The Hashemite Kingdom of Jordan

National Center for Human Resources Development
(NCHRD)

Supervision Committee for Evaluation Studies for Education Reform for Knowledge Economy Project (ERfKE I)

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THE SECOND

LEARNING READINESS ASSESSMENT

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2008

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Abstract

This study is a replication of the national survey that was conducted in 2004 which aimed at assessing the school readiness of first grade school children. The main objective of this study was to reexamine the level of readiness of first grade Jordanian children in general and across all the five developmental domains. To achieve the objectives of the study the EYE instrument was used. The national sample of the study consisted of 3657 first grade children distributed all over the kingdom. The over-sample consisted of 1024 first grade children from the local communities in rural areas where public KGs have been newly established.

This study aimed at answering several questions related to variables that influence the level of learning readiness of Jordanian children when they enter the first grade, such as kindergarten enrollment, kindergarten type (private, public), gender, father education, mother education, and socioeconomic status. In addition, this study aimed at assessing and describing the level of school readiness of children in local communities where public KGs have been newly established in general and across the five developmental domains of learning readiness. Data was collected at the beginning of school year 2007/2008. To analyze the data the total score was converted to a 4.00 point scale as the instrument suggested. The levels of school readiness were defined according to the average score on a certain domain or the whole scale. Accordingly, the level of school readiness of the first grade Jordanian children was classified to four groups (level 1-not ready, level 2-developing, level 3-almost ready, and level 4-fully ready).

The results revealed that in 2007 almost 40% of first grade children in Jordan are considered fully ready to school, while about 54% of them are considered almost ready to school upon the entry of first grade, about 6% of the children are still developing their school readiness, and only .2% are considered not ready to school. The results also revealed that there is a significant relationship exists between learning readiness and gender where males have better school readiness than girls. Moreover, there is a significant relationship exist between learning readiness and kindergarten enrollment as well as kindergarten type. Children who were enrolled in KG had better learning readiness than children who did not enroll. Children who were enrolled in Private KGs

have better learning readiness than children who were enrolled in Public KGs. The study also revealed a significant relationship between learning readiness and socioeconomic status, father education, mother education, number of siblings, and family size. Children's learning readiness increased with family income, father education, mother education, less number of siblings, and smaller family size. The results also revealed that readiness to school dose not differ according to the geographical location (north, middle, and south); however, the results revealed that children in urban areas have better school readiness than children in rural areas.

The results of the study also indicated that children in the local communities in rural areas have similar school readiness comparable to children's school readiness in the national sample. Several recommendations were drawn from the results of this study for future investigations and planning.

INTRODUCTION

During the dynamic years from age one to five, children develop a sense of themselves in relation to family and community; they are exploring the world through play and seemingly endless questions which require caregivers' validating responses; and they are ready to learn a healthy lifestyle from powerful adult role models with whom they identify strongly. The quality of nurturing and stimulation that a child receives in the first few years of life can have effects on development that last a life time.

Why are early years so important

It is evident that the early years in children's life are vital to brain development and academic achievement. Brain develops according to the quantity and quality of the stimuli it receives. Literature of early childhood interventions show that children who attended such programs display greater motivation to learn, higher achievement, and higher self-esteem than children who did not attended such programs. Early childhood experiences have powerful effects on the development of children's physical and emotional abilities and influence their intellectual development in areas such as, math, logic, language, and music. High quality early education can help children to:

- understand and use language;
- control aggression
- play and work with other children
- accept adult direction; and
- focus attention and do things independently

It is a fact that quality early education experiences in families, childcare, preschool, and early elementary settings help prepare children to success later in school (Meisels, 1999; NRC, 2001; Shonkoff and Phillips, 2000).

Pianta (2002) sees school readiness as multifaceted, complex, and systemic, combining:

- A child experiences at home and the resources of home;
- The resources and experiences present in child care and preschool settings attended by the child;
- Community resources that support high-quality parenting and child care;
- The extent to which the elementary school is well linked to these family and child care resources; and
- The degree to which classroom experiences provided for the child in kindergarten and first grade effectively build on competencies he or she brings to school (Love, Aber, & Brooks-Gunn, 1992; Pianta & Walsh, 1996; Meisels, 1999).

The comprehensive efforts that are related to school readiness require an adequate understanding and assessment of children's skills (Meisels, 1999). Such assessments, when conducted at repeated and regular intervals over time, are like taking the temperature of the community with regard to its efforts to enhance children's development (Love, et al, 1992).

The attention to school readiness is based on what the literature revealed (Entwisle & Alexander, 1999; Pianta & McCoy, 1997), showing that when children demonstrate or fail to demonstrate certain skills early in their school careers, they are more or less likely to succeed later in school.

Emig (2000) reported that The National Education Goals Panel (NEGP) highlighted five dimensions of children's school readiness in their report, reconsidering Children's Early Development and Learning: Toward Common Views and Vocabulary:

- Physical well-being and motor development. This dimension covers health status, growth, and disabilities. It also includes physical abilities like gross and fine motor skills, as well as conditions before, at, and after birth, such as exposure to toxic substances.
- Social and emotional development. Social development refers to children's ability to interact socially. A positive adaptation to school

requires such social skills as the ability to take turns and to cooperate. Emotional development includes a child's perception of him/herself, the ability to understand the emotions of other people, and the ability to interpret and express one's own feelings.

- Approaches to learning. This dimension refers to the inclination to use skills, knowledge, and capacities. Key components include enthusiasm, curiosity, and persistence on tasks, as well as temperament and cultural patterns and values.
- Language development. This dimension includes verbal language and emerging literacy. Verbal language includes listening, speaking, and vocabulary. Emerging literacy includes print awareness (i.e., assigning sounds to letter combinations), story sense (i.e., understanding that stories have a beginning, middle, and end) and writing process (i.e., representing ideas through drawing, letter-like shapes, or letters).
- Cognition and general knowledge. This includes knowledge about properties of particular objects and knowledge derived from looking across objects, events, or people for similarities, differences, and associations. It also includes knowledge about societal conventions, such as the assignment of particular letters to sounds, knowledge about shapes and spatial relations, and number concepts (i.e., one-to-one correspondence of numbers and objects, and the association of counting with the total number of objects).

There is an agreement that school readiness is a two-dimensional concept and that both elements of readiness are equally important: in addition to children being ready for school, schools need to be ready to receive all children. The National Education Goals Panel has identified *ready schools* as a critical element of Goal 1. Further, the Ready Schools Resource Group of the Goals Panel (Shore, 1998) has outlined the following ten keys to ready Schools:

- Ready schools smooth the transition between home and school.
- Ready schools strive for continuity between early care and education programs and elementary schools.

- Ready schools help children learn and make sense of their complex and exciting world.
- Ready schools are committed to the success of every child.
- Ready schools are committed to the success of every teacher and every adult who interacts with children during the school day.
- Ready schools introduce or expand approaches that have been shown to raise achievement.
- Ready schools are learning organizations that alter practices and programs if they do not benefit children.
- Ready schools serve children in communities.
- Ready schools take responsibility for results.
- Ready schools have strong leadership.

Education in Jordan

To address the vision of King Abdullah in making Jordan the IT hub in the region and in developing the human capital for the knowledge economy, the MOE has launched a five year education reform for the knowledge economy project (ERfKE I) in July 2003 and ERfKE II will be launched in 2009. Enormous funds are being secured to address His Majesty's vision and to help the Ministry of Education undertake educational reform at the governance, program, and facility levels, in order to achieve sustainable learning outcomes relevant to a knowledge economy. This project is the first of its kind in the Region. Four major components were identified for investment, namely: (1) Re-orienting education policy objectives and strategies and reforming governance and administrative systems; (2) Transforming education programs and practices to achieve the learning outcomes relevant to the knowledge economy; (3) Supporting the provision of quality physical learning environments; and importantly (4) Promoting learning readiness through expanded early childhood education (MOE, 2002).

The fourth component is about implementing a comprehensive approach to improving the scope and quality of essential early childhood services. This component aims at increasing institutional capacity building (curriculum framework, licensing standards for kindergarten), building the capacity of kindergarten teachers and

administrators, expanding kindergartens for the poor (construction, furnishing and equipping kindergarten classrooms in the most disadvantaged communities), and encouraging parent and community participation (MOE, 2002).

With the increasing demand for accountability and improved student performance that has swept the nation, policy makers and educators have struggled to find ways to assess children when they enter school. Understanding the condition of children as they enter school can provide clues to help parents and teachers understand children's performance later in their school career. Furthermore, this knowledge can provide teachers with essential information for individualizing the curriculum to help children learn more effectively. Finally, assessment of children's condition at school entrance may play an important role in accountability measurement, because this information can provide baseline data against which future data on children can be compared. It should be noted that different assessment methods and instruments may be needed to accomplish these separate and distinct functions. The importance of positive early life experiences is widely recognized; however, questions about how to describe children at the time of school entrance through both formal and informal assessments have been the subject of considerable debate over the past decade.

Phases of Learning Readiness Assessment

The Learning Readiness Assessment study was planned to be conducted in three phases:

1. Pre-Pilot Survey

The preliminary instrument was used with a small group of children in Amman and Mafraq and was conducted by The National Council for Family Affairs (NCFA). Fifty five items comprising the Early Year Evaluation (EYE) were used in direct individual assessment of the children to conduct a preliminary piloting of the administration of the instrument and to study the suitability of the (EYE) in general terms.

2. Pilot Survey

This phase was conducted in September 2003 by NCHRD. It entailed a larger sample involving 302 first grade children using the Early Years Evaluation instrument (EYE), for assessing early childhood outcomes in five critical domains:

- General knowledge
- Language development
- Cognitive skills
- Behavioral development
- Physical development

3. The National Survey 2004

This phase was conducted in October 2004 by NCHRD. The main objective was to assess and describe the level of readiness of first grade Jordanian children in general and across all five developmental domains. To achieve the objectives of the study the EYE instrument was used. The national sample of consisted of 2645 first grade children distributed all over the kingdom. The over sample that represented the local communities in rural areas was 955 first grade children.

Survey Objective

The longer-term objective is to maintain an institutionalized system for national assessment of learning readiness in order to assess the efficacy of national and community-based interventions and social policies aimed at improving early childhood outcomes. This would involve the measurement of early childhood outcomes, the monitoring of childhood outcomes overtime, across regions, among socio-economic segments, urban/rural areas and between the sexes, for the evaluation of systematic, regional, local disparities, and the identification of areas of strengths and weaknesses.

Research Questions

The research questions of the second National Survey of Assessing the School Readiness of first grade Jordanian children are:

1. What is the level of school readiness of first grade Jordanian children?
2. What is the level of school readiness of first grade Jordanian children with respect to their social skills and behavior?
3. What is the level of school readiness of first grade Jordanian children with respect to their awareness of self and environment?
4. What is the level of school readiness of first grade Jordanian children with respect to their cognitive skills?
5. What is the level of school readiness of first grade Jordanian children with respect to their language and communication skills?
6. What is the level of school readiness of first grade Jordanian children with respect to their physical development?
7. Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to gender?
8. Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to kindergarten enrollment?
9. Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to kindergarten type (private, public)?
10. Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to socioeconomic status?
11. Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to father's education?
12. Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to mother's education?
13. Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to their residential area (urban, rural)?

14. Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to geographical region (north, middle, south)?
15. Is there a relationship between school readiness of first grade Jordanian children and family size?
16. Is there a relationship between school readiness of first grade Jordanian children and number of siblings?
17. What is the level of readiness of first grade Jordanian children in the schools where KGs have been newly established (local communities).
18. What is the level of readiness of first grade Jordanian children in the schools where KGs have been newly established (local communities) with respect to their social skills and behavior?
19. What is the level of readiness of first grade Jordanian children in the schools where KGs have been newly established (local communities) with respect to their awareness of self and environment?
20. What is the level of readiness of first grade Jordanian children in the schools where KGs have been newly established (local communities) with respect to their cognitive skills?
21. What is the level of readiness of first grade Jordanian children in the schools where KGs have been newly established (local communities) with respect to their language and communication skills?
22. What is the level of readiness of first grade Jordanian children in the schools where KGs have been newly established (local communities) with respect to their physical development?

METHODOLOGY

Sample

The present study consisted of two samples that were identified and selected by the National Center for Human Resources Development (NCHRD) from the Ministry of Education database. The first sample (n=3657) was selected to represent the national population. More specifically, a national representative sample (stratified random) of 144 schools from a defined population of schools with first grade enrolment of more than 9 children were selected. Twenty four children were selected from each school that had equal or more than 24 grade one children.

The second sample (n=1024) was an over-sample, a stratified sample that was selected from a 47 schools where KGs have been newly established within the ERfKE project. These schools had been chosen according to the following criteria:

- Serves several towns.
- Located in a rural poor area
- Not served by the private sector

Each field researcher was assigned a number of schools and was trained how to choose the sample. In the schools where there was more than one section of first grade, one section was randomly selected. In the sections where there are more than 24 students, the researcher had to choose randomly 24 students only. In first grades where there are both genders, the researchers had to choose approximately equal number of males and females as possible. In small schools where there are less than 24 students at first grade, the researcher had to choose them all. Table 1 shows the distribution of the sample according to study variables.

Table (1)

Distribution of the National Sample According to the Study Variables

Variable	Number of Children
Gender	
Male	1974
Female	1692
Kindergarten Attendance	
Yes	2884
No	750
Kindergarten Type	
Private	2090
Public	753
Area	
Rural	1999
Urban	1581
Geographical Location	
North	1338
Middle	1594
South	702
Father Education	
Illiterate	213
Lower Basic (grades 1-6)	510
Upper Basic (grades 7-10)	641

Variable	Number of Children
Secondary	1231
Diploma	373
University	586
Mother Education	
Illiterate	299
Lower Basic (grades 1-6)	518
Upper Basic (grades 7-10)	573
Secondary	1158
Diploma	579
University	437
Family Income (JD)	
Less than 299	2295
300-599	950
600-899	173
900 and above	49

Field Researchers

The field researchers were Kindergarten supervisors at the Ministry of Education. They were chosen by the directorate of Early Childhood Education at the Ministry of Education as qualified personnel to carry out the entitled task. All of them have a university degree in education or related fields. In addition, they had a specialized training in early childhood education. The field researchers were 63 distributed among the three regions north, middle, and south. Most of the field researchers participated as a filed researchers in the first national survey that was conducted in 2004. Training workshop was held in the NCHRD for the purpose of training and preparing the field researchers for the task.

Research Instrument

The instrument that was used in this research was developed in Canada as part of a five year research project "Understanding the Early Years (UEY)". The UEY is an

initiative of Human Resources Development Canada (HRDC), and is being implemented in 13 communities across Canada. The aim of this project is to improve child learning outcomes through the effective use of research evidence, and to channel community forces in supporting the needs and development of young children. Three research instruments involved in the UEY project were: the National Longitudinal Survey of Children and Youth (NLSCY), the Early Development Instrument (EDI), and Community Mapping Studies. The results of the survey helps policy makers in making national comparisons by comparing between communities in terms of what areas of development children in specific communities are performing better.

A survey instrument "the Early Years Evaluation Tool - EYE" is being developed based on the Early Development Index (EDI) tool. It has been determined that this instrument can be adapted and validated to suit children in the Jordanian context. The EYE assessment/evaluation tool was recently amended to be used cross-culturally in developing countries. The World Bank intends to implement this survey instrument in developing countries for comparison reasons in assessing children's readiness to enter school. Countries in the first phase are Jordan, India, and Turkey. This assessment tool was used in Jordan during the pilot phase of the survey.

The EYE tool assesses children's performance in five domains: Awareness of Self and Environment, Language and Communication, Physical Development, Social Skills and Behavior, and Cognitive Skills. 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 tool composed of a total of 52 items in the pre-pilot survey distributed among the domains as follows:

- 11 items in the social skills and behavior domain
- 10 items in the awareness of self and environment domain
- 10 items in the cognitive skills domain
- 9 items in the language and communication domain
- 12 items in the physical development domain

In the second phase (pilot survey), the EYE tool was modified to be consisted of 50 items distributed among the domains as follows:

- 12 items in the social skills and behavior domain
- 11 items in the awareness of self and environment domain

- 10 items in the cognitive skills domain
- 9 items in the language and communication domain
- 8 items in the physical development domain

In this national survey, the tool was modified according to the recommendations obtained from the pilot survey and with consultation with the NCFA and NCHRD to be consisted of 49 items distributed among the domains as follows:

- 14 items in the social skills and behavior domain
- 9 items in the awareness of self and environment domain
- 12 items in the cognitive skills domain
- 7 items in the language and communication domain
- 7 items in the physical development domain

The first section of the instrument constitutes information about the child's date of birth, gender, number of siblings, number of family members living at the same house, kindergarten attendance (public, private). It also included information about the family house such as, number of house rooms, the availability of computer, number of private cars, the availability of satellite, the availability of a telephone line. It also included information about the family's income, level of father's and mother's education, the working status of the father and the mother. In addition, information about the residential area (rural, urban), geographical region (middle, north, south) were also collected.

