AN INVESTIGATION OF THE VIEWING BEHAVIOR TOWARD 
IPTAH YA SIMSIM BY KUWAITI KINDERGARTENERS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

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* * * * *

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This work is dedicated to my wife, Moudi; and my two sons and daughter, Abdullah, Abdullrahman, and Marium.
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CHAPTER I

INTRODUCTION

1.1 General

For a developing country like Kuwait, with limited resources (mainly the crude oil), the process of advancement is crucial. It is an investment in human resources. For this reason, money, time, and effort have been directed toward developing the human being.

Kuwait has made remarkable progress in education, the most important pillar in the process of development. The rapid growth in the number of students and teachers in the last thirty-five years is a major indication of this progress.

The total number of students in public schools increased from 4,665 in 1948-49 to 334,942 in 1982-1983, and the number of teachers rose from 198 to 25,137. During this same period, the population increased from about 100,000 to 1,565,000 (Central Statistic Office, 1983, p. 286; Cairo Demographic Center, 1973, p. 383).

In 1965 the government issued a law of compulsory education according to which the father is subject to
imprisonment if he refuses to send his 6 year old child to school. Compulsory education covers the ages from 6 to 18 year. That is to say, from the first grade until the end of high school.

Among the free educational services, there are kindergartens, elementary, intermediate, and high schools; technical, religious, art, public health, teacher training, commercial, and special education institutes. There is also one university and a technical university is projected for the future.

1.2 Illiteracy in Kuwait

As usually happens in reality, dreams and aspirations don't become true as easily as one hopes. The process of development is hindered by certain obstacles that make it difficult for the country to reach the more advanced world and to achieve the nation's ultimate goals.

The principal hurdle impeding the country's progress is the high percentage of illiteracy. According to the 1980 census, 48 percent of the people in Kuwait over the age of ten are either totally illiterate or can barely read and write (Central Statistical Office, 1983, p. 42).

This relatively high percentage of illiteracy has had an impact on the social and educational climate in Kuwait.
Several studies have shown that illiteracy of parents is associated with their children's lack of progress in both educational and social development.

A study done by the Department of Social and Crime Research in the Prime Minister's office showed that the percentage of illiteracy among the residents of three rural districts was 98.4 percent for females and 48.5 percent for males. The study also indicated that the problem of illiteracy has extended to the newest generation, where 26.5 percent of the children (over 10 years old and less than 18 years old) were either totally illiterate or could barely read and write (Al-Khateeb, 1981, p. 28).

Another study conducted by the Department of Social Research in the Ministry of Education showed that student dropouts and repetition of grades are frequent in rural areas where the illiteracy percentage is higher.

These findings suggest that the social and educational settings in Kuwait are directly affected by the problem of illiteracy. It seems to be a damaging factor for the country's most valuable resource—the growing children.
1.3 *Early Childhood Programs in Contemporary Kuwait*

Orientation programs are developed periodically to alert parents to the importance of education for themselves and their children. As a result of these programs, the number of adults enrolled in adult education centers jumped 60 percent in the year 1982-83 compared with 1980-1981 (Central Statistical Office, 1983, p. 302).

Popular and governmental efforts are directed at establishing a healthy environment for young children. During the past few years, many government offices and public institutes have been established for the purpose of developing childhood services in Kuwait, such as:

- Department of Youth and Childhood, Ministry of Social Affairs and Labour
- Department of Social and Psychological Services, Ministry of Education
- Department of Child Care, Ministry of Public Health
- Kuwait Society for the Handicapped
- Kuwait Society for the Advancement of Arab Children
- The Society of Family Development.

These and other efforts are aimed toward the development of young children in the country. One important
institution that is intended to directly develop the young child is the Kindergarten.

Kindergarten education is a free service for the Kuwaiti children. For the non-Kuwaiti children, there are private kindergartens with reasonable tuition fees. Parents in both cases are urged to send their children to preschool institutions.

Department of Kindergartens statistics showed that approximately 30 percent of the children who are between the ages of 3-6 years attend kindergarten (calculated using 1980 Census, and Annual Statistical Abstract, 1983). Even with this fairly low percentage, Kuwait is leading the Arab World and the Third World in pre-school services. For instance, only 2 percent of the 12 million preschoolers in the Arab World attended any kind of formal pre-school education in the year 1976 (Rhida, 1978).

The statistics also showed that 3-year old children formed 30 percent of the total population that attended kindergartens in the scholastic year, 1981-82. Four-year old children represent 42 percent, while the remaining 28 percent were 5-year olds. These percentages fluctuated from one district to another, and while the City of Kuwait and its suburbs seem to have more children under 4 years old in Kindergarten, the rural districts', people prefer
to send their children to the Kindergarten when they are over 4 years old (Al-Nashef, 1982).

