significantly higher on the social skills and behavior, cognitive skills, language and communication, and total score than their counterparts living in rural areas. An examination of the means reveals that the largest discrepancy between the two groups was on the social domain indicating that children from urban areas appeared happier, cried less, were less aggressive, controlled their anger, and showed social courtesies at higher levels than did their counterparts from rural areas. Children from urban areas were also rated as more capable in following classroom rules, worked cooperatively with others, completed assigned classroom work with minimum supervision, used appropriate language to express feelings, comforted others and were more in control of their emotional reactions when compared to children from rural areas.

No significant differences were found between children from rural and those from urban areas on the "awareness of self and environment" domain.

Table 17

Means, Standard Deviations, and t Scores for Area Differences

Domain	Location	Mean	Std. Dev.	t	Significance
Social	**Rural**	**31.01**	**8.70**	**-5.40**	**.00**
	Urban	**36.17**	**7.50**		
Self	**Rural**	**36.01**	**6.38**	**-1.40**	**.163**
	Urban	**37.04**	**5.84**		
Cognitive	**Rural**	**32.93**	**6.10**	**-2.73**	**.00**
	Urban	**34.89**	**5.60**		
Language	**Rural**	**24.60**	**6.30**	**-3.04**	**.00**
	Urban	**26.80**	**5.60**		
Physical	**Rural**	**26.51**	**4.16**	**-3.32**	**.00**
	Urban	**28.14**	**3.73**		
Total	**Rural**	**151.10**	**20.47**	**-4.72**	**.00**
	Urban	**163.01**	**21.23**		

N Rural= 102; N Urban= 200

Research Objective (6): To determine differences in achievement abilities between first grade children according to their geographical regions (north, middle, and south)

Table 18 shows the differences in means between children's abilities according to their geographical locations on the various domains and as a total score. As can be seen from the table, differences in means exist between the various locations. An analysis of variance was completed to determine if the differences were significant. The analysis is shown in Table 19.

Table 18

Means, Standard Deviations for Scale According to Geographical Area

Domain	Area	Mean	Std. Deviation
Social	**North**	**33.94**	**9.25**
	Middle	**35.62**	**7.90**
	South	**31.82**	**6.45**
	Total	**34.43**	**8.25**
Self	**North**	**37.99**	**5.98**
	Middle	**36.66**	**5.75**
	South	**34.26**	**6.33**
	Total	**36.71**	**6.03**
Cognitive	**North**	**35.41**	**4.90**
	Middle	**34.52**	**5.53**
	South	**31.10**	**7.18**
	Total	**34.25**	**5.18**
Language	**North**	**27.58**	**5.72**
	Middle	**26.00**	**5.50**
	South	**23.04**	**6.36**
	Total	**26.05**	**5.90**
Physical	**North**	**27.93**	**3.45**
	Middle	**28.10**	**3.57**
	South	**25.44**	**3.16**
	Total	**27.59**	**3.94**
Total	**North**	**162.86**	**19.47**
	Middle	**160.88**	**20.67**
	South	**145.66**	**24.05**
	Total	**159.03**	**21.66**

N North= 102, N Middle= 150, N South= 5

Table 19 shows the existence of differences in means between the groups in the three different geographical regions. Significant differences exist between the regions on all subscales as well as the total score. Post Hoc tests (Scheffe) were completed to specify the sources of these differences. This analysis is depicted in Table 20.

Table 19

Analysis of Variance for Differences between Geographical Areas

Domain		Sum of Squares	Mean Square	F	Significance
Social	**Between Groups** **Within Groups** **Total**	**579.78** **19884.12** **20463.80**	**289.89** **66.50**	**4.36**	**.014**
Self	**Between Groups** **Within Groups** **Total**	**467.67** **10492.27** **10959.94**	**233.83** **35.09**	**6.66**	**.001**
Cognitive	**Between Groups** **Within Groups** **Total**	**644.72** **9512.6** **1015.7**	**322.36** **31.81**	**10.13**	**.00**
Language	**Between Groups** **Within Groups** **Total**	**694.73** **9746.63** **10441.35**	**347.36** **32.597**	**10.66**	**.000**
Physical	**Between Groups** **Within Groups** **Total**	**278.05** **4411.03** **4689.1**	**139.03** **14.75**	**9.42**	**.000**
Total	**Between Groups** **Within Groups** **Total**	**10949.6** **130263.1** **141212.7**	**5474.79** **435.66**	**12.56**	**.000**

Table 20 shows that significant differences exist between children from the middle region and those from the south on the social domain (.08). There were also significant differences on the awareness of self and environment domain between children from the north and the south (.00) and between the middle and south (.05), between south and north (.00), and south and middle (.05).

Significant differences were found between children from the north and those from the south (.00), between middle and south (.00) and south and middle (.00)

Significant differences were also found for children from different regions on the language and communication domain. Children from the north scored higher than those from the south (.000), those from the middle

scored higher than children from the south (.007), and children from the south scored higher than children from the north (.000) and those from the middle region (.007).

