The Hashemite Kingdom of Jordan

National Center for Human Resources Development
(NCHRD)

Phase III of the Learning Readiness Assessment (National Level) Early Childhood Education (ECD)

by

Suha Al-Hassan, Ph.D.
Queen Rania Faculty for Childhood
The Hashemite University

Publications Series No. (125)
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جمع البيانات المتعلقة بتشخيص الأوضاع التربوية

ناقشنا في لقاءاتنا السابقة الجوانب الأساسية الثلاثة التي ينبغي أن تؤخذ في الاعتبار في تشخيص الأنظمة التعليمية وهي :

- التغطية
- الكفاءة
- النوعية

واستعرضنا، استعراضا عاما وبصورة مجملة البيانات والمعلومات المتنوّعة التي نحتاج اليها للقيام بهذا التشخيص، وقد اتّضح لنا انّ بعض تلك البيانات والمعلومات متوفرة ويمكن الحصول عليها من وزارة التربية والتعليم في حين هناك معلومات اخرى يمكن ان توفرها مصادر مختلفة. وهنا تصبح مهمتنا جمع هذه البيانات والمعلومات جميعها من مصادرها المختلفة ودراستها. ومع ذلك، فهناك بعض البيانات لا تكون متوفرة على النحو الذي نبغيه من حيث التنظيم ووحدات التحليل التي نحتاج اليها في اعداد الخريطة المدرسية. ولذا يترتب علينا تجميع بيانات خاصة للحصول على المعلومات المطلوبة.

وسنناقش في هذا القسم وجهين من أوجه عملية التجميع :

أ- الاستعانة بمصادر البيانات المتوفرة خارج وزارة التربية والتعليم،

ب- اعداد الوسائل والترتيبات المتعلقة بتجميع بيانات اضافية من المدارس.

والجدير بالذكر انه لا توجد أية مشكلة في الحصول على المعلومات المتوفرة في وزارة التربية والتعليم أو في المكاتب الاقليمية للتربية.

أولا: الاستعانة بمصادر البيانات المتوفرة خارج وزارة التربية والتعليم

ان جمع البيانات ميدانيا، تعد عملية مكلفة جدا من حيث الوقت والموارد. ويعني هذا انه قبل ان نجري بحثا ميدانيا، أو غير ذلك، للحصول على معلومات معينة، لا بدّ اولا من ان نتأكد من ان هذه المعلومات لا تتوفر في وزارة التربية والتعليم أو في اي مكان آخر. فاذا لم تكن متوفرة، عندئذ ينبغي وضع الترتيبات للحصول عليها.

Education Reform for Knowledge Economy (ERfKE) Project
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Summary

The main objective of this study was to assess and describe 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, which was tested for its reliability and validity in the pilot study that was conducted in the beginning of school year 2003-2004. The results revealed that the instrument was reliable and valid to be used in this national survey for learning readiness. The national sample of the study consisted of 2645 first grade children distributed all over the kingdom. The over sample consisted of 955 first grade children from the local communities in rural areas where public KGs have been newly established was.

This study aimed at answering several questions related to variables that might 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 during the first and second week of October 2004. 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 almost 38% of first grade children in Jordan are considered fully ready to school, while about 58% 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 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. No significant relationship was found between gender and learning readiness. The results also revealed that readiness to school differ according to the geographical location (north, middle, south), and residence area (urban, rural).

The results of the study also indicated that children in the national sample have better learning readiness in general when compared to children from the over sample in the local communities in rural areas.
Several recommendations were drawn from the results of this study for future investigations and planning.

الدراسة الوطنية حول استعدادا اطفال الصف الاول الاساسي للتعلم في الاردن

ملخص تنفيذي

يطور الاطفال خلال السنوات الاولى من اعمارهم احساسا بانفسهم وعلاقتهم بالعائلة والمجتمع من حولهم، فهم يستكشفون العالم من خلال اللعب وطرح الاسئلة التي تتطلب اجابات مقنعة من الكبار، ويكونوا على اتم الاستعداد للتعلم من خلال تفاعلهم المستمر مع البيئة التي يعيشون فيها وينتمون اليها. ان لنوعية الرعاية والاستثارة التي يتلقاها الطفل في السنين الاولى من حياته اثر بالغ على تطوره يبقى مدى الحياة. وانه من الثابت علميا ان للسنوات الاولى من حياة الاطفال تأثيرها الكبير على تطور الدماغ والتحصيل الاكاديمي، فالدماغ يتطور بناءا على نوعية وعدد الاستثارات الحسية التي يتعرض لها، ويشير الادب المتعلق بالطفولة المبكرة الى ان الاطفال الذين يلتحقون ببرامج نوعية للطفولة المبكرة لديهم دافعية اكبر للتعلم، وتحصيل اكاديمي اعلى، ومفهوم ذات اعلى من الاطفال الذين لا يلتحقون بمثل هذه البرامج. فلخبرات الطفولة المبكرة تأثيرها البالغ على التطور الحركي والاجتماعي والمعرفي والانفعالي واللغوي عند الاطفال.