Efforts were made by educators and social scientists in Kuwait and other Gulf and Arab states to overcome the problem of low attendance of the pre-school programs.

In an early article, an educational consultant wrote:

(...)"Until relatively recently, most of the mothers in several Arab countries, and especially in the rural areas, were illiterate; things available to children to play with were few, and access to books was limited to the few. Parents and especially mothers, became target groups for education in child-rearing through health and social centers and through mass media, especially television" (Othman, 1979, p. 2).

In the year 1976, the Arab Fund for Social and Economical Development called for a caucus on the issue of pre-school child development. Numerous Arab educators, mass media officers, and social planners attended workshops and seminars of that caucus. Experts subsequently agreed on the adoption of the revolutionary children's American program, "SESAME STREET", among the feasible and economical solutions for the problem of low attendance of the pre-school programs (Rhida, 1978).
1.4 **IPTAH YA SIMSIM: The Emergence**

As to the actual implementation of **IPTAH YA SIMSIM**, the Arabian Gulf States Joint Program Production Institution was financially capable and willing to sponsor such an expensive project.

(...) An agreement was signed with the Children's Television Workshop (C.T.W.), Producers of "SESAME STREET" to provide the Gulf institution with expert advice in planning and producing the Arab T.V. series. It was decided that "**IPTAH YA SIMSIM**", which means: Open Sesame, will be produced in three stages:

1. **The pre-production research:** to identify basic educational needs for Arab children below the age of six years old.

2. **The production of a pilot reel for testing on children in different Arab countries,** and ultimately a pilot program for critical review by educators, sociologists, psychologists, and linguists, who were all invited to a seminar from different parts of the Arab world.

3. **The actual production of the series...**
   (Othman, 1979, p. 2).

Work was begun in August, 1977. The research team, headed by an educator, also included a linguist and a psychologist. All three were on the faculty at Kuwait University.

Four representative cities for the various Arab countries were selected, and research was started in
the kindergartens and pre-school institutions in those four cities. Children in the 3-6 age group representing different socioeconomic levels were used in the study.

The three problem areas were: language, baseline testing, and attention and appeal testing. Based on the research results, the proposed curriculum objectives for the program were identified. The final agreement on the program's goals and objectives was made in a panel seminar of Arab and C.T.W. educators. The ten area goals comprising 147 specific goals are shown in Table 1.

In September 1979, the program was broadcast in Kuwait for the first time. In a few months, "IFTAH YA SIMSIM" became one of the popular and successful programs for children in many Arab states which included Kuwait, Bahrain, Iraq, Oman, Qatar, Saudi Arabia, United Arab Emirates and several others.

To study the impact of the program, the Arabian Gulf States Joint Program Production Institution (the producer), assigned a research team to evaluate the effect of the program on the Gulf States' preschoolers. According to records of the production institution, the research team had faced various
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<th>Area</th>
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<td>1. Language, Symbols and Cognition</td>
<td>40</td>
<td>1560 mins.</td>
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<td>2. Physical and Mental Hygiene</td>
<td>10</td>
<td>390 mins.</td>
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<tr>
<td>3. Economic and Social</td>
<td>10</td>
<td>390 mins.</td>
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<td>7. Aesthetics</td>
<td>3</td>
<td>117 mins.</td>
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<tr>
<td>8. The Arab World</td>
<td>10</td>
<td>390 mins.</td>
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<td>9. Humanities</td>
<td>3</td>
<td>117 mins.</td>
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<td>10. Spirituals</td>
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<td>156 mins.</td>
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problems such as the lack of cooperation of government officers and a large number of dropouts in the sample (Al-Rumaihi, no date). However, the task was completed but no published results are available. It seems that there is no research data available on the impact of the program in the literature five years after its initial broadcast.

1.5 Statement of the Problem

Since the broadcast in 1979, "IFTAH YA SIMSIM", a television series of 130 half-hour programs combining entertainment and education, has not been studied in Kuwait. The program has had an impact on the society in that it has attracted pre-schoolers and other children. However, there is no available data about who views the program among Kuwaiti children, at what intensity they view it, and what the factors are that affect the viewing behavior of the children.

Research on SESAME STREET, the original American Program, has shown that children who view the program developed several skills such as reading skills and the ability to write one's name (Ball and Bogatz, 1970). If young children are regular viewers, the program may
be helpful in teaching them letters and numbers (William, 1971). It has also been shown that children do benefit from the social settings in the program. Panos (1981) presented evidence that children who viewed *SESAME STREET*, imitated characters and children in the show, interacted and cooperated with parents and other children, and used positive and negative reinforcers.

The previous discussion and many other research findings have suggested that the degree of achievement of the program's objectives was positively correlated with the degree of viewing of the child.

Spaner (1976) investigated some ignored factors which relate to the atmosphere around the typical *SESAME STREET* viewers. He found that some of the environmental variables, for example, the mother's level of education, directly affect the intensity of viewing of the program.