Scoring and recording procedures

The item scores were recorded in the rating column to the left of the item set. Each item is scored 1, 2, 3, or 4. The scoring criteria differed depending on whether the item involves:

a) Teacher ratings based on observation (i.e. awareness of self and environment, cognitive skills, language and communication, and physical development).
b) Assessment of the child's performance on specific tasks (i.e. social skills and behavior).

A. Scoring: Teacher ratings were based on observation. The items were scored as follows:

Score 4: Strongly Agree	Score 3: Agree	Score 2: Disagree	Score 1: Strongly Disagree
This trait is consistently present and is always observed.	This trait is frequently present and is usually observed.	This trait is seldom present and rarely observed.	This trait is never present and has not been observed.

B. Scoring: Assessment of the child's performance on specific tasks. The items were scored as follows:

Score 4: Mastered	Score 3: Almost Mastered	Score 2: Emerging	Score 1: Absent
Child can do this confidently and consistently. It is clear that he/she could do it correctly whenever asked.	Child can do this partially but not consistently. It appears that he/she will soon master this task.	Child has some of the skills required for this task but was unable to do it at this time.	Child is unable to do this and appears not to have any of the skills required for this task.

Instrument Reliability

After data collection and analysis, the reliability coefficient (Cronbach Alpha) was calculated for each domain and for the total scale. The reliability data is presented in Table (2).

Table (2)

Reliability Coefficient for Domains in School Readiness Scale

Domain	No. of items	Alpha
Social skills and behavior	14	.925
Awareness of self and environment	9	.806
Cognitive skills	12	.847
Language and communication	7	.802
Physical development	7	.716
Total score	49	.941

Table 2 shows the reliability coefficient for each domain and for the total scale. The reliability of the domains ranged between .71 and .92; these values were considered acceptable for this study. The coefficient for the total scale was .94, which indicating a high reliability value.

Data Collection

The data for this national survey was collected at the beginning of the school year 2007/2008. The field researchers collected the data from schools that were identified for their area (rural, urban) and geographical location (middle, north, south). These distributions were obtained from the Ministry of Education's data base through NCHRD. Mostly, the items in the different domains entailed direct assessment of the child. However, in the social skills and behavior domain, items were addressed to the teacher where each child's teacher was requested to rate children individually on the social skills and behavior domain.

Data Analysis

To answer the questions of this study the total score was converted to a 4.00 point scale as the instrument suggested. The data was analyzed using descriptive statistics (frequencies and percentages), in addition to t-test, analysis of variance (ANOVA), and correlation coefficient.

RESULTS

Research Question (1): What is the level of school readiness of first grade Jordanian children?

This study aimed at achieving different objectives through answering specific questions. Therefore, the results of this study are presented for those questions. Regarding the first question, the total score was converted to a 4.00 point scale as the instrument suggested. The following levels were defined according to the average score on a certain domain or the whole scale. Accordingly, the level of school readiness of first grade Jordanian children was classified to four groups. Table 3 shows the cut points that were used to achieve the mentioned goal.

Table (3)
Mean scores corresponding to each level of school readiness

Mean score	Level of readiness
< 1.5	Level 1
1.5 ≤ - < 2.5	Level 2
2.5 ≤ - < 3.5	Level 3
≥ 3.5	Level 4

Definitions of the different levels of school readiness abilities:

Level 1 of readiness: The child is developing readiness slowly, he/she is not ready to school; the skills, knowledge or behavior is absent or rarely observed demonstrated by the child.

Level 2 of readiness: The child is approaching readiness, he/she is in progress; the skills, knowledge or behavior is emerging and is not demonstrated by the child consistently.

Level 3 of readiness: The child is ready for school; he/she is almost proficient; the skills, knowledge or behavior is partially demonstrated by the child but appeared that it will be mastered soon.

Level 4 of readiness: The child is fully ready for school, he/she is proficient; the skills, knowledge or behavior is firmly within the child's range of performance.

Table (3) shows that the mean scores that were less than 1.5 is considered as level 1 of school readiness which means that the child is not ready for school. Children who got mean scores equal or larger than 1.5 and less than 2.5 is considered as level 2 of school readiness which means that the child is ready to a certain extent and the skills are emerging. Children who got mean scores equal or larger than 2.5 and less than 3.5 is considered as level 3 of school readiness which means that the child is almost ready for school. Finally, children who got mean scores equal or larger than 3.5 is considered as level 4 of school readiness which means that the child is fully ready for school.

Table (4) shows that 54.2% of children in Jordan are at level 3 of school readiness; 39.7% of children are at level 4 of school readiness; 6.0% of children in Jordan are at level 2 of school readiness; .2% of children are at level 1 of school readiness.

Table (4)
Frequencies and percentages of the four levels of school readiness of Jordanian children

Level of Readiness	Frequency	Percent
Level 1	6	0.2
Level 2	219	6.0
Level 3	1989	54.2
Level 4	1458	39.7
Total	3672	100.0

Table 4 indicates that 54.2% of Jordanian children can be described as almost ready to school. Similarly, 39.7% of children can be described as fully ready to school. However, 6.0% of the children can be described as ready to school to some extent, their skills are emerging. The most interesting point that was shown in Table 4 is that only .2% of the children are considered not ready for school.

Research Question (2): What is the level of school readiness of first grade Jordanian children with respect to their social skills and behavior?

Table 5 shows that 45% of Jordanian children are at level 3 of school readiness which means that they are almost ready for school with respect to their social skills and behavior and that was the highest percentage; 43.1% of the children are at level 4 of

school readiness which means that they are fully ready for school with respect to their social skills and behavior; 10.4% of Jordanian children are at level 2 of school readiness which means that their social skills and behavior are emerging; and finally only 1.5% of children are at level 1 of school readiness which means that they are not ready for school yet with respect to their social skills and behavior.

Table (5)
Frequencies and percentages of the four levels of school readiness for Jordanian children with respect to their social skills and behavior

Level of Readiness	Frequency	Percent
Level 1	56	1.5
Level 2	381	10.4
Level 3	1654	45.0
Level 4	1581	43.1
Total	3672	100.0

Research Question (3): What is the level of school readiness of first grade Jordanian children with respect to their awareness of self and environment?

Table 6 reveals that the highest percentage of Jordanian children, 44.4%, are at level 4 of school readiness which means that they are fully ready for school with respect to their awareness of self and environment; 43.2% of the children are at level 3 of school readiness which means that they are almost ready for school with respect to their awareness of self and environment; 11.7% of Jordanian children are at level 2 of school readiness which means that their awareness of self and environment is emerging; and finally only 0.7% of children are at level 1 of school readiness which means that they are not ready for school yet with respect to their awareness of self and environment.

Table (6)
Frequencies and percentages of the four levels of school readiness for Jordanian children with respect to their awareness of self and environment

Level of Readiness	Frequency	Percent
Level 1	27	0.7
Level 2	428	11.7
Level 3	1586	43.2
Level 4	1631	44.4
Total	3672	100.0

Research Question (4): What is the level of school readiness of first grade Jordanian children with respect to their cognitive skills?

Table 7 shows that the highest percentage of Jordanian children, 49.5%, are at level 4 of school readiness which means that they are fully ready for school with respect to their cognitive skills; 41.6% of the children are at level 3 of school readiness which means that they are almost ready for school with respect to their cognitive skills; 7.8% of the children are at level 2 of school readiness which means that their cognitive skills are emerging; and finally only 1.1% of children are at level 1 of school readiness which means that they are not ready for school yet with respect to their cognitive skills.

Table (7)

Frequencies and percentages of the four levels of school readiness for Jordanian children with respect to their cognitive skills

Level of Readiness	Frequency	Percent
Level 1	39	1.1
Level 2	286	7.8
Level 3	1529	41.6
Level 4	1818	49.5
Total	3672	100.0

Research Question (5): What is the level of school readiness of first grade Jordanian children with respect to their language and communication skills?

Table 8 shows that the highest percentage of Jordanian children, 49.9%, are at level 3 of school readiness which means that they are almost ready for school with respect to their language and communication skills; 31.2% of the children are at level 4 of school readiness which means that they are fully ready for school with respect to their language and communication skills; 17.4% of Jordanian children are at level 2 of school readiness which means that their language and communication skills are emerging; only 1.5% of children are at level 1 of school readiness which means that they are not ready for school yet with respect to their language and communication skills.

Table (8)
Frequencies and percentages of the four levels of school readiness for Jordanian children with respect to their language and communication skills

Level of Readiness	Frequency	Percent
Level 1	55	1.5
Level 2	639	17.4
Level 3	1833	49.9
Level 4	1145	31.2
Total	3672	100.0

Research Question (6): What is the level of school readiness of first grade Jordanian children with respect to their physical development?

Table (9) shows that the highest percentage of Jordanian children, 68.3%, are at level 4 of school readiness which means that they are fully ready for school with respect to their physical development; 28.7% of the children are at level 3 of school readiness which means that they are almost ready for school with respect to their physical development; 2.8% of the children are at level 2 of school readiness which means that their physical skills are emerging; only .2% of children are at level 1 of school readiness which means that they are not ready for school yet with respect to their physical development.

Table (9)

Frequencies and percentages of the four levels of school readiness for Jordanian children with respect to their physical development

Level of Readiness	Frequency	Percent
Level 1	8	0.2
Level 2	102	2.8
Level 3	1054	28.7
Level 4	2508	68.3
Total	3672	100.0

Research Question (7): Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to gender?

Table 10 shows the percentages and frequencies of the sample according to the variables level of school readiness and gender.

Table (10)

The percentages and frequencies of the distribution of the sample according to the variables level of school readiness and gender.

Level of Readiness	Female		Male	
	Frequency	**Percent**	**Frequency**	**Percent**
Level 1	2	.1	4	0.2
Level 2	122	7.2	97	4.9
Level 3	976	57.7	1010	51.2
Level 4	592	35.0	863	43.7
Total	1692	100.0	1974	100.0

Table 10 reveals that, in general, males have better school readiness abilities than males. Specifically, the table shows that (95%) of males are considered ready to school comparing to (92%) of females. Furthermore, 43.7% of males are at level 4 of school readiness comparing to 35.0% of females. On the other hand, 57.7% of females are at level 3 of school readiness comparing to 51.2% of males. Table 10 also shows that 7.2%

of females are at level 2 of school readiness comparing to 4.9% of males. Finally, .1% of females are at level 1 of school readiness comparing to .2% of males.

To ensure whether there are significant differences between children's level of school readiness according to their gender on the total score, t-test was used and Table 11 shows these results.

Table (11)

Mean, standard deviations, and t score for gender differences

Gender	N	Mean	Std. Dev.	df	t	Significance
Male	1974	3.34	.441	3664	6.713	.000
Female	1692	3.24	.468			

Table (11) indicates that there are significant differences ($P < .05$) exist between children's level of school readiness according to their gender.

Research Question (8): Does the level of readiness of first grade Jordanian children differ significantly at .05 level of significance according to kindergarten enrollment?

Table 12 shows the percentages and frequencies of the sample according to variables level readiness and Kindergarten attendance.

Table (12)

The percentages and frequencies of the distribution of the sample according to the variables level of readiness and kindergarten enrollment.

Level of Readiness	yes		No	
	Frequency	**Percent**	**Frequency**	**Percent**
Level 1	2	0.1	3	0.4
Level 2	104	3.6	111	14.8
Level 3	1496	51.9	473	63.1
Level 4	1282	44.5	163	21.7
Total	2884	100.0	750	100.0

Table 12 shows that, in general, children who were enrolled in kindergarten have better school readiness abilities than children who did not enroll in kindergarten. Specifically, the table shows that more children who did enroll in Kindergarten (96%) are considered ready to school than children who did not enroll in kindergarten (84%). Furthermore, 44.5% of children who enrolled in kindergarten are at level 4 of school readiness comparing to 21.7% of children who did not enroll in kindergarten. 51.9% of children who enrolled in kindergarten are at level 3 of school readiness comparing to 63.1% of children who did not enroll in kindergarten. Table 12 also shows that percentages of children who are at levels 2 and 1 of school readiness are higher among children who did not enroll in kindergarten. 3.6% of children who were enrolled in kindergarten are at level 2 of school readiness comparing to 14.8% of children who did not enroll in kindergarten. Finally, .1% of children who enrolled in kindergarten are at level 1 of school readiness comparing to .4% of children who did not enroll in kindergarten.

To ensure whether there are significant differences between children's level of school readiness according to Kindergarten enrollment on the total score, t-test was used and Table 13 shows these results.

Table (13)

Mean, standard deviations, and t score for gender differences

KG enrollment	N	Mean	Std. Dev.	t	df	Significance
Yes	2884	3.36	0.415	16.983	3632	.000
No	750	3.05	0.510			

Table (13) indicates that there are significant differences ($P < .05$) exist between children's level of school readiness according to Kindergarten enrollment.

Research Question (9): Does the level of readiness of first grade Jordanian children differ significantly at .05 level of significance according to kindergarten type (public or private)?

Table 14 shows the percentages and frequencies of the sample according to the variables, level of school readiness and type of Kindergarten enrolled.

Table (14)

The percentages and frequencies of the distribution of the sample according to the variables, level of school readiness and type of kindergarten enrolled (private or public).

Level of Readiness	Public		Private	
	Frequency	**Percent**	**Frequency**	**Percent**
Level 1	1	0.1	1	.0
Level 2	30	4.0	73	3.5
Level 3	419	55.6	1071	51.2
Level 4	303	40.2	945	45.2
Total	753	100.0	2090	100.0

Table 14 shows that 40.2% of children who were enrolled in public kindergartens are at level 4 of school readiness as compared to 45.2% of children who were enrolled in private kindergartens; 55.6% of children who were enrolled in public kindergartens are at level 3 of school readiness as compared to 51.2% of children who were enrolled in private kindergartens; 4.0% of children who were enrolled in public kindergartens are at level 2 of school readiness abilities as compared to 3.5% of children who were enrolled in private kindergartens; finally, .1% of children who were enrolled in public kindergartens are at level 1 of school readiness as compared to 0% of children who were enrolled in private kindergartens.

To ensure whether there are significant differences between children's level of school readiness according to type of kindergarten enrolled on the total score, t-test was used and Table 15 shows these results.

Table (15)

Mean, standard deviations, and t score for KG Type

KG Type	N	Mean	Std. Dev.	t	df	Significance
Public	753	3.33	0.405	-2.167	2841	0.030
Private	2090	3.36	0.418			

Table 15 indicates that there are significant differences (P < .05) exist between children's level of school readiness according to Kindergarten type (public or private).

Research Question (10): Does the level of readiness of first grade Jordanian children differ significantly at .05 level of significance according to socioeconomic status?

Table 16 shows the percentages and frequencies of the sample according to the variables level of school readiness and socioeconomic status.

Table (16)

The percentages and frequencies of the distribution of the sample according to the variables level of school readiness and socioeconomic status.

Level of Readiness	Family Income (JD)			
	Less than 299	300-599	600-899	More than 900
Level 1	6 .3%	0	0	0
Level 2	183 8.0%	26 2.7%	1 0.6%	1 2%
Level 3	1363 59.4%	456 48%	49 28.3%	17 34.7%
Level 4	743 32.4%	468 49.3%	123 71.1%	31 63.3%
Total	2295 100%	950 100%	173 100%	49 100%

Table 16 shows that level of school readiness in general increases when the family income increases and decreases when the family income decreases. This is consistent across all levels of school readiness except at level 3 of school readiness. The table shows that 32.4% of the children are at level 4 of school readiness when the family income is less than JD299 as compared to 49.3% of the children when the family income is between JD300-599, 71.1% of between JD600-899, and 63.3% of the children when the family income is more that JD900. Moreover, 59.4% of the children are at level 3 of school readiness when the family income is less than JD 299 as compared to 48% of the children when the family income is between JD300-599, 28.3% of the children when the family income is between JD600-899, and 34.7 of the children when the family income is more than JD900. On the other hand, 8% of the children are at level 2 of school readiness when the family income is less than JD 299 as compared to 2.7% of the children when the family income is between JD 300-599, .6% of the children when the family income is between JD 600-899, and 2% of the children when the family income is more than JD900. In addition, Table 16 reveals that .3% of the children are at level 1 of school readiness when the family income is less than JD 299. No children with level 1 of school readiness where found when family income is more than JD300.

Table 17 shows the differences in means according to family income. It indicates that the mean increases when family income increases except when family income is JD 900 and above.