هدفت هذه الدراسة بشكل رئيسي الى تقييم ووصف مستوى الاستعداد للتعلم عند الاطفال الملتحقين بالصف الاول الاساسي في الاردن بشكل عام وجوانب التطور المختلفة بشكل خاص، كما هدفت الى تقييم ووصف مستوى الاستعداد المدرسي عند الاطفال في المجتمعات المحلية والمناطق النائية التي قد تم حديثا تأسيس رياض اطفال حكومية فيها، وذلك من خلال الاجابة عن مجموعة من الاسئلة البحثية التي تتعلق بمتغيرات ذات تأثير على مستوى استعداد الاطفال في الاردن للتعلم عند دخولهم الصف الاول الاساسي مثل الالتحاق برياض الاطفال، ونوعية رياض الاطفال (حكومية ام خاصة) ،والجنس، مستوى تعليم الاب، ومستوى تعليم الام، والمستوى الاجتماعي الاقتصادي.

ولتحقيق اهداف هذه الدراسة فقد تم استخدام اداة قياس استعداد الاطفال للتعلم (EYE) والتي تم من خلالها تقييم اداء الطفل في جوانب النمو الخمسة الاساسية وهي الوعي بالذات والبيئة، واللغة والاتصال، والنمو الحركي، والمهارات الاجتماعية، والمهارات المعرفية. وقد تم التحقق من خصائص الاداة السسيومترية (الصدق والثبات) في الدراسة الاستطلاعية التي تم اجراؤها في بداية

العام الدراسي ٢٠٠٣-٢٠٠٤، حيث اشارت النتائج الى ان الاداة صالحة للاستخدام في هذه الدراسة الوطنية حول استعداد اطفال الصف الاول الاساسي للتعلم.

تكونت العينة الوطنية للدراسة من ٢٦٤٥ طفل ملتحقين بالصف الاول الاساسي موزعين على كافة مناطق المملكة، وتكونت العينة الاضافية من ٩٥٥ طفل ملتحقين بالصف الاول الاساسي في المجتمعات المحلية في المناطق النائية والتي تم حديثا تأسيس رياض اطفال حكومية فيها. وقد تم تطبيق الاداة من قبل مشرفي رياض الاطفال في مناطق المملكة المختلفة بعد ان تم تدريبهم من خلال ورشات عمل بالتعاون مع المجلس الوطني لشؤون الاسرة. تم جمع البيانات خلال الاسبوعين الاول والثاني من شهر تشرين اول عام ٢٠٠٤. ولتحليل البيانات بما يتلائم مع اهداف الدراسة فقد تم تحويل العلامة الكلية الخام الى مقياس من ٤ درجات بما يتلائم مع الاداة حيث تم تعريف مستويات الاستعداد المدرسي بناءا على متوسط العلامة على بعد معين او على المقياس ككل. تبعا لذلك فقد تم تصنيف استعداد الاطفال الاردنيين الملتحقين بالصف الاول الاساسي للتعلم الى اربعة مستويات (مستوى ١ – غير مستعد للتعلم، مستوى ٢ – لا تزال المهارة تتطور، مستوى ٣ –مستعد للتعلم بشكل جزئي، مستوى ٤ – مستعد للتعلم بشكل كامل). وقد تم تحليل البيانات باستخدام الاحصاء الوصفي، واختبار ت، واختبار تحليل التباين (ANOVA)، ومعاملات الارتباط.

اشارت نتائج هذه الدراسة الوطنية الى ان ما يقارب من ٣٨% من اطفال الصف الاول الاساسي في الاردن يعتبروا مستعدين للتعلم بشكل كامل بينما ما يقارب ٥٨% من الاطفال يعتبروا مستعدين للتعلم بشكل جزئي عند دخولهم الصف الاول، وما يقارب ٦% من الاطفال لا يزالون يطورون مهارات الاستعدادا المدرسي، وفقط ٢.% يعتبروا غير مستعدين للتعلم. اشارت النتائج ايضا الى وجود علاقة ذات دلالة بين الاستعداد للتعلم وخبرة الالتحاق برياض الاطفال قبل دخول الصف الاول الاساسي ونوع رياض الاطفال اذا كان حكوميا او خاصا، فالاطفال الذين التحقوا برياض الاطفال كان لديهم استعدادا افضل للتعلم من الاطفال الذين لم يلتحقوا وايضا الاستعداد للتعلم عند الاطفال الذين التحقوا برياض اطفال خاصة كان افضل من الاستعداد للتعلم عند الاطفال الذين التحقوا برياض اطفال حكومية. بالاضافة الى ذلك فقد اظهرت الدراسة علاقة ذات دلالة بين الاستعداد للتعلم والمستوى الاجتماعي والاقتصادي للاسرة حيث ان استعداد الاطفال للتعلم كان افضل عند الاسر ذات الدخل المتوسط (٣٠٠-٥٩٩ و ٦٠٠- ٨٩٩ دينار اردني) والعالي (اكثر من