This study was intended to examine some environmental and developmental variables that were thought to have some effect on the viewing behavior. The viewing behavior in this study was assessed by three variables; the kindergartener's score on a recognition test that measured the child's familiarity with the show's
characters, a parental report on the child's frequency of viewing of the show, and whether the child's viewing is supervised by an adult or not.

Eleven developmental and environmental variables were investigated: child age, child sex, birth order, number of siblings, mother's age, father's age, mother's level of education, father's level of education, parent's attitude toward the program, teacher's evaluation of the child's performance in the classroom, and teacher's attitude toward the program.

1.6 Purpose of the Study

The purpose of this study was to investigate the possible relationships between some aspects of the viewing behavior toward *IFTAH YA SIMSIM* by Kuwaiti kindergarteners, and a selected set of developmental and environmental factors.

Western research results of "SESAME STREET" indicated that children who viewed the program regularly gained much more from it than those who did not watch the program or who watched it only occasionally. Some of those findings emphasize the direct relation between the intensity of viewing and the achievement of the objectives of the program (Carrico, 1971).
Research also showed that there are some developmental and environmental factors that affect the degree of the child's attachment to the program (for example, Spaner, 1976).

Identification of the most important factors among these environmental and developmental variables may assist the producer of "IFTAH YA SIMSIM", or other educational television programs in the comprehensive planning for the future segments of their programs.

If these influential variables are connected with the home environment, the research findings may be useful in strengthening the relationship between the pre-school organizations and parents, thereby enhancing the Kuwaiti home environment.

1.7 Research Questions

1. Which of the independent variables from a selected set of developmental and environmental variables explain the largest proportions of variance in recognition scores—one measure of the degree of viewing of IFTAHA YA SIMSIM by the Kuwaiti kindergarteners?
2. Which of the independent variables from the selected set of developmental and environmental variables explain the largest proportions of variance in frequency of viewing--another measure of the degree of viewing of *IFTAH YA SIMSIM* by the Kuwaiti kindergarteners?

3. Which of the independent variables from a selected set of developmental and environmental variables maximally discriminate between kindergarteners who watch *IFTAH YA SIMSIM* with adults supervision and those who watch it without adult supervision?

4. What is the nature, practical importance, and significance of relationship between the best linear combinations of the set of dependent variables (recognition scores, frequency of viewing, and supervision) and the linear composites of the set of developmental and environmental variables?
1.8 Hypotheses

As a purpose for all scientific inquiry, theory is enhanced through the formulation and testing of hypotheses about variation in variables that characterize phenomena. The null hypothesis states that in the population, the proportion of variance in a dependent variable or a linear combination of multiple dependent variables, accounted for or explained by a linear combination of independent variables is zero.

Based on the theoretical requirements for this study, the following null hypotheses have been formulated:

1. For testing the variation in the dependent variable, recognition score, that is explained by the eleven developmental and environmental variables:

\[ H_0: R^2_{y.12...11} = 0 \]
\[ H_a: R^2_{y.12...11} \neq 0 \]

2. For testing the variation in the dependent variable, frequency of viewing, that is explained by the eleven developmental and environmental variables

\[ H_0: R^2_{y.12...11} = 0 \]
\[ H_a: R^2_{y.12...11} \neq 0 \]

3. For testing if there is a linear combination of the developmental and environmental
variables that discriminate the adult-supervised group of kindergarteners from the non-adult supervised group.

\[ H_0: \ D_y.12...11 = 0 \]
\[ H_a: \ D_y.12...11 \neq 0 \]
where \( D \) is the discriminant function.

4. For testing the relationships between the best linear combinations of the set of dependent variables and the linear combinations of the set of developmental and environmental variables.

\[ H_0: \ R_{C_i} = 0 \]
\[ H_a: \ R_{C_i} \neq 0 \]

where \( i = 1, 2, 3 \), which refers to the 3 possible sets of linear combinations.

1.9 **Definition of Terms Used**

The following terms or phrases were used in this study and are defined as follows:

**Pre-schoolers**

This term is used by educators in Kuwait to describe children who are 3-6 years old. This age-group is the only one eligible to attend the kindergarten program.
The Kuwaiti Child

For the purpose of this study, the Kuwaiti child is defined as: The child who has at least one parent of Kuwaiti nationality. To be accepted in the governmental kindergarten education, the child must have one parent of Kuwaiti nationality.

Kindergarten

An educational institution that receives children from ages 3-6 years old. Kindergarten education is not considered to be compulsory in Kuwait. However, it is highly recommended.