Table (17)

Means, Standard Deviations According to Family Income

Family Income JD	**N**	**Mean**	**Std. Dev.**
Less than 299	2295	3.21	0.472
300-599	950	3.41	0.393
600-899	173	3.58	0.300
900 and above	49	3.53	0.317

To ensure whether there are significant differences between children's level of school readiness according to family income on the total score, analysis of variance (ANOVA) was completed and Table 18 shows these results.

Table (18)

Analysis of Variance for Differences between Levels of Family Income

	Sum of Squares	df	M. Square	F	Significance
Between Groups	46.409	4	11.627	59.255	.000
Within Groups	695.023	3542	0.196		
Total	741.532	3546			

Table 18 reveals that the overall result for differences among the different levels according to the variable family income was significant (P <.05). To explore the differences between each pair of the levels that included in the family income variable the multiple comparison procedure was used and table 19 shows these results.

Table (19)

Multiple Comparisons between Groups of Family Income

Dependent Variable (I) Income	(J) Income	M. Differences	Significance
Less than 299	300-599	-.20*	.000
	600-899	-.36*	.000
	900 & above	-.31*	.000
300-599	Less than 299	.20*	.000
	600-599	-.16*	.001
	900 & above	-.11	.512
600-899	Less than 299	.36*	.000
	300-599	.16*	.001
	900 & above	.04	.982
900 & above	Less than 299	.31*	.000
	300-599	.11	.512
	600-899	-.04	.982

According to table 19 there are significant differences (P<.05) between family income less than JD299 and JD300-599 in favor of JD300; significant differences were

also found between less than JD299 and JD600-899 in favor of JD600-899; significant differences were also found between family income less than JD299 and more than JD900 in favor of JD900.

Research Question (11): Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to father's education?

Table 20 shows the percentages and frequencies of the sample according to the variables level of school readiness and father's education.

Table (20)

The percentages and frequencies of the distribution of the sample according to the variables level of school readiness and father's education.

Level of Readiness	Illiterate	Lower basic	Upper Basic	Secondary	Diploma	University
Level 1	3 1.4%	1 .2%	0	2 .2%	0	0
Level 2	39 18.3%	63 12.4%	47 7.3%	38 3.1%	11 2.9%	11 1.9%
Level 3	135 63.4%	339 66.5%	394 61.5%	685 55.6%	174 46.6%	202 34.5%
Level 4	36 16.9%	107 21%	200 31.2%	506 41.1%	188 50.4%	373 63.7%
Total	213 100%	510 100%	641 100%	1231 100%	373 100%	586 100%

Table 20 shows that there is a strong relationship between level of school readiness of Jordanian children and father's education, when the father have more education children have better school readiness except at level 3 of school readiness. According to the table, 16.9% of children whose father is illiterate are at level 4 of school readiness as compared to 21% when father's education is lower basic, 31.2% when father's education is upper basic, 41.1% when the father have secondary education,

50.4% when the father have diploma, and 63.7% when the father have a university degree.

Looking at the percentages of children who are at levels 2 and 1 of school readiness, Table 20 indicates that the more education the father has less children are at levels 2 and 1 of school readiness. That is, 18.3% of children who are at level 2 of school readiness their father is illiterate as compared to 2.9% and 1.9% of children with the same level of school readiness when father has a diploma and university degree respectively. Likewise, 1.4% of children with level 1 of school readiness their father is illiterate as compared to .2% of children when father's education is secondary and 0% when the father has a diploma or university degree.

Table 21 shows the differences in means according to father education. It can be revealed that the mean increased when the father have a higher level of education.

Table (21)

Means, Standard Deviations According to Levels of Father's Education

Father Education	N	Mean	Std. Dev.
Illiterate	213	2.9	0.549
Lower Basic	510	3.0	0.476
Upper Basic	641	3.2	0.463
Secondary	1231	3.3	0.403
Diploma	373	3.4	0.389
University	586	3.5	0.360

To ensure whether there are significant differences between children's level of school readiness according to father's education on the total score, analysis of variance (ANOVA) was completed and Table 22 shows these results.

Table (22)

Analysis of Variance for Differences between levels of Father's Education

	Sum of Squares	df	M. Square	F	Significance
Between Groups	92.058	5	18.412	100.551	.000
Within Groups	649.662	3548	.183		
Total	741.720	3553			

Table 22 indicates that the overall result for differences between the different levels according to father education variable was significant (P <.05). To explore the differences between each pair of the levels that included in the father education variable the multiple comparison procedure was used and table 23 shows these results.

Table (23)
Multiple Comparisons between Groups of Father's Education

Dependent Variable (I) education	(J) education	M. Differences	Significance
illiterate	lower basic	-.13*	.015
	upper basic	-.26*	.000
	secondary	-.39*	.000
	diploma	-.47*	.000
	university	-.56*	.000
lower basic	illiterate	.13*	.015
	upper basic	-.12*	.000
	secondary	-.26*	.000
	diploma	-.34*	.000
	university	-.43*	.000
upper basic	illiterate	.26*	.000
	lower basic	.12*	.000
	secondary	-.13*	.000
	diploma	-.21*	.000
	university	-.30*	.000
secondary	illiterate	.39*	.000
	lower basic	.26*	.000

Dependent Variable (I) education	(J) education	M. Differences	Significance
	upper basic	.13*	.000
	diploma	-.08*	.044
	university	-.17*	.000
diploma	illiterate	.47*	.000
	lower basic	.34*	.000
	upper basic	.21*	.000
	secondary	.08*	.044
	university	-.09	.062
university	illiterate	.56*	.000
	lower basic	.43*	.000
	upper basic	.30*	.000
	secondary	.17*	.000
	diploma	.092	.062

According to Table 23, there are significant differences (P<.05) between illiterate and upper basic in favor of upper basic, between illiterate and secondary in favor of secondary, between illiterate and diploma in favor of diploma; and between illiterate and university in favor of university. There are also significant differences between lower basic and secondary in favor of secondary; between lower basic and diploma in favor of diploma; and between lower basic and university in favor of university. Significant differences exist between upper basic and secondary in favor of secondary, between upper basic and diploma in favor of diploma, and between upper basic and university in favor of university. Moreover, significant differences exist between secondary and university in favor of university.

Research Question (12): Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to mother's education?

Table 24 shows the percentages and frequencies of the sample according to the variables level of school readiness and mother's education.

Table (24)

The percentages and frequencies of the distribution of the sample according to the variables level of school readiness and mother's education.

Level of Readiness	Illiterate	Lower basic	Upper Basic	Secondary	Diploma	University
Level 1	2 .7%	1 .2%	1 .2%	0	1 .2%	0
Level 2	56 18.7%	67 12.9%	28 4.9%	45 3.9%	16 2.8%	2 .5%
Level 3	186 62.2%	331 63.9%	367 64%	647 55.9%	251 43.4%	144 33.0%
Level 4	55 18.4%	119 23%	177 30.9%	466 40.2%	311 53.7%	291 66.6%
Total	299 100%	518 100%	573 100%	1158 100%	579 100%	437 100%

Table 24 reveals that there is a strong relationship between level of school readiness of Jordanian children and their mother's education, when the mother have more education children have better school readiness except at level 3 of school readiness. According to the table, 18.4% of children whose mother is illiterate are at level 4 of school readiness as compared to 23% when mother's education is lower basic; 30.9% when mother's education is upper basic, 40.2% when the mother has secondary education, 53.7% when the mother has diploma, and 66.6% when the mother has a university degree.

Looking at the percentages of children who are at levels 2 and 1 of school readiness, Table 24 shows that the more education the mother has less children are at levels 2 and 1 of school readiness. That is, 18.7% of children who are at level 2 of school readiness their mother is illiterate as compared to 2.8% and .5% of children with the same level of school readiness when mother has a diploma and university degree respectively. Likewise, .7% of children with level 1 of school readiness their mother is illiterate as compared to 0% of children when mother's education is secondary, .1% when mother has a diploma and 0 when mother has a university degree.

Table 25 shows the differences in means according to mother education. It can be revealed that the mean increased when the mother have higher level of education.

Table (25)

Means, Standard Deviations According to Levels of Mother's Education

Mother Education	N	Mean	Std. Dev.
Illiterate	299	2.97	0.517
Lower Basic	518	3.09	0.493
Upper Basic	573	3.24	0.436
Secondary	1158	3.33	0.407
Diploma	579	3.44	0.396
University	437	3.56	0.314

To ensure whether there are significant differences between children's level of school readiness according to mother's education on the total score, analysis of variance (ANOVA) was completed as shown in Table 26.

Table (26)

Analysis of Variance for Differences between Levels of Mother's Education

	Sum of Squares	df	M. Square	F	Significance
Between Groups	98.473	5	19.695	109.256	.000
Within Groups	641.367	3558	.180		
Total	739.840	3563			

Table 26 reveals that the overall result for differences between the different levels according to the variable mother education was significant (P <.05). To explore the differences between each pair of the levels that included in the mother education variable the multiple comparison procedure was used and table 27 shows these results.

Table (27)

Multiple Comparisons between Groups of Mother's Education

Dependent Variable (I) education	(J) education	M. Differences	Significance
illiterate	lower basic	-.11*	.020
	upper basic	-.26*	.000
	secondary	-.35*	.000
	diploma	-.46*	.000
	university	-.58*	.000
lower basic	illiterate	.11*	.020
	upper basic	-.15*	.000
	secondary	-.24*	.000
	diploma	-.35*	.000
	university	-.47*	.000
upper basic	illiterate	.26*	.000
	lower basic	.15*	.000
	secondary	-.08*	.009
	diploma	-.19*	.000
	university	-.31*	.000
secondary	illiterate	.35*	.000
	lower basic	.24*	.000
	upper basic	.08*	.009
	diploma	-.11*	.000
	university	-.23*	.000
diploma	illiterate	.46*	.000
	lower basic	.35*	.000
	upper basic	.19*	.000
	secondary	.11*	.000
	university	-.12*	.001
university	illiterate	.58*	.000
	lower basic	.47*	.000
	upper basic	.31*	.000
	secondary	.23*	.000
	diploma	.12*	.001

According to Table 27 there are significant differences (P<.05) between illiterate and upper basic in favor of upper basic, between illiterate and secondary in favor of secondary, between illiterate and diploma in favor of diploma, and between illiterate and university in favor of university. There are also significant differences between lower basic and secondary in favor of secondary, between lower basic and diploma in favor of diploma, and between lower basic and university in favor of university. Significant differences exist between upper basic and secondary in favor of secondary, between upper basic and diploma in favor of diploma, and between upper basic and university in

favor of university. Moreover, significant differences exist between secondary and diploma in favor of diploma, between secondary and university in favor of university.

Research Question (13): Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to their residential area (urban, rural)?

Table 28 shows the percentages and frequencies of the sample according to the variables, level of school readiness and residential area (urban, rural).

Table (28)

The percentages and frequencies of the distribution of the sample according to the variables, level of school readiness and residential area (urban, rural).

Level of Readiness	Urban		Rural	
	Frequency	**Percent**	**Frequency**	**Percent**
Level 1	2	0.1	3	0.2
Level 2	87	5.5	130	6.5
Level 3	825	52.2	1111	55.6
Level 4	667	42.2	755	37.8
Total	1581	100.0	1999	100.0

Table 28 shows that 42.2% of children who reside in urban areas are at level 4 of school readiness as compared to 37.8% of children who reside in rural areas; 52.2% of children who reside in urban areas are at level 3 of school readiness as compared to 55.6% of children who reside in rural areas; 5.5% of children who reside in urban areas are at level 2 of school readiness as compared to 6.5% of children who reside in rural areas; finally, .1% of children who reside in urban areas are at level 1 of school readiness as compared to .2% of children who reside in rural areas.

To ensure whether there are significant differences between children's level of school readiness according to their residential area on the total score, t-test was used and Table 29 shows these results.

Table (29)

Mean, Standard Deviations, and t score for Residential Area Differences

Residential Area	N	Mean	Std. Dev.	df	t	Significance
Urban	1581	3.32	.444	3578	3.644	.000
Rural	1999	3.27	.464			

Table 29 indicates that there are significant differences (P<.05) exist between children's level of school readiness according to their residential area (urban, rural).

Research Question (14): Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to geographical region (north, middle, south)?

Table 30 shows the percentages and frequencies of the sample according to the variables, level of school readiness and geographical location (north, middle, south).

Table (30)

The percentages and frequencies of the distribution of the sample according to the variables, level of school readiness and geographical location (north, middle, south).

Level of Readiness	North	Middle	South
Level 1	1 .1%	4 .3%	0
Level 2	85 6.4%	93 5.8%	41 5.8%
Level 3	715 53.4%	884 55.5%	369 52.6%
Level 4	537 40.1%	613 38.5%	292 41.6%
Total	1338 100.0%	1594 100.0%	702 100.0%

Table 30 shows that 40.1% of children from the North region are at level 4 of school readiness as compared to 38.5% of children who are from the Middle region, and 41.6% of children who are from the South region; 53.4% of children from the North region are at level 3 of school readiness as compared to 55.5% of children who are from

the Middle region, and 52.6% of children who are from the South region. Furthermore, 6.4% of children from the North region are at level 2 of school readiness as compared to 5.8% of children who are from the Middle region, and 5.8% of children who are from the South region; finally, .1% of children from the North region are at level 1 of school readiness, .3% of children who are from the Middle region are also at the same level, and 0% of children who are from the South region.

Table 31 shows the differences in means according to geographical area.

Table (31)

Mean, Standard Deviations According to Geographical Area

Geographical Location	N	Mean	Std. Dev.
North	1338	3.29	0.454
Middle	1594	3.29	0.458
South	702	3.32	0.452

To ensure whether there are significant differences between children's level of school readiness according to their geographical location on the total score, analysis of variance (ANOVA) was completed and Table 32 shows these results.

Table (32)

Analysis of Variance for Differences between Geographical Areas

	Sum of Squares	df	M. Square	F	Significance
Between Groups	.546	2	.273	1.312	0.269
Within Groups	754.946	3631	.208		
Total	755.492	3633			

Table 32 reveals that there is no significant differences exist between children's level of school readiness according to their geographical location.

Research Question (15): Is there a relationship between school readiness of first grade Jordanian children and family size?

The correlation matrix that is shown in Table 33 reveals a significant relationship at .05 level of significance between family size and level of readiness. As shown in the table the correlation coefficient between the two variables was -.15, indicating that the level of readiness decreases when the family size increases.

Table (33)
Correlation matrix for the variables family size, number of siblings and total scores of school readiness.

Variables	Family size	# of sisters and brothers	Scores of school readiness
Family size	1	-921* (.011)	-.042* (.000)
# of siblings		1	-.170* (.000)
Level of readiness			1

Research Question (16): Is there a relationship between school readiness of first grade Jordanian children and number of siblings?

The correlation matrix that is presented in Table 33 indicates that there is a significant relationship at .05 level of significance between number of siblings and level of readiness. As shown in the table the correlation coefficient between the two variables was -.92 indicating that the level of readiness decreases when the number of siblings increases.

Research Question (17): To assess the level of readiness of first grade children in the schools where KGs have been newly established (local communities).

Table 34 shows frequencies and percentages of the five levels of school readiness for children in local communities where KGs have been newly established.

Table (34)

Frequencies and percentages of the four levels of school readiness for children in local communities where KGs have been newly established

Level of Readiness	Frequency	Percent
Level 1	1	0.1
Level 2	51	5
Level 3	570	55.7
Level 4	402	39.3
Total	1024	100%

Table 34 indicates that 55.7% of children in local communities can be described as almost ready to school (level 3 of school readiness). Similarly, 39.3% of children can be described as fully ready to school (level 4 of school readiness). However, 5% of the children can be described as ready to school to some extent, their skills are emerging (level 2 of school readiness); only .1% of the children in local communities, which is the lowest percentage, are considered not ready for school (level 1 of school readiness).

Research Question (18): What is the level of school readiness of children in the schools where KGs have been newly established with respect to their social skills and behavior?

Table 35 shows that the highest percentage of children in local communities, 47.1% are at level 3 of school readiness which means that they are almost ready for school with respect to their social skills and behaviors; 40.5% of the children are at level 4 of school readiness which means that they are fully ready for school with respect to their social skills and behavior; 10.2% of children in local communities are at level 2 of school readiness which means that their social skills and behavior are emerging; and finally only 2.2% of children are at level 1 of school readiness which means that they are not ready for school yet with respect to their social skills and behavior.

Table (35)
Frequencies and percentages of the four levels of school readiness for children in local communities with respect to their social skills and behavior

Level of Readiness	Frequency	Percent
Level 1	23	2.2
Level 2	104	10.2
Level 3	482	47.1
Level 4	415	40.5
Total	1024	100%

Research Question (19): What is the level of school readiness of children in the schools where KGs have been newly established with respect to their awareness of self and environment?