٩٠٠ دينار) مقارنة بالمتدني (اقل من ٣٠٠ دينار). اشارت النتائج ايضا الى وجود علاقة ذات دلالة بين الاستعداد للتعلم والمستوى التعليمي للاب والام حيث ان الاستعداد للتعلم يكون افضل كلما ارتفع مستوى تعليم الاب والام في الاسرة. فيما يتعلق بعدد الاخوة والاخوات وحجم العائلة وعلاقتهم بالاستعداد للتعلم فقد اشارت النتائج الى علاقة عكسية بمعنى انه كلما قل عدد الاخوة والاخوات كان الاستعداد للتعلم افضل، وكذلك كلما كان حجم الاسرة اصغر كلما كان الاستعداد للتعلم افضل. من ناحية اخرى اشارت النتائج الى عدم وجود علاقة ذات دلالة بين الاستعداد للتعلم والجنس حيث كان استعداد الاناث والذكور متقاربا. وعند التحقق من متغير المنطقة الجغرافية وعلاقة ذلك بالاستعداد للتعلم فقد اشارت النتائج الى ان لدى الاطفال في مناطق الوسط والجنوب استعدادا افضل للتعلم مقارنة بالشمال، وفيما يتعلق بمنطقة السكن فقد اشارت النتائج بوضوح الى ان الاطفال القاطنين في المناطق الحضرية لديهم استعدادا افضل للتعلم من الاطفال القاطنين في المناطق النائية.

وبشكل عام اشارت النتائج الى ان الاطفال في العينة الوطنية لديهم استعدادا افضل للتعلم عند مقارنتهم بالاطفال من العينة الاضافية التي تم اخذها من المجتمعات المحلية في المناطق النائية. بناءا على النتائج العامة والخاصة للدراسة فقد تم العمل على صياغة بعض التوصيات التي من المؤمل ان ترتقي بالخدمات المقدمة في الاردن للاطفال دون سن المدرسة بشكل خاص وان تحفز جهود وزارة التربية والتعليم وشركائها الاستراتيجيين في هذا المجال بالمضي قدما في استحداث وفتح رياض اطفال حكومية في جميع انحاء المملكة خاصة المناطق النائية، والعمل على تطوير رياض الاطفال الموجودة حاليا بما يتضمن تأهيل المعلمين العاملين في هذه الرياض.

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Learning Readiness

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) in July 2003. 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*

General and Long-Term Objectives of the National Survey

The longer-term objective of the national survey was 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 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 National Study of Assessing the School Readiness to Learn 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=2645) were 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=955) 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

This over sample will be used for periodic monitoring and evaluation, in 2006 and 2008, to assess the impact of these KGs in rural areas.

Each field researcher was assigned a number of schools and was trained how to choose the sample. However, few field researchers had to change one of there schools because the first grade were canceled in a particular schools by the ministry of education. In the schools where there was more than one section of first grade, he/she had to choose one section randomly. 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 grades, 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	1297
Female	1348
Kindergarten Attendance	
Yes	2022
No	623
Kindergarten Type	
Private	1792
Public	234
Area	
Rural	1435
Urban	1210
Geographical Location	
North	1052
Middle	1270
South	323
Father Education	
Illiterate	170
Lower Basic (grades 1-6)	332
Upper Basic (grades 7-10)	440

Variable	Number of Children
Secondary	868
Diploma	324
University	446
Mother Education	
Illiterate	237
Lower Basic (grades 1-6)	325
Upper Basic (grades 7-10)	456
Secondary	860
Diploma	437
University	264
Family Income (JD)	
Less than 299	1863
300-599	521
600-899	91
900 and above	42

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 and few of them hold a Ph.D. degree in education. In addition, they had a specialized training in early childhood education. The field researchers were 52 distributed among the three regions; 21 from the Middle, 21 from the North, and 10 from the South.