There were significant differences between the regions on the physical development domain. Children from the northern region scored higher than those from the southern region (.002), those from the middle scored higher than children from the south (.000), and children from the south scored higher than those from the north (.002) and from the middle region (.000).

Table 20

Multiple Comparisons between Groups in Geographical Areas

Dependent Variable	(I) region	(J) region	Mean Differences	Significance
Social	North	Middle	-1.69	.28
		South	2.12	.32
	Middle	North	1.69	.28
		South	3.81*	.08
	South	North	-2.12	.32
		Middle	-3.81	.02
Self	North	Middle	1.33	.22
		South	3.73*	.00
	Middle	North	-1.33	.22
		South	2.40*	.05
	South	North	-3.73*	.00
		Middle	-2.40*	.05
Cognitive	North	Middle	.89	.58
		South	4.31*	.00
	Middle	North	-.89	.58
		South	3.42*	.00
	South	North	-4.31	.00
		Middle	-3.42	.00
Language	North	Middle	1.59	.09
		South	4.55*	.00
	Middle	North	-1.59	.09
		South	2.96*	.01
	South	North	-4.55*	.00
		Middle	-2.96*	.01
Physical	North	Middle	-.14	.77
		South	2.49*	.00
	Middle	North	.14	.77
		South	2.63*	.00
	South	North	-2.49*	.00
		Middle	-2.63*	.00
Total	North	Middle	1.98	.76
		South	17.20*	.00
	Middle	North	-1.98	.76
		South	15.20*	.00
	South	North	-17.20*	.00
		Middle	-15.20*	.00

Table 21

Correlations between Domains

Domain	Social	Self	Cognitive	Language	Physical
Social					
Self	.176*				
Cognitive	.165*	.686*			
Language	.163*	.629*	.704*		
physical	.203*	.491*	.576*	.590*	
Total	.555*	.790*	.819*	.806*	.712*

*p<.05

Table 21 shows the correlations of the subscales with each other and with the total scale. As can be seen from the table, the correlations between most of the domains are at appropriate levels. The correlations ranged between .16 for the language and social domains, and .70 for the language and cognitive domains.

Discussion of Results

The main objective of this study was to determine the validity and reliability of the Early Years Evaluation Instrument and its suitability of use with children entering first grade. The instrument was also used to determine if gender differences exist among children with respect to their performance abilities. Differences in abilities were also tested for children who had previously attended kindergarten and those with no kindergarten experience, children from rural as opposed to urban areas, and children from the varying regions of Jordan (South, Middle, and North). Data was collected during the third and forth weeks of September (2003). The sample of the study consisted of 302 first grade children.

Reliability of the Early Years Evaluation Instrument

Data analysis revealed evidence for the instruments high reliability which reaches the .91 level. Each domain of the instrument also had appropriate reliability levels. The reliability values indicate the suitability of this instrument as an appropriate measure to be used with the national sample that will consist of 5,000 first grade children in the year 2004.

Some modifications need to be made to a limited number of the items on the (EYE) instrument before implementing it with the national sample.

*** Social Skills and Behavior Domain**

This section of the instrument was completed for each individual child by his or her classroom teacher. The items of this domain required teachers to possess sufficient information in order to assess the child's social abilities. The teachers found this to be a difficult task due to the time of the school year during which the study was implemented. This timeframe had not yet allowed teachers to sufficiently acquaint themselves with each assessed child. It is then reasonable to assume that teacher's responses on these items were somewhat superficial. It is also reasonable to assume, however, that the behaviors included in this domain are easily assessed by teachers, even those who do not have the proper observation skills. In reality, children who kick and bite, those who show social courtesies, and control their emotions can be identified by their teachers, even at the beginning of the school year.

The field researchers also reported that a large number of the evaluating teachers had difficulty understanding the way they were required to respond to the question of this domain. This was mainly due to the manner in which the items were phrased. For example, teachers responded to questions phrased as follows: This child does not appear to be unhappy, sad, or depressed. This dilemma was statistically corrected for this pilot

study during the analysis to reveals the true values of these responses. This predicament will not be an issue when using the EYE with the national sample. This domain will be modified to include items that are phrased directly.

*** Awareness of Self and Environment Domain**

All of the items in this domain, except one, were appropriate with no implementation difficulties either for the field researchers or the participating children. The single item that needs to be modified is the one requesting children to recognize and point to various pictures of animals. The drawings of these pictures were provided for by the original source of the instrument. The pictures included drawings of a cat, dog, cow, monkey, elephant, goat, lion, and camel. Almost all of the children in the sample had difficulty identifying the goat. This difficulty arose because the drawing was not a clear representation of this animal. This picture will be modified before implementation of the scale with the national sample. Two other pictures posed some difficulty for the children, and those were the drawing of the lion and the camel. Those pictures will also be modified.

*** Cognitive Skills Domain**

No apparent difficulties were reported for any of the items in this domain. No modifications will, therefore, be needed before implementation with the national sample.