Table 36 revealed that the highest percentage of children in local communities, 45.3%, are at level 4 of school readiness which means that they are fully ready for school with respect to their awareness of self and environment; 42.4% are at level 3 of school readiness which means that they are almost ready for school with respect their awareness of self and environment; 11.3% of children in local communities are at level 2 of school readiness which means that their awareness of self and environment is emerging; and finally, only 1.0% of children are at level 1 of school readiness which means that they are not ready for school yet with respect to their awareness of self and environment.

Table (36)
Frequencies and percentages of the four levels of school readiness for children in local communities with respect to their awareness of self and environment

Level of Readiness	Frequency	Percent
Level 1	10	1
Level 2	116	11.3
Level 3	434	42.4
Level 4	464	45.3
Total	1024	100

Research Question (20): What is the level of school readiness of children in the schools where KGs have been newly established with respect to their cognitive skills?

Table 37 shows that the highest percentage of children in local communities, 53.5%, are at level 4 of school readiness which means that they are fully ready for school with respect to their cognitive skills; 39.3 of the children are at level 3 of school readiness which means that they are almost ready for school with respect to their cognitive skills; 6.4% of the children are at level 2 of school readiness which means that their cognitive skills are emerging; and finally only .8% of children are at level 1 of school readiness which means that they are not ready for school yet with respect to their cognitive skills.

Table (37)
Frequencies and percentages of the four levels of school readiness for children in local communities with respect to their cognitive skills

Level of Readiness	Frequency	Percent
Level 1	8	0.8
Level 2	66	6.4
Level 3	402	39.3
Level 4	548	53.5
Total	1024	100%

Research Question (21): What is the level of school readiness of children in the schools where KGs have been newly established with respect to their language and communication skills?

Table 38 shows that the highest percentage of children, 50.3%, in local communities are at level 3 of school readiness which means that they are almost ready for school with respect their language and communication skills; 31.8% of the children are at level 4 of school readiness which means that they are fully ready for school with respect to their language and communication skills; 16.4% of children in local communities are at level 2 of school readiness which means that their language and communication skills are emerging; and finally, only 1.5% of children are at level 1 of school readiness which means that they are not ready for school yet with respect to their language and communication skills.

Table (38)

Frequencies and percentages of the four levels of school readiness for children in local communities with respect to their Language and communication skills

Level of Readiness	Frequency	Percent
Level 1	15	1.5
Level 2	168	16.4
Level 3	515	50.3
Level 4	326	31.8
Total	1024	100%

Research Question (22): What is the level of school readiness of children in the schools where KGs have been newly established with respect to their physical development?

Table 39 shows that the highest percentage of children in local communities, 71%, are at level 4 of school readiness which means that they are fully ready for school with respect to their physical development; 27.1% of the children are at level 3 of school readiness which means that they are almost ready for school with respect to their physical development; 1.8% of the children are at level 2 of school readiness which mean that their physical skills are emerging; and finally, only.2% of children are at level 1 of school readiness which means that they are not ready for school yet with respect to their physical development.

Table (39)

Frequencies and percentages of the four levels of school readiness for children in local communities with respect to their physical development

Level of Readiness	Frequency	Percent
Level 1	2	0.2
Level 2	18	1.8
Level 3	277	27.1
Level 4	727	71
Total	1024	100%

DISCUSSION OF RESULTS

The aim of this study was to assess and describe the level of readiness of first grade Jordanian children in general and across all five domains. To achieve the objectives of the study the EYE instrument was used, which was tested for its reliability and validity in the pilot study that was conducted in the beginning of school year 2007-2008. The results revealed that the instrument was reliable and valid to be used in this national survey for school readiness.

Replicating the national survey that was conducted in year 2004, this study attempted to answer several questions related to variables that might influence the level of school readiness of Jordanian children when they enter first grade, such as, kindergarten enrollment, kindergarten type (private, public), gender, father education, mother education, socio economic status. Data was collected during the first semester 2007/2008. The national sample of the study consisted of 3657 first grade children distributed all over the kingdom.

Research Question (1): What is the level of school readiness of first grade Jordanian children in general and across the five domains?

In order to answer this question the total score was converted to a 4.00 point scale as the instrument suggested. The following levels were defined according to the average score on a certain domain and the whole scale:

- Level 1 (not ready)
- Level 2 (emerging)
- Level 3 (almost ready)
- Level 4 (fully ready)

Data analysis revealed that most of Jordanian children in first grade are considered ready to learn. More specifically, 54.2% of them have partially the required abilities to be successful in school but appear that they will master them soon and that depends on the quality of school curriculum and programs; 39.7% of children have high abilities of school readiness which means that they are fully ready for school and the different abilities required for school are firmed within their range of performance. This indicates that more than third of the children in Jordan are considered fully ready for

school when they enter first grade. Furthermore, the results also showed that 6% of Jordanian children are approaching readiness and their abilities are in progress. However, the skills, knowledge or behaviors are emerging and are not demonstrated by the children consistently. Such children depend highly on the quality of programs and curriculum offered in schools and need quality instruction and consistent help to move on with their school career. On the other hand, the results revealed that 0.2% of Jordanian children are not yet ready to school, the skills, knowledge or behaviors are absent or rarely observed or demonstrated by them. Those children need a great amount of help and individualized school instruction in addition to high quality school curriculum and programs.

We are all aware that individual differences exist between children who develop and progress in varying rates. These differences reflected on their school readiness abilities. Thus, high quality early childhood programs are a necessity in any society looking at its children as a future investment. While such early childhood programs are extremely important for children in general they are even more important for children who are considered at risk of school failure. Those children mostly come from low socio-economic backgrounds; their families have limited education, living in areas that are not served by the private sector, and are considered developmentally delayed. Thus, providing comprehensive services and family support to children prior to school entry will better prepare them for school's expectations. However, there will always be variations in the skills and abilities of any group of children entering school. Schools and teachers must be able to respond to such variations by individualizing their curriculum and teaching practices.

Research Question (2): What is the level of readiness of Jordanian children with respect to social skills and behavior?

Results revealed that 43.1% of Jordanian children are considered fully ready for school in terms of their social skills and behaviors and these skills are firmed within their range of performance. Almost half of Jordanian children have minor difficulties coping with school in terms of their social abilities. 10.4% of children are still developing their social skills and behaviors. Those children are expected to encounter some difficulties coping with school but are expected to manage with a high quality curriculum and program. On the other hand, around 1.5% of children are considered not ready yet for

school in terms of their social skills and behavior. More specifically, those children lack the required social abilities to be successful in school and consequently are at high risk facing social difficulties and problems that might lead to school failure. Children with poor overall social skills have regular serious problems in more than one area of getting along with other children, accepting responsibility for own actions, following rules and class routines, respect for adults, children, and for other people's property, with self-confidence, self-control, adjustment to change, and usually unable to work independently. The quality of early childhood programs and community support system at large will help those children and enable them to cope with their social and behavioral skills. A competitive early childhood programs and curriculum should be imposed.

Research Question (3): What is the level of school readiness of first grade Jordanian children with respect to their awareness of self and environment?

Results revealed that 44.4% of Jordanian children are considered fully ready for school in terms of their awareness of self and environment when they enter first grade and these skills are firmed within their range of performance. Moreover, 43.2% of the children are almost ready to school in terms of their awareness of self and environment, they have partially the required abilities to be successful in school but appear that they will master them soon and that depends on the quality of school curriculum and programs. In addition, they should have minor difficulties coping with school in terms of their awareness of self and environment and have good adaptation skills. 11.7% of the children are still developing their awareness of self and environment. Those children are expected to encounter some difficulties coping with school but are expected to manage with a high quality curriculum and program. On the other hand, around .7% of children are considered not ready yet for school in terms of their awareness of self and environment. More specifically, those children have little or lack the awareness of self and environment that are required for school success and consequently are at high risk of facing difficulties in learning that might lead to school failure.

On the other hand, this might be an indication of the quality of early childhood programs and the community support system at large that should be improved. A competitive early childhood programs and curriculum should be in action.

Research Question (4): What is the level of school readiness of first grade Jordanian children with respect to their cognitive skills?

Results revealed that almost 90% of Jordanian children are, in general, ready to school, that is, half of them are considered fully ready for school in terms of their cognitive skills when they enter first grade and these skills are firmed within their range of performance, and 41.6% of them are almost ready to school that they have partially the required cognitive abilities to be successful in school but appear that they will master them soon depending on the quality of the school curriculum and programs. Those children should have minor difficulties coping with school in terms of their cognitive skills and have good adaptation skills. An explanation to the high percentage of children who are ready for school with respect to their cognitive skills when they enter first grade as compared to the other five domains might be that the focus of most of our preschool early childhood programs and curricula is on cognitive and academic skills. Moreover, 7.8% of the children are still developing their cognitive skills and are expected to encounter some difficulties coping with school but are likely to manage with a high quality curriculum and program. On the other hand, around 1.1% of children are considered not yet ready for school in terms of their cognitive skills. More specifically, those children have little or lack cognitive skills that are required for school success and consequently are at high risk of facing difficulties in academic and problem solving skills that might lead to school failure.

Research Question (5): What is the level of school readiness of first grade Jordanian children with respect to their language and communication skills?

Results revealed that almost half of Jordanian children are almost ready to school in terms of their language and communication skills when they enter first grade. Those children should have good command of language to be able to communicate in an appropriate manner with their peers and teacher; they might encounter minor difficulties in the school environment but can cope in the presence of supportive educational system. 31.2% of the children are considered fully ready to school with respect to their language and communication skills; these skills are well developed in their repertoire and already reached the mastery level. Furthermore, 17.4% of the children are still developing their language and communication skills. Those children are expected to encounter some

difficulties coping with school environment but are expected to manage with direct help and high quality curriculum and program within the school system. On the other hand, around 1.5% of children are considered not ready yet for school in terms of their language and communication skills. More specifically, those children have poor communication skills and articulation, their command of language is poor or very poor. They have difficulties in talking to others, understanding, and being understood, and have poor general knowledge. Those children are of greater risk of being successful in their school career and of a higher risk of school failure if special help and attention is not provided through the educational system. Such children are in greater need for high quality preschool programs.

Research Question (6): What is the level of school readiness of first grade Jordanian children with respect to their physical development?

Results revealed that almost two third of Jordanian children have developed well physical skills when they enter first grade which make them fully ready for school in that regard. It was also shown that 28.7% of the children are considered almost ready to school in terms of their physical skills. Those children are considered to have sufficient physical development that is suitable to their age which make them almost ready to school and have good fine and motor skills that help them to build confidence and achieve academic success; however, they might encounter minor difficulties but are expected to catch up quickly. On the other hand, 2.8% of the children are still developing their physical skills and are expected to encounter some difficulties with activities related to gross and fine motor skills at school but are expected to catch up with direct help and high quality and individualized curriculum and program within the school system.

Results also showed that a very small percentage of Jordanian children are not ready for school, more specifically, .2% of the children are considered not yet ready for school in terms of their physical development. More specifically, those children usually have poor fine motor skills (e.g., holding a pencil, manipulating objects) and gross motor skills (e.g., climbing stairs, catching a ball), often tired, usually clumsy, with flagging energy levels, and poor overall physical development. Those children are of greater risk of school failure if special help and attention is not provided through the educational system. Such children are in greater need of high quality preschool early intervention

programs. This is an indication that preschool curriculum and programs should concentrate more on different aspects of child development and on the wide range of abilities that must be stimulated in order to develop their cognitive skills.

Research Question (7): Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to gender?

The overall results of this national survey revealed that there are significant differences between child gender and level of school readiness. The results indicated that males have better school readiness than girls. This might be due to the differences in the experiences that males and females are exposed to in their early years. In Jordanian culture it is more common to see male children outdoors and in their parents company, especially with their fathers. On the other hands, females tend to spend more time indoors with their mothers than boys do.

Research Question (8): Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to kindergarten enrollment?

As was expected and was universally demonstrated, the results revealed a significant relationship between kindergarten enrollment and level of school readiness. Children who were enrolled in kindergarten demonstrated better level of school readiness; on the other hand, children who were not enrolled in kindergarten demonstrated lower level of school readiness. The results showed that significantly more children who were enrolled in kindergarten are considered ready to learn than children who did not enroll. On the other hand, significantly more children who were not enrolled in kindergarten are considered not ready to learn than children who were enrolled in kindergarten. These results support and emphasize the importance of kindergarten programs in preparing children to their school career.

It was obvious that regardless of the quality of kindergarten programs children benefited and demonstrated significantly better school readiness. These findings lend support to the national objective that is being achieved by the Ministry of Education in a long term plan that was started by the year 2000 which is to establish public kindergartens that would be available to all Jordanian children especially children in rural areas. The Ministry of Education in cooperation with other involved national parties in

early childhood education such as the National Council for Family Affairs, knew that establishing an effective kindergartens should be accompanied by high quality kindergarten curriculum that focuses on all aspects of development that are essential to school success. To achieve this goal a national kindergarten curriculum was prepared by a team of national experts in early childhood education and was finalized and launched by her Majesty Queen Rania in the beginning of school year 2004/2005.

Research Question (9): Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to kindergarten attended type (private, public)?

The overall results that were revealed in this study indicate that there are significant differences exist between type of kindergarten attended and level of school readiness. However, results indicate that children who were enrolled in private kindergartens demonstrate slightly better readiness to school than children who were enrolled in public kindergarten but that difference appeared to be significant. The findings showed that around 96% of the children who were enrolled in private kindergartens in Jordan are considered ready to school, 45% of them are fully ready for school, as compared to 95% of children who were enrolled in public kindergarten, 40% of them are fully ready to school.

These results might indicate that private kindergartens in general are more qualified to prepare children to be fully ready to school than public kindergartens. This may be explained due to the fact that the private sector was always ahead of public sector in terms of early childhood education, financially and technically. The private sector usually has more funds than public sector in terms of providing kindergartens with high quality materials and programs. However, that is not always the case because there are a number of private kindergartens that are not up to the standards in terms of the curriculum and the programs offered. At the same time, there are a number of public kindergartens that offer a quality preschool programs and curriculum that put them ahead of many private kindergartens. The national efforts now are taking into consideration the improvement of the quality of all the existed and the newly established kindergartens both private and public through mandating a high quality curriculum and programs to be

used in these kindergartens as well as the physical aspects of the buildings that are or will be utilized as kindergartens.

Research Question (10): Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to socioeconomic status?

The overall results revealed a significant relationship between socioeconomic status that was measured by family income and level of school readiness. It was indicated in general that the level of school readiness increases when family income increases. Taken as a whole, the results were consistent except when family income became very high (over JD 900). A possible explanation might be that the count of the families who have the higher income is small and for that matter the number of children is small, thus, it might be not enough to draw conclusions. It was always demonstrated in the literature that more children of families with very low income are considered at-risk of school failure. Taking that into consideration the national efforts should have prompt plans to improve the living standards of many Jordanian families who are considered to be at risk due to their low socioeconomic status. This should consequently improve the school readiness of children of these targeted families. Moreover, organized systematic efforts of community and family support should take place particularly at poor and rural areas.

Research Question (11): Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to father's education?

The findings of this national survey revealed a significant relationship between father's education and level of school readiness. These findings are consistent with what was found in the literature. It was found through this study that school readiness increased when father education increased. More children are considered ready to learn at schools when their father had more education, on the other hand, more children are considered not ready to school when the father had less education.

Father education could be linked to the socioeconomic status which makes both findings consistent. However, it shouldn't be understood here that when the father is less educated children are always not ready to school. There are always cases where children who come from less educated families demonstrate readiness to school and that was verified in this study. Likewise, there are always cases where children who come from

highly educated families fail to demonstrate readiness to school and that was demonstrated in this study as well. What might these findings suggest in general terms is that less educated families need more support and systematic services to improve there skills in preparing their children to school.

Research Question (12): Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to mother's education?

The findings of this national survey revealed a significant relationship between mother's education and level of school readiness. These findings are consistent with what was found in the literature. It was found through this study that school readiness increased when mother education increased. More children are considered ready to learn at school when their mother had more education. On the other hand, more children are considered not ready to school when the mother had less education. Mother education can be linked to the socioeconomic status which makes both findings consistent. However, it shouldn't be understood here also that when the mother is less educated children are always not ready to learn. There are always cases where children who come from less educated families demonstrate readiness to school and that was verified in this study. Likewise, there are always cases where children who come from highly educated families fail to demonstrate readiness to learn and that was demonstrated in this study.

What might these findings suggest as well is that uneducated families need more support and systematic services to improve there skills in preparing their children to school. Perhaps less educated mothers need more support and help in an organized way to improve their skills in matters pertaining to their children's development taking into consideration that, in general, children spend more time with their mothers at home than with their father. No doubt that both parents play a vital role in their child's development. Mothers might have more opportunities to influence their children's development than fathers do.