Field Researcher's Training

Training workshops were held in cooperation with the National Council of Family Affairs (NCFA) for the purpose of training and preparing the field researchers for the task. Three workshops were held in three different locations for this purpose, first one was held in the National Center for Human Resources Development (NCHRD) to train the field researchers from the Middle region, the second took place at the Teachers Club in Irbid to train the field researchers from the North region, and the third took place at the Teachers Club in Karak to train the field researchers from the South region. The workshops were one day long and consisted of the following activities:

- Introduction about the project.
- Phases of Learning Readiness Assessment
- The objectives of phase III of the project (National survey)
- Introducing the EYE tool and the scoring procedures
- Explaining the sampling procedures
- Demonstrating the testing procedures

All field researchers were provided, in writing, with the scoring guidelines and recording procedures. By the end of each workshop, the field researchers demonstrated an understanding of the task and how to choose the sample and administer the tool.

Research Tool

The instrument or tool 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 were involved in UEY project: 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 tool "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 tool 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 tool 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.

Modifications of the Tool

The tool was modified according to the recommendations came from the pilot survey report and from NCFA through the consultation with the Canadian partners.

First, the domain "Social Skills and Behavior" The first four items in this domain were rephrased directly, for example, the item that used to be "the child appears to be unhappy, sad or depressed", changed to "the child appears to be happy". Two items were added to this domain as follows:

- The child participates in an interactive conversation with adults.
- The child demonstrates confidence in his abilities (academic, social, physical skills)

Second, the domain "awareness of self and environment" was modified by dropping two items (tells his/her name, gives culturally appropriate response to: "how do we make dinner?"). The picture of the goat changed to a picture of sheep in the item "recognizes and points to these animals: cat, dog, cow, monkey, elephant, goat, lion, camel".

Third, the domain "cognitive skills" was modified by dropping two items (Identifies the picture which does not belong, gives culturally appropriate response to: "what would you do if you dropped and broke an egg?"). Four items were added to this domain as follows:

- The child correctly completes analogous sentences such as: horse is big; mouse is-------, fire is hot; ice is-------.
- The child correctly completes a pattern of four colors.
- The child names two animals live on land and two animals live in water.
- The child predicts the result of mixing flour and water.

Fourth, the domain "language and communication" was modified by dropping two items (recognizes word pairs that rhyme or sound similar, identifies which letter is different). The item "understands and follows two steps command" changed to be "understands and follows three steps command".

Fifth, the domain "physical development" was modified by dropping four items and adding three items. The items dropped were:

- Draws a tail on a dog.
- Completes a pattern.
- Runs and kicks a soccer-size ball.
- Marches/moves body to rhythm of simple tune.

The item "Copies two letters and two numbers" changed to "Copies three letters and three numbers". The three items that were added are:

- The child copies the following shapes: circle, square, triangle, rectangle.
- The child writes his name.
- The child skips with alternating feet.

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	.924
Awareness of self and environment	9	.786
Cognitive skills	12	.834
Language and communication	7	.787
Physical development	7	.739
Total score	49	.935

Table 2 shows the reliability coefficient for each domain and for the total scale. The reliability of the domains ranged between .73 and .92; these values were considered acceptable for this study. The coefficient for the total scale was .93, which indicating a high reliability value.

Data Collection

The data for this national survey was collected during the second and fourth weeks of October 2004.Originally, the data was planned to be collected during the fourth week of September and the first week of October. However, modifying the tool and finding the field researchers and training them did not occur in timely manner, as a result data collection was delayed for two weeks. 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 55.7% of children in Jordan are at level 3 of school readiness; 37.9% of children are at level 4 of school readiness; 6.2%

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 for Jordanian children

Level of Readiness	Frequency	Percent
Level 1	4	.2
Level 2	164	6.2
Level 3	1474	55.7
Level 4	1003	37.9
Total	2645	100.0

Table 4 indicates that 55.7% of Jordanian children can be described as almost ready to school. Similarly, 37.9% of children can be described as fully ready to school. However, 6.2% 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 46.5% 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; 38.5% 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; 12.5% of Jordanian children are at level 2 of school readiness which means that their social skills and behavior are emerging; and finally only 2.5% 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	67	2.5
Level 2	330	12.5
Level 3	1230	46.5
Level 4	1018	38.5
Total	2645	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, 47.7%, 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; 39.2% of the children 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; 11.9% of Jordanian children are at level 2 of school readiness which means that their awareness of self and environment is emerging; and finally only 1.2% 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	31	1.2
Level 2	315	11.9
Level 3	1262	47.7
Level 4	1037	39.2
Total	2645	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, 62.9%, are at level 4 of school readiness which means that they are fully ready for school with respect to their cognitive skills; 31.5% 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; 5.1% of the children are at level 2 of school readiness which means that their cognitive skills are emerging; and finally only 2.5% 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	12	.5
Level 2	136	5.1
Level 3	834	31.5
Level 4	1663	62.9
Total	2645	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, 51.1%, are at level 3 of school readiness which means that they are almost ready for school with respect to their language and communication skills; 30.0% 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	40	1.5
Level 2	461	17.4
Level 3	1351	51.1
Level 4	793	30.0
Total	2645	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, 58.6%, are at level 4 of school readiness which means that they are fully ready for school with respect to their physical development; 35.2% 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; 5.8% of the children are at level 2 of school readiness which means that their physical skills are emerging; only.5% 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	12	.5
Level 2	153	5.8
Level 3	931	35.2
Level 4	1549	58.6
Total	2645	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	3	.2	1	.1
Level 2	89	6.6	75	5.8
Level 3	751	55.7	723	55.7
Level 4	505	37.5	498	38.4
Total	1348	100.0	1297	100.0