*** Language and Communication Domain**

It was reported by the field researchers that the children had some difficulty responding to some of the items in this domain. Two items in particular were troublesome for the children. The first, which actually received the lowest mean out of all the instrument items, was the one requesting children to recognize word pairs or words that sound similar.

This item was unable to discriminate between children's abilities due to its difficulty. This may be due to the fact that rhyming words are not of particular importance to the Jordanian culture. This item will be deleted from the instrument before implementation of the national survey.

Another item that was reported as being difficult for the participating children was the one asking them to repeat a series of four numbers in correct sequence. The difficulty encountered was because the numbers were presented in descending order. It may therefore be more realistic to consider presenting several ascending numbers for children to identify instead.

*** Physical Development Domain**

No apparent difficulties were reported for the items of this domain. No modifications will therefore be needed before implementation with the national sample.

Validity of the Early Years Evaluation Instrument

The Early Years Evaluation Instrument consisted of a total of 50 items separated into five conceptualized domains. The factor analysis applied to these domains revealed, somewhat, different clusters for the items with in each domain. The most apparent difference in item clustering occurred when the analyses grouped most of the cognitive and language items into one single domain. The results of the factor analysis should be thoroughly reviewed and considered before the implementation of the instrument with the national sample.

Gender differences in children's achievement abilities as measured by the Early Years Evaluation Instrument

The analysis of the data revealed no significant achievement differences between first grade boys and girls. This result may indicate that, regardless of gender, children are exposed to similar social, physical, language, cognitive, and awareness experiences.

Achievement differences among first grade students with regard to kindergarten attendance

The findings of this pilot study revealed significant differences in achievement outcomes between children who attended kindergarten and those who did not attend kindergarten. These differences were evident across all of the instrument's domains. The most apparent discrepancy between the two groups was on the "awareness of self and environment", "cognitive skills", and "language and communication" domains. It is clear from these findings that kindergarten experience positively affected first grade children's achievement outcomes.

Although this study did not investigate the relationship between the quality of kindergarten programs and their differing effects on the achievement of first grade children, it was clear that attending children benefited from this experience, regardless of program quality. This result lends support to the present national goal of educating all children at the kindergarten level. This goal is being achieved by the Ministry of Education's long term plan to establish and expand public kindergartens throughout Jordan, especially in economically disadvantaged geographical locations.

Providing young children with quality kindergarten experiences increases their chances for future academic success and achievement. It

may be assumed, then, that society as a whole may also benefit from the establishment of preschool programs. More expenditure is allocated for programs with beneficial outcomes, and less is spent on remedying problematic situations.

Achievement differences among first grade children according to their residential area

The results of this study indicated the existence of significant differences in children's achievement outcomes according to their residential areas. These differences were apparent on the "social skills and behavior", "language and communication", and "physical development" domains. This is most probably due to the nature and quality of experiences that the two groups are exposed to. Social opportunities are greater for those residing in urban areas. The social structure of urban areas allows for more exposure to varying cultures and backgrounds. This mainstreaming of various cultures encourages children to interact and learn from others who differ from themselves.

The quality of educational programs that urban children receive may also have contributed to this difference between children's achievement levels. Quality education entails several dimensions that, when implemented, reflect positively on the child's developing skills. Children who are exposed to quality education, are more likely to be socially and cognitively more skillful. In Jordan, the quality of education received by urban children is more conducive to their growth and promotes positive achievement outcomes.

Achievement differences among first grade children according to their geographical region

The results of this study indicated the existence of significant differences between children's achievement level on all of the instruments domains except for the cognitive skills domain. Those differences were, for the most part, in favor of children who lived in the middle region of Jordan. There was however, no consistent evidence that children from the middle region scored higher than those from the southern and northern regions. Of particular interest was the lack of evidence for differences among children for the varying geographical locations. This outcome may be explained by the simple nature of the items on the cognitive domain. By five years of age, children may have acquired enough experience to logically respond to the items of this domain. Arranging items by size, naming missing parts, and matching items with their function, for example, are skills the children of this sample may have acquired through accumulative experiences.

Child information section of the Early Years Evaluation Instrument

Several items need to be considered for inclusion in the instrument before implementation with the national sample. The mother's employment status should be acquired and correlated with children's achievement levels. The family's socioeconomic status should also be included to test for existing differences among children from differing economic backgrounds. One item that needs to be deleted from the national survey is the child's height due to its irrelevance to this type of study.

Recommendation of this Study

Several recommendations can be drawn from the results of this study:

- The Early Years Evaluation Instrument is recommended for use with the national sample to be implemented in September of the year 2004. This instrument is recommended due to its high reliability and for its ability to provide baseline information on children's achievement outcomes.

- The Ministry of Education should continue its development and expansion plan to provide kindergarten services to all children. This expansion ensures that a larger number of children will benefit from the services provided by the Ministry, which increases the chances for elevated school readiness levels.

- One dimension of school readiness entails making schools ready for children. It is, therefore, recommended that increased government effort should be placed on the training of kindergarten and elementary school teachers in all aspects of children's development.

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