Research Question (13): Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to their residential area (urban, rural)?

The results of the study revealed that there is a significant differences between children's level of school readiness according to their residential area. Children who were resided in urban areas had better school readiness in general than children who were resided in rural areas. More specifically, it was found that more children are considered fully ready to school in urban areas as compared to children in rural areas. Likewise, fewer children are considered not ready to school or their skills still developing in urban areas as compared to children in rural areas. These results can be explained by the nature of educational services available at urban areas comparing to rural areas.

Moreover, urban areas in Jordan have usually more quality services than rural areas which might affect the experiences that children in each area are exposed to. This might be a strong indication of the lack of equal opportunities that children receive in Jordan depending on where the child lives. Therefore, the government in general and the Ministry of Education in particular should keep on providing rural areas with quality services, especially in educational settings. It is worth noting that this issue has been recently the focus of ministry of education where they are establishing public KGs in the rural areas all over Jordan.

Research Question (14): Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to geographical region (north, middle, south)?

The results of this study revealed that there is no significant differences exist between children's level of school readiness based on geographical location. The current results indicate that Jordanian children are now exposing to similar experiences and that might due to the expansion of early childhood services as part of the comprehensive educational reform.

Research Question (15): Is there a relationship between school readiness of first grade Jordanian children and family size?

The results of this study revealed that there is a significant relationship between number of family members living at the same house and school readiness. When family size increases school readiness decreases, on the other hand, when family size decreases school readiness increases. This also can be related to socioeconomic status where families with limited income tend to live together which means that everybody is sharing

the limited resources that are available, which means that young children of these families might not have the opportunity to experience early childhood education programs that are not free in most of the cases. These findings also lend support to the efforts of improving living conditions of many Jordanian families through systematic community and family support.

Research Question (16): Is there a relationship between school readiness of first grade Jordanian children and number of siblings?

The results of this study revealed that there is a significant relationship between number of siblings and school readiness. When the number of siblings increased school readiness decreased, on the other hand, when number of siblings decreased school readiness increased. The interpretation of that might be due to the fact that when families have more children, the resources of the family are divided among all children taking into consideration that many families have limited income which makes children's opportunities in preschool programs very limited. This also might be related to socioeconomic status where families with limited income tend to have more children than families with higher income. More investigation is suggested to this area in future research.

Research Objective (17): What is the level of readiness of first grade children in the schools where KGs have been newly established (local communities).

The findings of this study revealed that children in rural areas where KGs have been newly established have similar levels of school readiness compared to the national sample in general. This demonstrates that children in rural areas are exposing to comparable experiences to those children nationally exposing to. This is linked to the vision of the Ministry of Education to ensure quality early childhood education programs in rural areas. The ministry already started to establish KGs in several girls' schools in these rural areas. Data analysis revealed that most children in local communities 55.7% are almost ready to school. More specifically, they have partially the required abilities to be successful in school but appear that they will master them soon and that depends on the quality of school curriculum and programs; in addition, 39.3% of the children have high abilities of school readiness which means that they are fully ready for school. Furthermore, the results also showed that only 5% of children in local communities are

approaching readiness and their abilities are in progress. However, the skills, knowledge or behaviors are emerging and are not demonstrated by the children consistently. Such children depend highly on the quality of programs and curriculum offered in schools and need quality instruction and consistent help to move on with their school career. On the other hand, results revealed that only .1% of children in local communities are not yet ready to school, the skills, knowledge or behaviors are absent or rarely observed or demonstrated by them. Those children need a great amount of help and individualized school instruction as well as high quality school curriculum and programs.

Research Question (18): What is the level of readiness of children in local communities with respect to their social skills and behavior?

The overall findings revealed that children in rural areas local communities have, in general, similar levels of school readiness abilities as compared to the national sample with respect to social skills and behavior. Results revealed that 40.5% of children in local communities are considered fully ready for school in terms of their social skills and behaviors and these skills are firmed within their range of performance as compared to 43.1% of the children in the national sample. 47% of children in local communities are almost ready for school and are expecting to have minor difficulties to cope with school in terms of their social abilities as compared to 45% of children in the national sample. 10.2% of children in local communities are still developing their social skills and behaviors comparing to 10.4% of children in the national sample. Those children are expected to encounter some difficulties in coping with school but are anticipated to manage with a high quality curriculum and program. On the other hand, around 2.2% of children are considered not ready yet for school in terms of their social skills and behavior comparing to 1.5% of children in the national sample. More specifically, those children lack the required social abilities to be successful in school and consequently are at high risk in facing social difficulties and problems that might lead to school failure. A child with poor overall social skills, have regular serious problems in more than one area of getting along with other children, accepting responsibility for own actions, following rules and class routines, respect for adults, children, and for other people's property, with self-confidence, self-control, adjustment to change, and usually unable to work

independently. A competitive early childhood programs and curriculum should be enhanced or improved.

Research Question (19): What is the level of readiness of children in local communities with respect to their awareness of self and environment?

The overall findings revealed that children in rural areas local communities have almost similar levels of school readiness abilities that are related to awareness of self and environment as compared to the national sample. Results revealed that 45.3% of children in local communities are considered fully ready for school in terms of their awareness of self and environment when they enter first grade and these skills are firmed within their range of performance as compared to 44.4% of children in the national sample. Moreover, 42.4% of the children are ready to school in terms of their awareness of self and environment, they have partially the required abilities to be successful in school, but appear that they will master them soon and that depends on the quality of school curriculum and programs as compared to 43.2% of the children in the national sample. In addition, they should face minor difficulties in coping with school in terms of their awareness of self and environment and have good adaptation skills. 11.3% of children in local communities are still developing their awareness of self and environment in compared to 11.7% of the children in the national sample. Those children are expected to encounter some difficulties in coping with school but are expected to manage with a high quality curriculum and programs. On the other hand, around 1% of the children are considered not ready yet for school in terms of their awareness of self and environment as compared to .7% of children in the national sample. More specifically, those children have little or lack the awareness of self and environment that are required for school success and consequently are at high risk of facing difficulties in learning that might lead to school failure. On the other hand, this might be an indication of the quality of early childhood programs and the community support system at large. A competitive early childhood programs and curriculum should be improved.

Research Question (20): What is the level of readiness of children in local communities with respect to their cognitive skills?

The overall results revealed that children in local communities' rural areas have slightly better levels of school readiness as compared to the national sample with respect

to their cognitive skills. Results revealed that 53.5% of children in local communities are considered fully ready for school in terms of their cognitive skills when they enter first grade and these skills are confined within their range of performance as compared to 49.5% of children in the national sample. An explanation to the high percentage of children who are fully ready for school with respect to their cognitive skills when they enter first grade as compared to the other five domains might be that the focus of most of preschool early childhood programs and curricula is on cognitive and academic skills. It seems that is true for local communities as well. The results also showed that 39.3% of children in local communities are almost ready to school. They have partially the required cognitive abilities to be successful in school but appear that they will master them soon and that depends on the quality of school curriculum and programs as compared to 41.6% of children in the national sample. Those children should have minor difficulties in coping with school in terms of their cognitive skills and have good adaptation skills.

Moreover, 6.4% of children in local communities are still developing their cognitive skills and are expected to encounter some difficulties when coping with school but are likely to manage with a high quality curriculum and program as compared to 7.8% of the children in national sample. On the other hand, around .8% of the children are considered not yet ready for school in terms of their cognitive skills as compared to 1% of children in the national sample. More specifically, those children have little or lack cognitive skills that are required for school success and consequently are at high risk of facing difficulties in academic and problem solving skills that might lead to school failure.

This might be an indication of the absence or the questionable quality of some of the preschool programs that is available, in addition, to the support system that is offered by the families and communities.

Research Question (21): What is the level of readiness of children in local communities with respect to their language and communication skills?

Language and communication skills are one of the most critical skills that children have to develop well before they are considered fully ready to start their elementary education. The overall findings indicated that, in general, children who come from local communities in rural areas have similar language and communication skills as

compared to children in the national sample. It was found that 50.3% of children in local communities are almost ready to school in terms of their language and communication skills when they enter first grade as compared to 49.9% of children in the national sample. Those children should have good command of language and should communicate in an appropriate manner with their peers and teacher; they might encounter minor difficulties in the school environment but can cope in the presence of supportive educational system. Moreover, only 31.8% of children in local communities are considered fully ready to school with respect to their language and communication skills as compared to 31.2% of the children in the national sample; these skills are well developed in their repertoire and already reached the mastery level. Furthermore, 16.4% of children in local communities are still developing their language and communication skills as compared to 17.4% of the children in the national sample. Those children are expected to encounter some difficulties in coping with school but are expected to manage with direct help and high quality curriculum and program within the school system. On the other hand, around 1.5% of children in local communities are considered not ready yet for school in terms of their language and communication skills as compared to same percentage of children in national sample. More specifically, those children have poor communication skills and articulation, their command of language is poor or very poor, have difficulties in talking to others, understanding, and being understood, and have poor general knowledge. Those children have greater risk of being successful in their school career and have high risk of school failure if special help and attention is not provided through the educational system. Such children are of greater need for high quality preschool programs.

These results suggest that an emphasis should be placed on developing language and communication skills through quality curriculum and preschool programs especially at rural areas.

Research Question (22): What is the level of readiness of children in local communities with respect to their physical development?

The overall results revealed that the level of readiness of first grade children in local communities' in rural areas with respect to their physical development is almost similar to the level of readiness of children in the national sample. More specifically,

71% of children in local communities have well developed physical skills when they enter first grade which make them fully ready for school in that regard as compared to 68.3% of children in the national sample. It was also shown that 27.1% of the children are considered almost ready to school in terms of their physical skills as compared to 28.7% of the children in the national sample. Those children are considered to have sufficient physical development that is suitable to their age which make them almost ready to school and have good fine and motor skills that helps them to build confidence and achieve academic success; however, they might encounter minor difficulties but are expected to catch up quickly. On the other hand, 1.8% of children in local communities are still developing their physical skills as compared to 2.8% of the children in the national sample. Those children are expected to encounter some difficulties with activities related to gross and fine motor skills at school but are expected to catch up with direct help and high quality and individualized curriculum and program within the school system.

Results also showed that .2% of children in local communities are considered not yet ready for school in terms of their physical development comparing to same percentage of the children in the national sample. More specifically, those children usually have poor fine motor skills (e.g., holding a pencil, manipulating objects) and gross motor skills (e.g., climbing stairs, catching a ball), often tired, usually clumsy, with flagging energy levels, and poor overall physical development. Those children have greater risk of school failure if special help and attention is not provided through the educational system. Such children are in greater need of high quality preschool early intervention programs. This is an indication that preschool curriculum and programs should concentrate more on the different aspects of child development and the wide range of abilities that must be stimulated in addition to develop the cognitive skills and local communities should not be excluded.

These results might indicate that children in rural areas in general are more developed physically when compared to other aspects and domains of development that is considered vital to school success. An interpretation could be that children in local communities' in rural areas have more opportunities to develop their physical abilities than other areas of development which may be in need for more education and specialized attention on the school, community, and family levels.

A Comparison between the findings of the first national survey of school readiness conducted in 2004 and the second national survey conducted in 2007

The longer-term objective of these national surveys is to establish and maintain an institutionalized system for national assessment of learning readiness in order to assess the efficacy of national and community-based interventions and social policies aimed at improving early childhood outcomes. This involved the measurement of early childhood outcomes, the monitoring of childhood outcomes overtime, across regions, among socio-economic segments, urban/rural areas and between the sexes, for the evaluation of systematic, regional, local disparities, and the identification of areas of strengths and weaknesses. The following section represents a comparison between the findings of the first national survey that was conducted in 2004 which aimed to assess and describe the school readiness of Jordanian children.

Results and Discussion

Research Question (1): What is the level of school readiness of first grade Jordanian children?

Table (40) shows that 54.2% of children in Jordan are at level 3 of school readiness in 2007 compared to 57.7% in 2004; 39.7% of children are at level 4 of school readiness in 2007 compared to 35.6% in year 2004; 6.0% of children in Jordan are at level 2 of school readiness in 2007 compared to 6.5 in 2004; .2% of children are at level 1 of school readiness in 2007 compared to same percentage in 2004.

Table (40)
Frequencies and percentages of the four levels of school readiness for Jordanian children

Level of Readiness / year	Frequency	Percent
2004 Level 1	7	0.2
Level 2	234	6.5
Level 3	2078	57.7
Level 4	1281	35.6

Level of Readiness / year	Frequency	Percent
Total	3600	100%
2007 Level 1	6	.2
Level 2	219	6.0
Level 3	1989	54.2
Level 4	1458	39.7
Total	3672	100

Table 40 indicates that 54.2% of Jordanian children can be described as almost ready to school in 2007 compared to 57.7% in 2004. Similarly, 39.7% of children can be described as fully ready to school in 2007 compared to 35.6% in 2004. However, 6.0% of the children can be described as ready to school to some extent, their skills are emerging, in 2007 compared to 6.5% in 2004. Only .2% of the children are considered not ready for school in 2007 and 2004.

To ensure whether there are significant differences between children's level of school readiness in year 2004 and year 2007 on the total score, t-test was used and Table 41 shows these results.

Table (41)

Mean, standard deviations, and t score for level of school readiness in years 2004 and 2007

Year	N	Mean	Std. Dev.	df	t	Significance
2004	3600	3.2638	.45897	7270	-3.214	.001
2007	3672	3.2983	.45658			

Table (41) indicates that there are significant differences ($P < .05$) exist between children's level of school readiness in year 2004 and 2007.

The findings revealed that Jordanian children, in general, have better school readiness in year 2007 than they had in year 2004 especially the percentage of children who are considered fully ready to school. This reflects the national efforts to improve early childhood education programs as part of the educational reform in Jordan that concentrate on improving kindergarten services and parenting skills especially in rural areas. More quality public kindergartens were established in most of the rural areas

around the kingdom. In addition to the national efforts that has been taken to improve the conditions of some of the working kindergartens.

Research Question (2): What is the level of school readiness of first grade Jordanian children with respect to their social skills and behavior?

Table 42 shows that 45% of Jordanian children are at level 3 of school readiness in year 2007 which means that they are almost ready for school with respect to their social skills and behavior and that was the highest percentage compared to 48% in year 2004; 43.1% of the children are at level 4 of school readiness in 2007 which means that they are fully ready for school with respect to their social skills and behavior compared to 36.5% in 2004; 10.4% of Jordanian children are at level 2 of school readiness in year 2007 which means that their social skills and behavior are emerging compared to 13% in 2004; and finally only 1.5% of children are at level 1 of school readiness in year 2007 which means that they are not ready for school yet with respect to their social skills and behavior compared to 2.5 in 2004.

Table (42)
Frequencies and percentages of the four levels of school readiness for Jordanian children with respect to their social skills and behavior

Level of Readiness/ Year		Frequency	Percent
2004	Level 1	91	2.5
Level 2		467	13.0
Level 3		1729	48.0
Level 4		1313	36.5
Total		3600	100.0
2007	Level 1	56	1.5
Level 2		381	10.4
Level 3		1654	45.0
Level 4		1581	43.1
Total		3672	100.0

To ensure whether there are significant differences between children's level of school readiness with respect to their social skills and behavior in year 2004 and year 2007 on the total score, t-test was used and Table 43 shows these results.

Table (43)

Mean, standard deviations, and t score for year differences

Year	N	Mean	Std. Dev.	df	t	Significance
2004	3600	3.128	.66198	7270	-6.549	.000
2007	3672	3.227	.62904			

Table (43) indicates that there are significant differences ($P < .05$) exist between children's level of school readiness with respect to their social skills and behavior in year 2004 and 2007. The findings revealed that Jordanian children have better level of school readiness with respect to their social skills and behavior in year 2007 than they had in 2004. The results indicate that the improvement in performance of children with respect to their social skills is significant. This is an indication of the progress of early childhood services and parenting programs that widen in Jordan as a result of the educational reform that is being carried on by the ministry of education and its partners.

Research Question (3): What is the level of school readiness of first grade Jordanian children with respect to their awareness of self and environment?

Table 44 reveals that the highest percentage of Jordanian children, 44.4%, are at level 4 of school readiness in year 2007, which means that they are fully ready for school with respect to their awareness of self and environment compared to 39.2% in 2004; 43.2% of the children are at level 3 of school readiness which means that they are almost ready for school with respect to their awareness of self and environment in 2007 compared to 47.1% in year 2004; 11.7% of Jordanian children are at level 2 of school readiness which means that their awareness of self and environment is emerging in year 2007 compared to 12.6% in 2004; and finally only .7% of children are at level 1 of school readiness which means that they are not ready for school yet with respect to their awareness of self and environment compared to 1.1% in 2004.