Table 10 reveals that, in most of the cases, the percentages of males and females level of readiness are almost equal across all levels of school

readiness which indicates that child gender does not play an important role in his or her school readiness abilities. 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	1297	3.32	.583	2643	.890	.374
Female	1348	3.30	.598			

Table (11) indicates that there is no significant differences exist between children's level of school readiness according to their gender. These findings are consistent with the results obtained in the second phase of school readiness assessment.

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	.1	2	.3
Level 2	81	4.0	83	13.3
Level 3	1053	52.1	421	67.6
Level 4	886	43.8	117	18.8
Total	2022	100.0	623	100.0

Table 12 reveals 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 (86%). Furthermore, 43.8% of children who enrolled in kindergarten are at level 4 of school readiness comparing to 18.8% of children who did not enroll in kindergarten. 52.1% of children who enrolled in kindergarten are at level 3 of school readiness comparing to 67.6% 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. 4% of children who were enrolled in kindergarten are at level 2 of school readiness comparing to 13.3% 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 .3% 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	2022	3.40	.570	13.281	2643	.000
No	623	3.05	.576			

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	.4	1	.1
Level 2	8	3.4	73	4.1
Level 3	135	57.7	915	51.1
Level 4	90	38.5	803	44.8
Total	234	100.0	1792	100.0

Table 14 shows that 38.5% of children who were enrolled in public kindergartens are at level 4 of school readiness as compared to 44.8% of children who were enrolled in private kindergartens; 57.7% of children who were enrolled in public kindergartens are at level 3 of school readiness as compared to 51.1% of children who were enrolled in private kindergartens; 3.4% of children who were enrolled in public kindergartens are at level 2 of school readiness abilities as compared to 4.1% of children who were enrolled in private kindergartens; finally, .4% of children who were enrolled in public kindergartens are at level 1 of school readiness as compared to .1% 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	234	3.34	.566	-1.623	2024	.105
Private	1792	3.41	.571			

Table 15 indicates that there is no significant differences 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	4 .2%	0	0	0
Level 2	131 7.0%	18 3.5%	1 1.1%	0
Level 3	1124 60.3%	239 45.9%	32 35.2%	30 71.4%
Level 4	604 32.4%	264 50.7%	58 63.7%	12 28.6%
Total	1863 100%	521 100%	91 100%	42 100%

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, and it is consistent across all categories of family income except in the highest category of income (more than JD 900). 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 50.7% of the children when the family income is between JD300-599 and 63.7% of the children when the family income is between JD600-899. Moreover, 60.3% of the children are at level 3 of school readiness when the family income is less than JD 299 as compared to 45.9% of the children when the family

income is between JD300-599, 35.2% of the children when the family income is between JD600-899, and 71.45 of the children when the family income is more than JD900.

On the other hand, 7% of the children are at level 2 of school readiness when the family income is less than JD 299 as compared to 3.5% of the children when the family income is between JD 300-599 and 1.1% of the children when the family income is between JD 600-899. In addition, Table 16 reveals that .2% 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 revealed 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	1863	3.25	.584
300-599	521	3.47	.565
600-899	91	3.63	.509
900 and above	42	3.29	.457

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	29.632	3	9.877	29.810	.000
Within Groups	832.652	2513	.331		
Total	862.284	2516			

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	-.22*	.000
	600-899	-.38*	.000
	900 & above	-.04	.984
300-599	Less than 299	.22*	.000
	600-599	-.15	.135
	900 & above	.19	.253
600-899	Less than 299	.38*	.000
	300-599	.15	.135
	900 & above	.34*	.018
900 & above	Less than 299	.04	.984
	300-599	-.19	.253
	600-899	-.34*	.018

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 JD600-899 and JD900 and above in favor of JD600-899.