Table (44)
Frequencies and percentages of the four levels of school readiness for Jordanian children with respect to their awareness of self and environment

Level of Readiness/year		Frequency	Percent
2004	Level 1	41	1.1
Level 2		453	12.6
Level 3		1696	47.1
Level 4		1410	39.2
Total		3600	100.0
2007	Level 1	27	.7
Level 2		428	11.7
Level 3		1586	43.2
Level 4		1631	44.4
Total		3672	100.0

To ensure whether there are significant differences between children's level of school readiness with respect to their awareness of self and environment
in year 2004 and year 2007 on the total score, t-test was used and Table 45 shows these results.

Table (45)
Mean, standard deviations, and t score for Year differences

Year	N	Mean	Std. Dev.	df	t	Significance
2004	3600	3.213	.60484	7270	-6.549	0.173
2007	3672	3.233	.61209			

Table (45) indicates that there are no significant differences ($P < .05$) exist between children's level of school readiness with respect to their awareness of self and environment in year 2004 and 2007. The findings revealed that the level of readiness of Jordanian children with respect to their awareness of self and environment is almost the same as it was in 2004. Although the difference in the performance was not significant as the results indicated but it can be seen from table 44 that the percentage of children who

are considered fully ready to school increased in 2007, and that could be considered as a progress.

Research Question (4): What is the level of school readiness of first grade Jordanian children with respect to their cognitive skills?

Table 46 shows that the highest percentage of Jordanian children, 49.5%, are at level 4 of school readiness which means that they are fully ready for school with respect to their cognitive skills in year 2007 compared to 61.5 in 2004; 41.6% of the children are at level 3 of school readiness which means that they are almost ready for school with respect to their cognitive skills in year 2007 compared to 32.4 in 2004; 7.8% of the children are at level 2 of school readiness which means that their cognitive skills are emerging in year 2007 compared to 5.6 in 2004; and finally only 1.1% of children are at level 1 of school readiness which means that they are not ready for school yet with respect to their cognitive skills in 2007 compared to .5 in 2004.

Table (46)

Frequencies and percentages of the four levels of school readiness for Jordanian children with respect to their cognitive skills

Level of Readiness/year		Frequency	Percent
2004	Level 1	18	0.5
Level 2		202	5.6
Level 3		1167	32.4
Level 4		2213	61.5
Total		3600	100.0
2007	Level 1	39	1.1
Level 2		286	7.8
Level 3		1529	41.6
Level 4		1818	49.5
Total		3672	100.0

To ensure whether there are significant differences between children's level of school readiness with respect to their cognitive skills in year 2004 and year 2007 on the total score, t-test was used and Table 47 shows these results.

Table (47)

Mean, standard deviations, and t score for year differences

Year	N	Mean	Std. Dev.	df	t	Significance
2004	3600	3.457	.53610	7270	10.731	.000
2007	3672	3.318	.56710			

Table (47) indicates that there are significant differences ($P < .05$) exist between children's level of school readiness with respect to their cognitive skills in year 2004 and 2007.

The findings revealed that Jordanian children had better levels of school readiness with respect to their cognitive skills in 2004 than they have in 2007. An explanation to that might be that more attention is given now to the other domains of development such as physical, social, language and communication and not to focus only on the cognitive skills. However, Jordanian children still have a good command of cognitive skills that is vital to school success. Hence, more work still needs to be done to improve early childhood education services to enhance the school readiness of Jordanian children.

Research Question (5): What is the level of school readiness of first grade Jordanian children with respect to their language and communication skills?

Table 48 shows that the highest percentage of Jordanian children, 49.9%, are at level 3 of school readiness which means that they are almost ready for school with respect to their language and communication skills in 2007 compared to 51.8% in 2004; 31.2% of the children are at level 4 of school readiness which means that they are fully ready for school with respect to their language and communication skills in 2007 compared to 28.1% in 2004; 17.4% of Jordanian children are at level 2 of school readiness which means that their language and communication skills are emerging in 2007 compared to 18.5% in 2004; only 1.5% of children are at level 1 of school readiness

which means that they are not ready for school yet with respect to their language and communication skills in 2007 compared to 1.6 in 2004.

Table (48)
Frequencies and percentages of the four levels of school readiness for Jordanian children with respect to their language and communication skills

Level of Readiness/year		Frequency	Percent
2004	Level 1	58	1.6
Level 2		665	18.5
Level 3		1865	51.8
Level 4		1012	28.1
Total		3600	100.0
2007	Level 1	55	1.5
Level 2		639	17.4
Level 3		1833	49.9
Level 4		1145	31.2
Total		3672	100.0

To ensure whether there are significant differences between children's level of school readiness with respect to their language and communication skills in year 2004 and year 2007 on the total score, t-test was used and Table 49 shows these results.

Table (49)

Mean, standard deviations, and t score for year differences

Year	N	Mean	Std. Dev.	df	t	Significance
2004	3600	3.0557	.63481	7270	-2.142	.032
2007	3672	3.0877	.64095			

Table (49) indicates that there are significant differences ($P < .05$) exist between children's level of school readiness with respect to their language and communication skills in year 2004 and 2007. The findings revealed that Jordanian children have better level of school readiness with respect to their Language and communication skills in year

2007 than they had in 2004. This again is an indication of the quality of early childhood services and programs that Jordanian children are receiving as a result of the educational reform.

Research Question (6): What is the level of school readiness of first grade Jordanian children with respect to their physical development?

Table (50) shows that the highest percentage of Jordanian children, 68.3%, are at level 4 of school readiness which means that they are fully ready for school with respect to their physical development in year 2007 compared to 58.8% in 2004; 28.7% of the children are at level 3 of school readiness which means that they are almost ready for school with respect to their physical development in 2007 compared to 35.1% in 2004; 2.8% of the children are at level 2 of school readiness which means that their physical skills are emerging in 2007 compared to 5.7% in 2004; only .2% of children are at level 1 of school readiness which means that they are not ready for school yet with respect to their physical development in 2007 compared to .4% in 2004.

Table (50)

Frequencies and percentages of the four levels of school readiness for Jordanian children with respect to their physical development

Level of Readiness		Frequency	Percent
2004	Level 1	16	0.4
Level 2		204	5.7
Level 3		1262	35.1
Level 4		2118	58.8
Total		3600	100.0
2007	Level 1	8	.2
Level 2		102	2.8
Level 3		1054	28.7
Level 4		2508	68.3
Total		3672	100.0

To ensure whether there are significant differences between children's level of school readiness with respect to their physical development in year 2004 and year 2007 on the total score, t-test was used and Table 51 shows these results.

Table (51)

Mean, standard deviations, and t score for year differences

Year	N	Mean	Std. Dev.	df	t	Significance
2004	3600	3.4745	.52694	7270	-10.039	.000
2007	3672	3.5890	.44251			

Table (51) indicates that there are significant differences ($P < .05$) exist between children's level of school readiness with respect to their physical development in year 2004 and 2007. The findings revealed that Jordanian children have better level of school readiness with respect to their physical development in year 2007 than they had in 2004. More children are considered fully ready to school with respect to their physical development in 2007 than 2004, moreover, less children are considered not ready to school in 2007 than 2004. This is another demonstration of the progress in early childhood services and programs which reflect the vision of King Abdallah and Queen Rania in improving the lives of Jordanian children and their families by improving and expanding the early childhood services and programs.

Research Question (7): Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to gender?

Table 52 shows the percentages and frequencies of the sample according to the variables level of school readiness and gender in year 2004 and year 2007.

Table (52)

The percentages and frequencies of the distribution of the sample according to the variables level of school readiness and gender.

Level of Readiness		Female		Male	
		Frequency	**Percent**	**Frequency**	**Percent**
2004	Level 1	5	0.3	2	0.1
	Level 2	124	6.5	97	4.9
	Level 3	1075	56.6	1003	59.0

Level of Readiness	Female		Male	
	Frequency	**Percent**	**Frequency**	**Percent**
Level 4	695	36.6	586	34.5
Total	1899	100.0	1701	100.0
2007 Level 1	2	0.1	4	0.2
Level 2	122	7.2	97	4.9
Level 3	976	57.7	1010	51.2
Level 4	592	35.0	863	43.7
Total	1692	100.0	1974	100.0

Table 52 shows that 43.7% of males are at level 4 of school readiness versus 35.0% of females in year 2007, compared to 34.5% of males and 36.6% of females in 2004. On the other hand, 57.7% of females are at level 3 of school readiness versus 51.2% of males in 2007, compared to 56.6% of females and 59% of males in 2004. Table 52 also shows that 7.2% of females are at level 2 of school readiness versus 4.9% of males in 2007, compared to 6.5% of females and 4.9% of males in 2004. Finally, .1% of females are at level 1 of school readiness versus .2% of males in 2007, compared to .3% of females and .1% of males in 2004.

To ensure whether there are significant differences between children's level of school readiness according to their gender in year 2004 and year 2007 on the total score, t-test was used and Table 53 shows these results.

Table (53)

Mean, standard deviations, and t score for year differences

Year/Gender	**N**	**Mean**	**Std. Dev.**	**df**	**t**	**Significance**
2004 Male	1701	3.2576	.45070	3598	-.769	.442
Female	1899	3.2694	.46630			
2007 Male	1974	3.3448	.44131	3664	6.713	.000
Female	1692	3.2439	.46844			

To ensure whether there are significant differences between males' level of school readiness and females' level of school readiness in year 2004 and year 2007 on the total score, t-test was used and Table 54 shows these results.

Table (54)

Mean, standard deviations, and t score for year differences

Gender/ Year	N	Mean	Std. Dev.	df	t	Significance
Male 2004	1701	3.2576	.45070	3673	-5.918	.000
2007	1974	3.3448	.44131			
Female 2004	1899	3.2694	.46630	3589	1.632	.103
2007	1692	3.2439	.46844			

Table 53 indicates that there are significant differences (P < .05) exist between children's level of school readiness according to their gender in year 2007, while there are no significant differences in year 2004. On the other hand, table 54 indicates that there are significant differences (P < .05) exist between Male's level of school readiness according to the year, while there are no significant differences exist between female's level of school readiness according to the year. The findings revealed that there were no gender differences in levels of school readiness in 2004 while there are gender differences in levels of school readiness in 2007 in favor of males. In addition, the findings also revealed that there are significant differences in males' level of school readiness in year 2007 and 2004. More specifically, males' readiness to school improved significantly in 2007 comparing to year 2004. On the other hand, females' readiness to school still the same as it was in 2004. These findings stress the need to pay more attention to the education of females and raise more awareness to this issue, especially in the parenting programs.

Research Question (8): Does the level of readiness of first grade Jordanian children differ significantly at .05 level of significance according to kindergarten enrollment?

Table 55 shows the percentages and frequencies of the sample according to variables level readiness and Kindergarten attendance.

Table (55)

The percentages and frequencies of the distribution of the sample according to the variables level of readiness and kindergarten enrollment.

Level of Readiness/ Year		yes		No	
		Frequency	**Percent**	**Frequency**	**Percent**
2004	Level 1	64	2.4	27	2.9
Level 2		299	11.2	168	18.3
Level 3		1228	45.8	501	54.5
Level 4		1089	40.6	224	24.3
Total		2680	100.0	920	100.0
2007	Level 1	2	0.1	3	0.4
Level 2		104	3.6	111	14.8
Level 3		1496	51.9	473	63.1
Level 4		1282	44.5	163	21.7
Total		2884	100.0	750	100.0

Table 55 shows that, in general, children who were enrolled in kindergarten have better school readiness abilities than children who did not enroll in kindergarten in both years. Specifically, 44.5% of children who enrolled in kindergarten are at level 4 of school readiness versus 21.7% of children who did not enroll in kindergarten in 2007, compared to 40.6% of those who enrolled in KGs and 24.3% of those who did not in 2004. 51.9% of children who enrolled in kindergarten are at level 3 of school readiness versus 63.1% of children who did not enroll in kindergarten in 2007, compared to 45.8% of those who enrolled in KGs and 54.5% of those who did not in 2004. Table 12 also shows that percentages of children who are at levels 2 and 1 of school readiness are higher among children who did not enroll in kindergarten in both years. 3.6% of children who were enrolled in kindergarten are at level 2 of school readiness versus 14.8% of children who did not enroll in kindergarten in 2007, compared to 11.2% of those who enrolled in KGs and 18.3% of those who did not in 2004. Finally, .1% of children who enrolled in kindergarten are at level 1 of school readiness versus .4% of children who did not enroll in kindergarten in 2007, compared to 2.4% of those who enrolled in KGs and 2.9% of those who did not in 2004 .

To ensure whether there are significant differences between children's level of school readiness according to Kindergarten enrollment on the total score, t-test was used and Table 56 shows these results.

Table (56)

Mean, standard deviations, and t score for gender differences

KG enrollment/ Year		N	Mean	Std. Dev.	df	t	Significance
2004	Yes	2680	3.3424	.41852	3598	18.346	.000
No		920	3.0347	.49372			
2007	Yes	2884	3.36	.415	16.983	3632	.000
No		750	3.05	.510			

Table (56) indicates that there are significant differences ($P < .05$) exist between children's level of school readiness according to Kindergarten enrollment. The findings revealed that children who were enrolled in kindergarten have better school readiness than children who did not and that was evident in year 2004 and year 2007. These findings are consistent with the literature.

Research Question (9): Does the level of readiness of first grade Jordanian children differ significantly at .05 level of significance according to kindergarten type (public or private)?

Table 57 shows the percentages and frequencies of the sample according to the variables, level of school readiness and type of Kindergarten enrolled.

Table (57)

The percentages and frequencies of the distribution of the sample according to the variables, level of school readiness and type of kindergarten enrolled (private or public).

Level of Readiness		Public		Private	
		Frequency	**Percent**	**Frequency**	**Percent**
2004	Level 1	2	0.5	1	.0
Level 2		14	3.7	101	4.4
Level 3		222	58.7	1232	53.3
Level 4		140	37.0	977	42.3

Level of Readiness	Public		Private	
	Frequency	**Percent**	**Frequency**	**Percent**
Total	378	100.0	2311	100.0
2007 Level 1	1	0.1	1	.0
Level 2	30	4.0	73	3.5
Level 3	419	55.6	1071	51.2
Level 4	303	40.2	945	45.2
Total	753	100.0	2090	100.0

Table 57 shows that 40.2% of children who were enrolled in public kindergartens are at level 4 of school readiness versus 45.2% of children who were enrolled in private kindergartens in 2007, compared to 37% of those who were enrolled in public KGs and 42.3% of those who were enrolled in private KGs in 2004. The table also shows that .1% of children who were enrolled in public kindergartens are at level 1 of school readiness versus 0% of children who were enrolled in private kindergartens in 2007, compared to .5% of those who were enrolled in public KGs and .1% of those who were enrolled in private KGs in 2004.

To ensure whether there are significant differences between children's level of school readiness according to type of kindergarten enrolled on the total score, t-test was used and Table 58 shows these results.

Table (58)

Mean, standard deviations, and t score for KG Type

KG enrollment/ Year	**N**	**Mean**	**Std. Dev.**	**df**	**t**	**Significance**
2004 Public	378	3.38	.437	2687	-1.422	.155
Private	2311	3.34	.417			
2007 Public	753	3.33	.405	-2.167	2841	.030
Private	2090	3.36	.418			

Table 58 indicates that there are significant differences ($P < .05$) exist between children's level of school readiness according to Kindergarten type (public or private) in year 2007, while there were no significant differences in year 2004.

The findings revealed that in 2007, children who were enrolled in private KGs had better school readiness than children enrolled in public kindergarten, this findings is not consistent with year 2004. One possible explanation is that many private KGs improved their services especially that they take fees and can improve their services and have the fund to do so while public KGs still growing slowly and need all the possible financial support that they can get. On the other hand, the number of private KGs is much more than public KGs and that by itself make it difficult to draw conclusions.

Research Question (10): Does the level of readiness of first grade Jordanian children differ significantly at .05 level of significance according to socioeconomic status?

Table 16 shows the percentages and frequencies of the sample according to the variables level of school readiness and socioeconomic status.

Table (59)

The percentages and frequencies of the distribution of the sample according to the variables level of school readiness and socioeconomic status.

Level of Readiness/Year	Family Income (JD)			
	Less than 299	300-599	600-899	More than 900
2004 Level 1	7 .3%	0	0	0
Level 2	193 7.3%	25 3.7%	1 1.0%	0
Level 3	1627 61.8%	317 47.4%	39 38.6%	30 71.4%
Level 4	806 30.6%	327 48.9%	61 60.4	12 28.6%
Total	2633 100%	669 100%	101 100%	42 100%
2007 Level 1	6 .3%	0	0	0
Level 2	183 8.0%	26 2.7%	1 .6%	1 2%
Level 3	1363 59.4%	456 48%	49 28.3%	17 34.7%
Level 4	743 32.4%	468 49.3%	123 71.1%	31 63.3%
Total	2295 100%	950 100%	173 100%	49 100%

Table 59 shows that level of school readiness in general in both years increases when the family income increases and decreases when the family income decreases. This is consistent across all levels of school readiness except at level 3 of school readiness.

Table 60 shows the differences in means according to family income in years 2004 and 2007. It indicates that the mean increases when family income increases except when family income is more than JD 900.

Table (60)

Means, Standard Deviations According to Family Income

Family Income JD/Year	N	Mean	Std. Dev.
Less than 299	2633	3.21	0.461
300-599	669	3.38	0.416
600-899	101	3.52	0.312
900 and above	42	3.29	0.271
Less than 299	2295	3.21	0.472
300-599	950	3.41	0.393
600-899	173	3.58	0.300
900 and above	49	3.53	0.317

To ensure whether there are significant differences between children's level of school readiness according to family income on the total score in both years, analysis of variance (ANOVA) was completed and Table 61 shows these results.

Table (61)

Analysis of Variance for Differences between Levels of Family Income

	Sum of Squares	df	M. Square	F	Significance
2004 Between Groups	23.163	3	7.721	38.506	.000
Within Groups	689.971	3441	.201		
Total	713.134	3444			
2004 Between Groups	46.409	4	11.627	59.255	.000
Within Groups	695.023	3542	.196		
Total	741.532	3546			

Table 61 reveals that the overall result for differences among the different levels according to the variable family income was significant (P <.05) in both years.

The two years findings revealed a significant relationship between socioeconomic status that was measured by family income and level of school readiness. It was indicated in general that the level of school readiness increases when family income increases. Taken as a whole, the results were consistent except when family income became very high (over JD 900). A possible explanation might be that the count of the families, in both years, who have the higher income is small and for that matter the number of children is small, thus, it might be not enough to draw conclusions. It was always demonstrated in the literature that more children of families with very low income are considered at-risk of school failure. Taking that into consideration the national efforts should have prompt plans to improve the living standards of many Jordanian families who are considered to be at risk due to their low socioeconomic status. This should consequently improve the school readiness of children of these targeted families. Moreover, organized systematic efforts of community and family support should take place particularly at poor and rural areas.

Research Question (11): Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to father's education?

Table 62 shows the percentages and frequencies of years 2004 and 2007 samples according to the variables level of school readiness and father's education.

Table (62)

The percentages and frequencies of the distribution of the two samples according to the variables level of school readiness and father's education.

Level of Readiness	Illiterate	Lower basic	Upper Basic	Secondary	Diploma	University
2004 Level 1	2 .6%	1 .2%	2 .3%	2 .2%	0	0
Level 2	49 15.5	49 9.7%	55 8.3%	57 5.1%	11 3.0%	7 1.3%
Level 3	215 68.0%	334 66.3%	407 61.6%	625 56.1%	193 52.3%	249 45.8%
Level 4	50 15.8	120 23.8%	197 29.8%	430 38.6%	165 44.7%	288 52.9%
Total	316 100%	504 100%	661 100%	1114 100%	369 100%	544 100%

Level of Readiness	Illiterate	Lower basic	Upper Basic	Secondary	Diploma	University
2007 Level 1	3 1.4%	1 .2%	0	2 .2%	0	0
Level 2	39 18.3%	63 12.4%	47 7.3%	38 3.1%	11 2.9%	11 1.9%
Level 3	135 63.4%	339 66.5%	394 61.5%	685 55.6%	174 46.6%	202 34.5%
Level 4	36 16.9%	107 21%	200 31.2%	506 41.1%	188 50.4%	373 63.7%
Total	213 100%	510 100%	641 100%	1231 100%	373 100%	586 100%

Table 62 shows that there is a strong relationship between level of school readiness of Jordanian children and father's education in year 2004 and year 2007, when the father have more education children have better school readiness except at level 3 of school readiness. According to the table, in year 2007, 16.9% of children whose father is illiterate are at level 4 of school readiness as compared to 21% when father's education is lower basic, 31.2% when father's education is upper basic, 41.1% when the father have secondary education, 50.4% when the father have diploma, and 63.7% when the father have a university degree. On the other hand, in year 2004, 15.8% of children whose father is illiterate are at level 4 of school readiness as compared to 23.8% when father's education is lower basic, 29.8% when father's education is upper basic, 38.6% when the father have secondary education, 44.7% when the father have diploma, and 52.9% when the father have a university degree. Looking at the percentages of children who are at levels 2 and 1 of school readiness in both years, Table 62 indicates that the more education the father has less children are at levels 2 and 1 of school readiness.

Table 63 shows the differences in means according to father education in year 2004 and year 2007. It can be revealed that the mean increased when the father have a higher level of education.

Table (63)

Means, Standard Deviations According to Levels of Father's Education

Father Education/ Year	**N**	**Mean**	**Std. Dev.**
2004 Illiterate	316	2.9	.492
Lower Basic	504	3.1	.466

Father Education/ Year	N	Mean	Std. Dev.
Upper Basic	661	3.1	.476
Secondary	1114	3.3	.437
Diploma	369	3.3	.396
University	544	3.4	.346
2007 Illiterate	213	2.9	.549
Lower Basic	510	3.0	.476
Upper Basic	641	3.2	.463
Secondary	1231	3.3	.403
Diploma	373	3.4	.389
University	586	3.5	.360

To ensure whether there are significant differences between children's level of school readiness according to father's education in both years on the total score, analysis of variance (ANOVA) was completed and Table 64 shows these results.

Table (64)

Analysis of Variance for Differences between levels of Father's Education

	Sum of Squares	df	M. Square	F	Significance
2004 Between Groups	66.927	5	13.385	69.788	.000
Within Groups	671.679	3502	.192		
Total	738.606	3507			
2007 Between Groups	92.058	5	18.412	100.551	.000
Within Groups	649.662	3548	.183		
Total	741.720	3553			

Table 64 indicates that the overall result for differences between the different levels according to father education variable was significant (P <.05) in both years.The findings of these national surveys revealed a significant relationship between father's education and level of school readiness. These findings are consistent with what was found in the literature. The findings indicated that school readiness increased when father education increased. More children are considered ready to learn at schools when their

father had more education, on the other hand, more children are considered not ready to school when the father had less education.

Father education could be linked to the socioeconomic status which makes both findings consistent. However, it shouldn't be understood here that when the father is less educated children are always not ready to school. There are always cases where children who come from less educated families demonstrate readiness to school and that was verified in these surveys. Likewise, there are always cases where children who come from highly educated families fail to demonstrate readiness to school and that was demonstrated in years 2004 and 2007. What might these findings suggest in general terms is that less educated families need more support and systematic services to improve there skills in preparing their children to school.

Research Question (12): Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to mother's education?

Table 65 shows the percentages and frequencies of the 2004 and 2007 samples according to the variables level of school readiness and mother's education.

Table (65)

The percentages and frequencies of the distribution of the samples according to the variables level of school readiness and mother's education.

Level of Readiness/ Year	Illiterate	Lower basic	Upper Basic	Secondary	Diploma	University
2004 Level 1	2 .5%	0	2 .3%	2 .2%	1 .2%	0
Level 2	65 16.0%	56 11.1%	48 7.8%	48 4.4%	9 1.6%	3 .9%
Level 3	272 66.8%	338 67.2%	389 63.0%	607 56.1%	280 48.4%	143 43.1%
Level 4	68 16.7%	109 21.7%	178 28.8%	425 39.3%	289 49.9%	186 56.0%
Total	407 100%	503 100%	617 100%	1082 100%	579 100%	332 100%
2007 Level 1	2 .7%	1 .2%	1 .2%	0	1 .2%	0
Level 2	56 18.7%	67 12.9%	28 4.9%	45 3.9%	16 2.8%	2 .5%
Level 3	186	331	367	647	251	144

Level of Readiness/ Year	Illiterate	Lower basic	Upper Basic	Secondary	Diploma	University
	62.2%	63.9%	64%	55.9%	43.4%	33.0%
Level 4	55 18.4%	119 23%	177 30.9%	466 40.2%	311 53.7%	291 66.6%
Total	299 100%	518 100%	573 100%	1158 100%	579 100%	437 100%

Table 65 reveals that there is a strong relationship between level of school readiness of Jordanian children and their mother's education in both surveys 2004 and 2007, when the mother have more education children have better school readiness except at level 3 of school readiness. According to the table, in 2007, 18.4% of children whose mother is illiterate are at level 4 of school readiness as compared to 23% when mother's education is lower basic; 30.9% when mother's education is upper basic, 40.2% when the mother has secondary education, 53.7% when the mother has diploma, and 66.6% when the mother has a university degree. On the other hand, in year 2004, 16.7% of children whose mother is illiterate are at level 4 of school readiness as compared to 21.7% when mother's education is lower basic; 28.8% when mother's education is upper basic, 39.3% when the mother has secondary education, 49.9% when the mother has diploma, and 56% when the mother has a university degree.

Looking at the percentages of children at levels 2 and 1 of school readiness, Table 65 shows that, in both years, the more education the mother has less children are at levels 2 and 1 of school readiness. Table 66 shows the differences in means according to mother education. It can be revealed that the mean increased when the mother have higher level of education in both years.

Table (66)

Means, Standard Deviations According to Levels of Mother's Education

Mother Education	N	Mean	Std. Dev.
2004 Illiterate	407	2.98	.495
Lower Basic	503	3.12	.463
Upper Basic	617	3.19	.462
Secondary	1082	3.32	.433
Diploma	579	3.42	.389

Mother Education	N	Mean	Std. Dev.
University	332	3.48	.335
2007 Illiterate	299	2.97	.517
Lower Basic	518	3.09	.493
Upper Basic	573	3.24	.436
Secondary	1158	3.33	.407
Diploma	579	3.44	.396
University	437	3.56	.314

To ensure whether there are significant differences between children's level of school readiness according to mother's education in both years on the total score, analysis of variance (ANOVA) was completed as shown in Table 67.

Table (67)

Analysis of Variance for Differences between Levels of Mother's Education

	Sum of Squares	df	M. Square	F	Significance
2004 Between Groups	77.866	5	15.573	82.003	.000
Within Groups	667.341	3514	.190		
Total	745.207	3519			
2007 Between Groups	98.473	5	19.695	109.256	.000
Within Groups	641.367	3558	.180		
Total	739.840	3563			

Table 67 reveals that the overall result for differences between the different levels according to the variable mother education was significant ($P < .05$) in both years.

The findings revealed a significant relationship between mother's education and level of school readiness. These findings are consistent with what was found in the literature. It was found that school readiness increased when mother education increased. More children are considered ready to learn at school when their mother had more education, on the other hand, more children are considered not ready to school when the mother had less education. Mother education can be linked to the socioeconomic status which makes both findings consistent. However, it shouldn't be understood here also that

when the mother is less educated children are always not ready to learn. There are always cases where children who come from less educated families demonstrate readiness to school and that was verified in the two studies 2004 and 2007. Likewise, there are always cases where children who come from highly educated families fail to demonstrate readiness to learn and that was demonstrated.

What might these findings suggest as well is that uneducated families need more support and systematic services to improve there skills in preparing their children to school. Perhaps less educated mothers need more support and help in an organized way to improve their skills in matters pertaining to their children's development taking into consideration that, in general, children spend more time with their mothers at home than with their father. No doubt that both parents play a vital role in their child's development. Mothers might have more opportunities to influence their children's development than fathers do.

Research Question (13): Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to their residential area (urban, rural)?

Table 68 shows the percentages and frequencies of the samples in years 2004 and 2007 according to the variables, level of school readiness and residential area (urban, rural).

Table (68)

The percentages and frequencies of the distribution of the sample according to the variables, level of school readiness and residential area (urban, rural).

Level of Readiness/Year		Urban		Rural	
		Frequency	**Percent**	**Frequency**	**Percent**
2004	Level 1	3	.2	4	.2
Level 2		82	4.7	152	8.2
Level 3		956	54.6	1122	60.7
Level 4		711	40.6	570	30.8
Total		1752	100.0	1848	100.0
2007	Level 1	2	.1	3	.2
Level 2		87	5.5	130	6.5

Level of Readiness/Year	Urban		Rural	
	Frequency	**Percent**	**Frequency**	**Percent**
Level 3	825	52.2	1111	55.6
Level 4	667	42.2	755	37.8
Total	1581	100.0	1999	100.0

Table 68 shows that in 2007, 42.2% of children who reside in urban areas are at level 4 of school readiness as compared to 37.8% of children who reside in rural areas; 52.2% of children who reside in urban areas are at level 3 of school readiness as compared to 55.6% of children who reside in rural areas; 5.5% of children who reside in urban areas are at level 2 of school readiness as compared to 6.5% of children who reside in rural areas; finally, .1% of children who reside in urban areas are at level 1 of school readiness as compared to .2% of children who reside in rural areas. On the other hand, in 2004, 40.6% of children who reside in urban areas are at level 4 of school readiness as compared to 30.8% of children who reside in rural areas; 54.6% of children who reside in urban areas are at level 3 of school readiness as compared to 60.7% of children who reside in rural areas; 4.7% of children who reside in urban areas are at level 2 of school readiness as compared to 8.2% of children who reside in rural areas; finally, .2% of children who reside in urban areas and rural areas are at level 1 of school readiness.

To ensure whether there are significant differences between children's level of school readiness according to their residential area in both years on the total score, t-test was used and Table 69 shows these results.

Table (69)

Mean, Standard Deviations, and t score for Residential Area Differences

Residential Area	**N**	**Mean**	**Std. Dev.**	**df**	**t**	**Significance**
2004 Urban	1752	3.31	.439	3598	6.690	.000
Rural	1848	3.21	.471			
2007 Urban	1581	3.32	.444	3578	3.644	.000
Rural	1999	3.27	.464			

Table 69 indicates that there are significant differences (P<.05) exist between children's level of school readiness according to their residential area (urban, rural) in both years.

The results of these studies revealed that there are significant differences between children's level of school readiness according to their residential area. Children who were resided in urban areas had better school readiness in general than children who were resided in rural areas. More specifically, it was found that more children are considered fully ready to school in urban areas as compared to children in rural areas. Likewise, fewer children are considered not ready to school or their skills still developing in urban areas as compared to children in rural areas. These results can be explained by the nature of educational services available at urban areas comparing to rural areas.

Moreover, urban areas in Jordan have usually more quality services than rural areas which might affect the experiences that children in each area are exposed to. This might be a strong indication of the lack of equal opportunities that children receive in Jordan depending on where the child lives. Therefore, the government in general and the Ministry of Education in particular should keep on providing rural areas with quality services, especially in educational settings. It is worth noting that this issue has been recently the focus of ministry of education where they are establishing public KGs in the rural areas all over Jordan.

Research Question (14): Does the level of school readiness of first grade Jordanian children differ significantly at .05 level of significance according to geographical region (north, middle, south)?

Table 70 shows the percentages and frequencies of the sample according to the variables, level of school readiness and geographical location (north, middle, south).

Table (30)
The percentages and frequencies of the distribution of the sample according to the variables, level of school readiness and geographical location (north, middle, south)

Level of Readiness/ Year		North	Middle	South
2004	Level 1	3 .2%	4 .3%	0
Level 2		84 6.3%	93 6.4%	57 7.1%
Level 3		805 60.3%	800 54.9%	473 58.5%
Level 4		443 33.2%	560 38.4%	278 34.4%
Total		1335 100.0%	1457 100.0%	808 100.0%
2007	Level 1	1 .1%	4 .3%	0
Level 2		85 6.4%	93 5.8%	41 5.8%
Level 3		715 53.4%	884 55.5%	369 52.6%
Level 4		537 40.1%	613 38.5%	292 41.6%
Total		1338 100.0%	1594 100.0%	702 100.0%

Table 30 shows that in 2007 and 2004 respectively, 40.1% and 33.2% of children from the North region are at level 4 of school readiness as compared to 38.5% and 38.4% of children who are from the Middle region, and 41.6% and 34.4% of children who are from the South region; 53.4% and 60.3% of children from the North region are at level 3 of school readiness as compared to 55.5% and 54.9% of children who are from the Middle region, and 52.6% and 58.5% of children who are from the South region. Furthermore, 6.4% and 6.3% of children from the North region are at level 2 of school readiness as compared to 5.8% and 6.4% of children who are from the Middle region, and 5.8% and 7.1% of children who are from the South region; finally, .1% and .2% of children from the North region are at level 1 of school readiness, .3% and .3% of children who are from the Middle region are also at the same level, and 0% of children who are from the South region.