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	2	0	1	1	0	0
	1.2%		.2	.1%		
Level 2	25	36	40	42	10	6
	14.7%	10.8%	9.1%	4.8%	3.1%	1.3%
Level 3	113	215	265	476	167	199
	66.5%	64.8%	60.2%	54.8%	51.5%	44.6%
Level 4	30	81	134	349	147	241
	17.6%	24.4%	30.5%	40.2%	45.4%	54.0%
Total	170	332	440	868	324	446
	100%	100%	100%	100%	100%	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, 17.6% of children whose father is illiterate are at level 4 of school readiness as compared to 24.4% when father's education is lower basic, 30.5% when father's education is upper basic, 40.2% when the father have secondary education, 45.4% when the father have diploma, and 54.0% 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, 14.7% of children who are at level 2 of school readiness their father is illiterate as compared to 3.1% and 1.3% of children with the same level of school readiness when father has a diploma and university degree respectively. Likewise, 1.2% of children with level 1 of school readiness their father is illiterate as compared to .1% 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	170	3.01	.611
Lower Basic	332	3.14	.579
Upper Basic	440	3.21	.601
Secondary	868	3.35	.576
Diploma	324	3.42	.554
University	446	3.53	.526

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	56.814	4	11.363	34.706	.000
Within Groups	842.735	2574	.327		
Total	899.548	2579			

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	.329
	upper basic	-.20*	.009
	secondary	-.35*	.000
	diploma	-.42*	.000
	university	-.52*	.000
lower basic	illiterate	.13	.329
	upper basic	-.07	.681
	secondary	-.22*	.000
	diploma	-.29*	.000
	university	-.39*	.000
upper basic	illiterate	.20*	.009
	lower basic	.07	.681
	secondary	-.14*	.003
	diploma	-.21*	.000
	university	-.32*	.000
secondary	illiterate	.35*	.000
	lower basic	.22*	.000
	upper basic	.14*	.003
	diploma	-.07	.596
	university	-.18*	.000
diploma	illiterate	.42*	.000
	lower basic	.29*	.000
	upper basic	.21*	.000
	secondary	.07	.596
	university	-.10	.287
university	illiterate	.52*	.000
	lower basic	.39*	.000
	upper basic	.32*	.000
	secondary	.18*	.000
	diploma	.10	.287

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	0	1	1	0	0
	.8%		.2%	.1%		
Level 2	41	40	33	36	8	2
	17.3%	12.3%	7.2%	4.2%	1.8%	.8%
Level 3	157	206	290	470	202	108
	66.2%	63.4	63.6%	54.7%	46.2%	40.9%
Level 4	37	79	132	353	227	154
	15.6%	24.3%	28.9%	41.0%	51.9%	58.3%
Total	237	325	456	860	437	264
	100%	100%	100%	100%	100%	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 level of school readiness. According to the table, 15.6% of children whose mother is illiterate are at level 4 of school readiness as compared to 24.3% when mother's education is lower basic; 28.9% when mother's education is upper basic, 41% when the mother has secondary education, 51.9% when the mother has diploma, and 58.3% 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, 17.3% of children who are at level 2 of school readiness their mother is illiterate as

compared to 4.2% and 1.8% of children with the same level of school readiness when mother has a diploma and university degree respectively. Likewise, .8% of children with level 1 of school readiness their mother is illiterate as compared to .1% of children when mother's education is secondary and 0% when mother has a diploma or 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	237	2.97	.603
Lower Basic	325	3.12	.594
Upper Basic	456	3.21	.571
Secondary	860	3.37	.568
Diploma	437	3.50	.536
University	264	3.58	.510

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	81.308	5	16.262	51.040	.000
Within Groups	819.773	2573	.319		
Total	901.080	2578			

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	-.15	.071
	upper basic	-.25*	.000
	secondary	-.40*	.000
	diploma	-.53*	.000
	university	-.61*	.000
lower basic	illiterate	.15	.071
	upper basic	-.09	.402
	secondary	-.25*	.000
	diploma	-.38*	.000
	university	-.46*	.000
upper basic	illiterate	.25*	.000
	lower basic	.09	.402
	secondary	-.15*	.001
	diploma	-.29*	.000
	university	-.36*	.000

secondary	illiterate	.40*	.000
	lower basic	.25*	.000
	upper basic	.15*	.001
	diploma	-.13*	.006
	university	-.21*	.000
diploma	illiterate	.53*	.000
	lower basic	.38*	.000
	upper basic	.29*	.000
	secondary	.13*	.006
	university	-.07	.719
university	illiterate	.61*	.000
	lower basic	.46*	.000
	upper basic	.36*	.000
	secondary	.21*	.000
	diploma	.07	.719