Table 71 shows the differences in means according to geographical area.

Table (71)

Mean, Standard Deviations According to Geographical Area

Geographical Location/Year	N	Mean	Std. Dev.
2004 North	1335	3.252	.457
Middle	1457	3.273	.460
South	808	3.264	.458
2007 North	1338	3.29	.454
Middle	1594	3.29	.458
South	702	3.32	.452

To ensure whether there are significant differences between children's level of school readiness according to their geographical location on the total score, analysis of variance (ANOVA) was completed and Table 72 shows these results.

Table (72)

Analysis of Variance for Differences between Geographical Areas

		Sum of Squares	df	M. Square	F	Significance
2004	Between Groups	.325	2	.162	.771	.463
	Within Groups	757.809	3597	.211		
	Total	758.134	3599			
2007	Between Groups	.546	2	.273	1.312	.269
	Within Groups	754.946	3631	.208		
	Total	755.492	3633			

Table 72 reveals that in both years there are no significant differences exist between children's level of school readiness according to their geographical location.

The current results indicate that Jordanian children are now exposing to similar experiences and that might be due to the expansion of early childhood services as part of the comprehensive educational reform.

Research Question (15): Is there a relationship between school readiness of first grade Jordanian children and family size?

The correlation matrix that is shown in Table 73 reveals a significant relationship at .05 level of significance between family size and level of readiness in years 2004 and 2007. As shown in the table the correlation coefficient between the two variables in 2004 and 2007 were -.15 , and -.04 respectively, indicating that the level of readiness decreases when the family size increases.

Table (73)
Correlation matrix for the variables family size, number of siblings and total scores of school readiness.

Variables/ Year	Family size	# of sisters and brothers	Scores of school readiness
2004 Family size	1	.916* (.000)	-.157* (.000)
# of siblings		1	-.169* (.000)
Level of readiness			1
2007 Family size	1	-921* (.011)	-.042* (.000)
# of siblings		1	-.170* (.000)
Level of readiness			1

The findings revealed that there is a significant relationship between number of family members living at the same house and school readiness. When family size increases school readiness decreases, on the other hand, when family size decreases school readiness increases. This also can be related to socioeconomic status where families with limited income tend to live together which means that everybody is sharing the limited resources that are available, which means that young children of these families might not have the opportunity to experience early childhood education programs that are not free in most of the cases. These findings also supports the efforts of improving living conditions of many Jordanian families through systematic community and family support.

Question (16): Is there a relationship between school readiness of first grade Jordanian children and number of siblings?

The correlation matrix that is presented in Table 73 indicates that there is a significant relationship at .05 level of significance between number of siblings and level of readiness in year 2004 and year 2007. As shown in the table the correlation coefficient between the two variables in 2004 and 2007 were -.16 and -.17 respectively, indicating that the level of readiness decreases when the number of siblings increases. The findings revealed that there is a significant relationship between number of siblings and school readiness. When the number of siblings increased school readiness decreased, on the other hand, when number of siblings decreased school readiness increased. That might be due to the fact that when families have more children, the resources of the family are divided among all children taking into consideration that many families have limited income which makes children's opportunities in preschool programs very limited. This also might be related to socioeconomic status where families with limited income tend to have more children than families with higher income. More investigation is suggested to this area in future research.

Research Objective (17): To assess the level of readiness of first grade children in the schools where KGs have been newly established (local communities).

Table 74 shows frequencies and percentages of the five levels of school readiness for children in local communities where KGs have been newly established in year 2004 and year 2007.

Table (74)

Frequencies and percentages of the four levels of school readiness for children in local communities where KGs have been newly established

Level of Readiness/ Year	Frequency	Percent
2004 Level 1	3	.3
Level 2	70	7.3
Level 3	604	63.2
Level 4	278	29.1
Total	955	100%
2007 Level 1	1	.1

Level of Readiness/ Year	Frequency	Percent
Level 2	51	5.0
Level 3	570	55.7
Level 4	402	39.3
Total	1024	100%

Table 74 indicates that 55.7% of children in local communities can be described as almost ready to school (level 3 of school readiness) in 2007, compared to 63.2% in 2004. Similarly, 39.3% of children can be described as fully ready to school (level 4 of school readiness) in 2007, compared to 29.1% in 2004. However, 5% of the children can be described as ready to school to some extent, their skills are emerging (level 2 of school readiness) in 2007, compared to 7.3% in 2004; only .1% of the children in local communities are considered not ready for school (level 1 of school readiness) in 2007, compared to .3% in 2004.

To ensure whether there are significant differences between children's level of school readiness in year 2004 and year 2007 on the total score, t-test was used and Table 75 shows these results.

Table (75)

Mean, standard deviations, and t score for year differences

Year	**N**	**Mean**	**Std. Dev.**	**df**	**t**	**Significance**
2004	955	3.208	.454	1977	-4.967	.000
2007	1024	3.308	.439			

Table (75) indicates that there are significant differences ($P < .05$) exist between children's level of school readiness in year 2004 and 2007. The findings revealed that children in local communities have better readiness to school in 2007 than they had in 2004. The findings demonstrated improvement in the level of school readiness in children in local communities, and that progress is significant. It has been three years since the national survey was conducted in 2004, so children's school readiness developed and improved as a result of the national efforts to improve early childhood services in Jordan as a whole and in rural areas in particular.

Research Question (18): What is the level of school readiness of children in the schools where KGs have been newly established with respect to their social skills and behavior?

Table 76 shows that the highest percentage of children in local communities in years 2007 and 2004 respectively, 47.1% and 52.3% are at level 3 of school readiness which means that they are almost ready for school with respect to their social skills and behaviors; 40.5% of the children in 2007 and 30.9% in 2004 are at level 4 of school readiness which means that they are fully ready for school with respect to their social skills and behavior; in 2007 10.2% of children in local communities are at level 2 of school readiness which means that their social skills and behavior are emerging comparing to 14.3%; and finally only 2.2% of children are at level 1 of school readiness which means that they are not ready for school yet with respect to their social skills and behavior.

Table (76)

Frequencies and percentages of the four levels of school readiness for children in local communities with respect to their social skills and behavior

Level of Readiness/ Year	Frequency	Percent
2004 Level 1	24	2.4
Level 2	137	14.3
Level 3	499	52.3
Level 4	295	30.9
Total	955	100%
2007 Level 1	23	2.2
Level 2	104	10.2
Level 3	482	47.1
Level 4	415	40.5
Total	1024	100%

To ensure whether there are significant differences between children's level of school readiness in year 2004 and year 2007 with respect to their social skills and behavior on the total score, t-test was used and Table 77 shows these results.

Table (77)

Mean, standard deviations, and t score for year differences

Year	N	Mean	Std. Dev.	df	t	Significance
2004	955	3.0556	.65509	1977	-4.692	.000
2007	1024	3.1925	.64187			

Table (77) indicates that there are significant differences ($P < .05$) exist between children's level of school readiness in year 2004 and 2007. The findings revealed that children in local communities (rural areas) have better school readiness with respect to social skills and behavior in 2007 than they had in 2004 which means that their social skills have improved. This demonstrates that children in rural areas are increasingly exposing to comparable experiences to those children nationally exposing to. This is linked to the vision of the Ministry of Education to ensure quality early childhood education programs in rural areas. The ministry established many KGs in several girls' schools in these rural areas.

Research Question (19): What is the level of school readiness of children in the schools where KGs have been newly established with respect to their awareness of self and environment?

Table 78 shows that in 2007 and 2004 respectively, 45.3% and 39.1% of children in local communities are at level 4 of school readiness which means that they are fully ready for school with respect to their awareness of self and environment; 42.4% and 45.4%of the children are at level 3 of school readiness which means that they are almost ready for school with respect their awareness of self and environment; 11.3% and 14.5 of children in local communities are at level 2 of school readiness which means that their awareness of self and environment is emerging; and finally, only 1.0% of children are at level 1 of school readiness in both years which means that they are not ready for school yet with respect to their awareness of self and environment.

Table (78)

Frequencies and percentages of the four levels of school readiness for children in local communities with respect to their awareness of self and environment

Level of Readiness/ Year		Frequency	Percent
2004	Level 1	10	1.0
Level 2		138	14.5
Level 3		434	45.4
Level 4		373	39.1
Total		955	100.0
2007	Level 1	10	1.0
Level 2		116	11.3
Level 3		434	42.4
Level 4		464	45.3
Total		1024	100

To ensure whether there are significant differences between children's level of school readiness in year 2004 and year 2007 with respect to their awareness of self and environment on the total score, t-test was used and Table 79 shows these results.

Table (79)

Mean, standard deviations, and t score for year differences

Year	**N**	**Mean**	**Std. Dev.**	**df**	**t**	**Significance**
2004	955	3.1886	.62118	1977	-1.698	.090
2007	1024	3.2359	.61573			

Table (79) indicates that there are no significant differences ($P < .05$) exist between children's level of school readiness with respect to awareness of self and environment in year 2004 and 2007. The overall findings revealed that children in rural areas local communities have almost similar levels of school readiness abilities in 2007 that are related to awareness of self and environment as compared to the year 2004.

Research Question (20): What is the level of school readiness of children in the schools where KGs have been newly established with respect to their cognitive skills?

Table 80 shows that the highest percentage of children in local communities in years 2007 and 2004 respectively, 53.5% and 57.6 are at level 4 of school readiness which means that they are fully ready for school with respect to their cognitive skills; 39.3 and 34.9 of the children are at level 3 of school readiness which means that they are almost ready for school with respect to their cognitive skills; 6.4% and 6.9 of the children are at level 2 of school readiness which means that their cognitive skills are emerging; and finally only .8% and .6% of children are at level 1 of school readiness which means that they are not ready for school yet with respect to their cognitive skills.

Table (80)
Frequencies and percentages of the four levels of school readiness for children in local communities with respect to their cognitive skills

Level of Readiness/ Year	Frequency	Percent
2004 Level 1	6	.6
Level 2	66	6.9
Level 3	333	34.9
Level 4	550	57.6
Total	955	100%
2007 Level 1	8	.8
Level 2	66	6.4
Level 3	402	39.3
Level 4	548	53.5
Total	1024	100%

To ensure whether there are significant differences between children's level of school readiness in year 2004 and year 2007 with respect to their cognitive skills on the total score, t-test was used and Table 81 shows these results.

Table (81)

Mean, standard deviations, and t score for year differences

Year	N	Mean	Std. Dev.	df	t	Significance
2004	955	3.3881	.55371	1977	.515	.606
2007	1024	3.3754	.54452			

Table (81) indicates that there are no significant differences ($P < .05$) exist between children's level of school readiness in year 2004 and 2007. The overall findings revealed that in 2007 children in rural areas local communities have similar levels of school readiness abilities with respect to awareness of self and environment as compared to the year 2004.

Research Question (21): What is the level of school readiness of children in the schools where KGs have been newly established with respect to their language and communication skills?

Table 82 shows that in years 2004 and 2007 respectively, 50.3% and 53.8%, in local communities are at level 3 of school readiness which means that they are almost ready for school with respect their language and communication skills; 31.8% and 22.9% of the children are at level 4 of school readiness which means that they are fully ready for school with respect to their language and communication skills; 16.4% and 21.4% of children in local communities are at level 2 of school readiness which means that their language and communication skills are emerging; and finally, only 1.5% and 1.9 of children are at level 1 of school readiness which means that they are not ready for school yet with respect to their language and communication skills.

Table (82)

Frequencies and percentages of the four levels of school readiness for children in local communities with respect to their Language and communication skills

Level of Readiness/ Year	Frequency	Percent
2004 Level 1	18	1.9
Level 2	204	21.4
Level 3	514	53.8

Level of Readiness/ Year	Frequency	Percent
Level 4	219	22.9
Total	955	100%
2007 Level 1	15	1.5
Level 2	168	16.4
Level 3	515	50.3
Level 4	326	31.8
Total	1024	100%

To ensure whether there are significant differences between children's level of school readiness in year 2004 and year 2007 with respect to their language and communication skills on the total score, t-test was used and Table 83 shows these results.

Table (83)

Mean, standard deviations, and t score for year differences

Year	N	Mean	Std. Dev.	df	t	Significance
2004	955	2.9694	.63266	1977	-4.946	.000
2007	1024	3.1113	.64261			

Table (83) indicates that there are significant differences ($P < .05$) exist between children's level of school readiness in year 2004 and 2007. The overall findings revealed that children in local communities (rural areas) have better school readiness with respect to their language and communication skills in 2007 than they had in 2004 which means. Language and communication skills are one of the most critical skills that children have to develop well before they are considered fully ready to start their elementary education. This improvement is a result of the efforts of ministry of education and its partners to improve the early childhood education programs in rural areas in particular.

Research Question (22): What is the level of school readiness of children in the schools where KGs have been newly established with respect to their physical development?

Table 84 shows that in 2007 and 2004 respectively, 71% and 59.6% of children in local communities are at level 4 of school readiness which means that they are fully ready

for school with respect to their physical development; 27.1% and 34.7% of the children are at level 3 of school readiness which means that they are almost ready for school with respect to their physical development; 1.8% and 5.3% of the children are at level 2 of school readiness which mean that their physical skills are emerging; and finally, only.2% and .4% of children are at level 1 of school readiness which means that they are not ready for school yet with respect to their physical development.

Table (84)
Frequencies and percentages of the four levels of school readiness for children in local communities with respect to their physical development

Level of Readiness/ Year		Frequency	Percent
2004	Level 1	4	.4
Level 2		51	5.3
Level 3		331	34.7
Level 4		569	59.6
Total		955	100%
2007	Level 1	2	.2
Level 2		18	1.8
Level 3		277	27.1
Level 4		727	71.0
Total		1024	100%

To ensure whether there are significant differences between children's level of school readiness in year 2004 and year 2007 with respect to their physical development on the total score, t-test was used and Table 84 shows these results.

Table (84)
Mean, standard deviations, and t score for year differences

Year	N	Mean	Std. Dev.	df	t	Significance
2004	955	3.4781	.52731	1977	-6.488	.000
2007	1024	3.6169	.42189			

Table (84) indicates that there are significant differences ($P < .05$) exist between children's level of school readiness in year 2004 and 2007 with respect to their physical

development. The findings revealed that children in local communities (rural areas) have better school readiness with respect to their physical development in 2007 than they had in 2004. These results might indicate that children in rural areas in general are more developed physically when compared to other aspects and domains of development that is considered vital to school success. An interpretation could be that children in local communities' in rural areas have more opportunities to develop their physical abilities than other areas of development which may be in need for more education and specialized attention on the school, community, and family levels.

RECOMMENDATIONS

- The Ministry of Education should continue in expanding the kindergarten coverage. It should aim at increasing kindergarten enrollment rates by expanding the reach of quality kindergarten programs especially to poor, remote and underserved areas in order to ensure equitable access of sufficient quality.
- The private sector should be encouraged to establish and run kindergartens under the supervision of Ministry of Education.
- Providing support for low-income families through reducing the entrance fees so that such families can afford to send their children to kindergarten.
- The Ministry of Education should make sure that kindergarten curriculum is responsive to the varying needs of children and the different aspects of their development. Such curriculum should be up to the standards and help children in developing their potentials and better prepare them for school. Moreover, it should be responsive to the unique needs of children who are considered at-risk and with developmental delays.
- Kindergartens should be more responsive to the needs of individual learners, thus, requiring qualified to ensure that teachers and administrators who understand how children learn and develop. They must know how to plan and implement a developmentally appropriate curriculum that places greater emphasis on child-initiation, teacher-supported learning experiences, small group as opposed to whole-group activities, and active hands-on learning with a variety of materials and activities as opposed to drill and practice of repetitive seatwork. It should be recognized that children's developmental timetables do not conform to the yearly calendar.
- Kindergarten teachers should have specialized training in child development and early education. Class size should be reduced and hire more teachers to ensure individualized instruction. Investments in classroom equipment and materials are also needed so that children have access to a wide array of materials and activities for hands-on learning.

- The investment and commitment are needed to ensure that every child enters school ready to succeed and that schools are effective in educating every child. Every child must be provided with basic foundation that is critical to learning in school and we must ensure that schools are prepared to meet the needs of individual children as they arrive at the school door.
- It is important that kindergarten teachers be aware that by the end of KG2 children should be able to:

    - Adjust socially, emotionally secure, and physically strong and coordinated.

    - Communicate with adults and other children including awareness of print and letter-sound relationship, understanding stories, and love for books.

    - Recognize and understand basic mathematical concepts including the ability to identify patterns and shapes and how to place items in a certain order.

    - Aware of their environment, animal and plant life, as well as the roles of people in their families and communities.

    - Comfortable with their creativity and appreciation for expressing themselves through the arts.

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