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	1	.1	3	.2
Level 2	55	3.8	109	9
Level 3	757	52.8	717	59.3
Level 4	622	43.3	381	31.5
Total	1435	100.0	1210	100.0

Table 28 shows that 43.3% of children who reside in urban areas are at level 4 of school readiness as compared to 31.5% of children who reside in rural areas; 52.8% of children who reside in urban areas are at level 3 of school readiness as compared to 59.3% of children who reside in rural areas; 3.8% of children who reside in urban areas are at level 2 of school readiness as compared to 9% 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	1435	3.39	.565	2643	7.626	.00
Rural	1210	3.22	.606			

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	2 .2%	2 .2%	0
Level 2	67 6.4%	77 6.1%	20 6.2%
Level 3	629 59.8%	672 52.9%	173 53.6%
Level 4	354 33.7%	519 40.9%	130 40.2%
Total	1052 100.0%	1270 100.0%	323 100.0%

Table 30 shows that 33.7% of children from the North region are at level 4 of school readiness as compared to 40.9% of children who are from the Middle region, and 40.2% of children who are from the South region; 59.8% of children from the North region are at level 3 of school readiness as compared to 52.9% of children who are from the Middle region, and 53.6% 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 6.1% of children who are from the Middle region, and 6.2% of children who are from the South region; finally, .2% of children from the North region are at level 1 of school readiness, .2% 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. It can be revealed that differences in means exist between various locations.

Table (31)

Mean, Standard Deviations According to Geographical Area

Geographical Location	N	Mean	Std. Dev.
North	1052	3.27	.579
Middle	1270	3.34	.597
South	323	3.34	.591

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	3.568	2	1.784	5.133	.006
Within Groups	918.350	2642	.348		
Total	921.918	2644			

Table 32 reveals that the overall result for differences between the different levels according to the variable geographical location was significant (P <.05). To explore the differences between each pair of the levels that included in the geographical location variable the multiple comparison procedure was used and table 33 shows these results.

Table (33)

Multiple Comparisons between Groups in Geographical Areas

Dependent Variable (I) region	(J) region	M. Differences	Significance
north	middle	-.08*	.009
	south	-.07	.162
middle	north	.08*	.009
	south	.00	.993
south	north	.07	.162
	middle	.00	.993

According to Table 33 there are significant differences (P<.05) between north region and middle region in favor of middle region.

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 34 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 (34)

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	.91 (.000)	-.15 (.000)
# of siblings		1	-.16 (.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 34 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 -.16 indicating that the level of readiness decreases when the number of siblings increases.

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

Table (35)

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	3	.3
Level 2	70	7.3
Level 3	604	63.2
Level 4	278	29.1
Total	955	100.0

Table 35 indicates that 63.2% of children in local communities can be described as almost ready to school (level 3 of school readiness). Similarly, 29.1% of children can be described as fully ready to school (level 4 of school readiness). However, 7.3% of the children can be described as ready

to school to some extent, their skills are emerging (level 2 of school readiness); only .3% 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 36 shows that the highest percentage of children in local communities, 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; 30.9% 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; 14.3% 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 2.5% 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 (36)
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	24	2.5
Level 2	137	14.3
Level 3	499	52.3
Level 4	295	30.9
Total	955	100.0%

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 37 revealed that the highest percentage of children in local communities, 45.4%, are at level 3 of school readiness which means that they are almost ready for school with respect their awareness of self and environment; 39.1% of the children 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; 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 which means that they are not ready for school yet with respect to their awareness of self and environment.

Table (37)

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	1.0
Level 2	138	14.5
Level 3	434	45.4
Level 4	373	39.1
Total	955	100.0%

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 38 shows that the highest percentage of children in local communities, 57.6%, are at level 4 of school readiness which means that they are fully ready for school with respect to their cognitive skills; 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; 6.9% of the children are at level 2 of school readiness which means that their cognitive skills are emerging; and finally only .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 (38)
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	6	.6
Level 2	66	6.9
Level 3	333	34.9
Level 4	550	57.6
Total	955	100.0%

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 39 shows that the highest percentage of children, 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; 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; 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 1.9% 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 (39)

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	18	1.9
Level 2	204	21.4
Level 3	514	53.8
Level 4	219	22.9
Total	955	100.0%

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 40 shows that the highest percentage of children in local communities, 59.6%, are at level 4 of school readiness which means that they are fully ready for school with respect to their physical development; 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;

5.3% of the children are at level 2 of school readiness which mean that their physical skills are emerging; and finally, only.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 (40)
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	4	.4
Level 2	51	5.3
Level 3	331	34.7
Level 4	569	59.6
Total	955	100.0%

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 2003-2004. The results revealed that the instrument was reliable and valid to be used in this national survey for school readiness.

This study tried 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. 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 domains of school readiness. Data was collected during the first and second week of October 2004. The national sample of the study consisted of 2645 first grade children distributed all over the kingdom. The over sample that represented the local communities where public KGs have been newly established was 955 first grade children.

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, 55.7% 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; 37.9% 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 are third of the children in Jordan are considered fully ready for school when they enter first grade. Furthermore, the results also showed that 6.2% 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 .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 come from low socio-economic backgrounds, their families have limited education, living in areas that are not served by the private sector, and those children who 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 38.5% 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. 12.5% 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 2.5% 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 39.2% 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, 47.7% 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. 11.9% 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 1.2% 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 62.9% of Jordanian children 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. 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 our preschool early childhood programs and curricula is on cognitive and academic skills. The results also showed that 31.5% of children 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.

Moreover, 5.1% 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 .5% 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. 30.0% 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 58.6% 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 35.2% 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, 5.8% 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 .5% 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 is no significant relationship between child gender and level of school readiness. This finding is consistent with the results of the pilot study that was conducted in the beginning of the school year 2003-2004. This might be an indication of the equal opportunities that boys and girls have and that both genders are exposed to similar experiences in their early years.

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 no significant relationship 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 was not significant. The findings showed that more than 44.8% of the children who were enrolled in private kindergartens in Jordan are fully ready to school as compared to 38.5% of children who were enrolled in public kindergarten.

On the other hand, around 58% of children who were enrolled in public kindergartens are considered almost ready to school as compared to 51% of children who were enrolled in private kindergarten. 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 standard 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 difference 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 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 are significant differences between children's level of school readiness according to geographical region. Those differences were mostly in favor of children who lived in the Middle and the South regions of Jordan. However, there was no consistent evidence that children from the Middle and South regions of Jordan had better level of school readiness except at level 4 where more children in the Middle and South regions considered as fully ready for school than children from the North region. This also might be an indication that more attention should be directed to the North region in regard to the quality of early childhood programs.

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 over all that children in rural areas where KGs have been newly established have lower levels of school readiness than the national sample in general. This demonstrate the need of such areas to quality early childhood programs which is the vision of the Ministry of Education that already started to establish KGs in several girls schools in these rural areas. Data analysis revealed that most children in local communities (63.2%) 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; only 29% of the children have high abilities of school readiness which means that they are fully ready for school comparing to 37% of the children in the national sample. Furthermore, the results also showed that 7.3% 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 .3% 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 lower levels of school readiness abilities as compared to the national sample with respect to social skills and behavior. Results revealed that 30.9% 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 38.5% of the children in the national sample. 52% 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 46% of children in the national sample. 14.3% of children in local communities are still developing their social skills and behaviors comparing to 12.5% 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 2.5% 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 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. The quality of early childhood programs and the community support system at large. 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 39.1% 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 39.2% of children in the national sample. Moreover, 45.4% 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 47.7% of the children in the national sample. In addition, they should have minor difficulties in coping with school in terms of their awareness of self and environment and have good adaptation skills. 14.5% of children in local communities are still developing their awareness of self and environment in compared to 11.9% 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 1.2% 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 lower levels of school readiness as compared to the national sample with respect to their cognitive skills. Results revealed that 57% 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 62.9% 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 34.9% 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 31.5% 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, almost 7% 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 5.1% of the children in national sample. On the other hand, around .6% of the children are considered not yet ready for school in terms of their cognitive skills as compared to .5% 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 less developed language and communication skills as compared to children in the national sample. It was found that 53.8% 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 51.1% 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 22.9% of children in local communities are considered fully ready to school with respect to their language and communication skills as compared to 30.0% of the children in the national sample; these skills are well developed in their repertoire and already reached the mastery level. Furthermore, 21.4% 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 2% of children in local communities are considered not ready yet for school in terms of their language and communication skills as compared to 1.5% 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, 59.6% 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 58.6% of children in the national sample. It was also shown that 34.7% of the children are considered almost ready to school in terms of their physical skills as compared to 35.2% 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, 5.3% of children in local communities are still developing their physical skills as compared to 5.8% 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 .4% of children in local communities are considered not yet ready for school in terms of their physical development comparing to .5% 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.

Recommendations

Specific Recommendations:

- It is recommended that the preparations for future surveys should start early, at least two months in advance. This will give the researcher enough time to find qualified field researchers and train them properly in timely manner and conduct the survey on time.
- It is recommended to have larger sample in future surveys, especially the national sample. Taking into consideration that there are approximately more than 140.000 first grade students at the kingdom schools. Thus, it is advised to have about 5000 first grade students as the sample for future surveys that are scheduled to be conducted in years 2006 and 2008.

General 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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