Arabian Gulf States Joint Program Institution

An institution that was created by the oil countries in the Arabian Gulf Region. Those countries were: Bahrain, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates. The center for this institution is in Kuwait, and it produces cultural and educational television and radio programs that are distributed over all the Arab countries.
IPTAH_YA_SIMSIN

A television series combining entertainment and education directed to 3-6 year-old children. The format of the show is a television magazine which uses a variety of techniques, mainly: live-action films, animation, puppets, humor, music and studio production. The series consists of Arab-selected goals and objectives, performers, language and culture.

Recognition Score

A dependent variable which was obtained by measuring the child's ability to identify six human characters and six muppets of IPTAH_YA_SIMSIN show.

Frequency of Viewing

A dependent variable which was based on parents' report on number of times their pre-schooler watched the show per week.

Supervision Variable

This is a categorical variable. One category of this variable represents the pre-schoolers who viewed
IPTAH YA SIMSIM with adult supervision while the other represents those who viewed the show without adult supervision.

1.10 Delimitations of Study

The contributions that this study might be expected to make with regard to pre-school education are subject to the following delimitations:

1. This study is limited to four selected Kuwaiti districts that are believed to form a representative cross-section of Kuwaiti residential districts.

2. It is restricted to a sample of 318 pre-schoolers within these four districts which were randomly selected according to a stratified random sampling technique.

3. The study dealt only with children who had at least one parent of Kuwaiti nationality. Governmental kindergartens are restricted to that population of pre-schoolers.

4. The parent questionnaire was limited to parents of children in the sample.
1.11 Organization of the Study

This study consists of five chapters. The first chapter is an introduction. It deals with the settings of the educational and social systems with regard to early childhood, and sets the ground work for the need for the study. It also includes a statement of the problem, a purpose of the study, research questions, hypotheses, definitions of terms used and delimitations of the study.

The second chapter consists of a review of selected literature connected with pre-school educational television. It is divided into three main areas: The pre-school child, "IFTAH YA SIMSIM", and Environmental and Developmental variables that affect children's viewing of educational T.V. programs.

The third chapter discusses the methods and procedures used to conduct the research study. It presents the sampling technique, dependent and independent variables of study, instruments, data collection procedures, and data analysis techniques employed.

The fourth chapter presents the analysis of data and the results of testing operational hypotheses of the study.
The last chapter consists of a summary of the findings, a discussion of findings, conclusions, and recommendations for further research.
CHAPTER II
REVIEW OF LITERATURE

This review is a three-part discussion of research and literature related to the present study. The first part is a summary of selective theories in the area of child development and their applications in the area of educational communication for pre-schoolers. The second part discusses the history of the educational program, IPTAH YA SIMSIM, for Arab children. The third part examines prior studies dealing with the variables under study and their relationship to the viewing behavior of pre-school children.

2.1 Selective Theories in the Area of Developmental Psychology and Their Application in Preschool Television

There are two areas of controversy among developmental psychologists in regard to children's knowledge about the world. (First, scholars disagree about which aspects of the child's knowledge to study...The second disagreement concerns the actual source of knowledge.) (Gardner, 1982, p. 91).
In the cognitive structural approach, the focus is on the child's understanding of physical properties of objects, temporal and spatial relationships, and the laws of cause and effect. The source of knowledge this school of thought refers to is the interaction between the child's current ways of knowing and the aspects of the external world that the child perceives and understands.

The other approach is supported by the environmental-learning scholars (Gardener, 1982). This approach stresses the importance of specific features of the child's environment and specific events that the child experiences. All knowledge, according to this theory, is a reflection of the environment's entities.

How is the pre-schooler perceived in each approach? And what are some of the applications to educational communication? The researcher presents two examples representing the two schools of thought in order to study their views on the pre-schooler, and their educational communication applications.

Piaget Theory of Cognitive Development

From the above perspective, Piaget's theory of development is an example of the cognitive structural approach. In this theory, both the individual and the
environment, have effects on the developmental process. The interaction of the current abilities of the internally built potentials of the individual with the environmental entities, results in the emergence of the behavior.

Basically, the child is born with some very simple structures (schemata), such as reflexes, with which he/she can capture the stimuli. When the child is faced with a new stimulus, he/she will utilize the structures that are available to adapt to the world. To Piaget intelligence is "a continuous process of adaptation to the environment." (Sturm and Jorg, 1981, p. 14)

When the child can comprehend this new experience using an existing structure, he/she is simply assimilating the experience. When the child develops a new structure in order to adapt to the new experience, he is accommodating the initial scheme to fit in the new object.

For Piaget, assimilation and accommodation are inseparable: he describes intelligence as representing a balance between assimilation and accommodation. The process of accommodation is painful in its early stages. However, after assimilating various stimuli and objects with this new structure, the child experiences pleasure. According to Piaget, the optimal understanding occurs when neither process dominates, but rather when both are in balance or equilibrium. The point of equilibrium lies
halfway between accommodation and assimilation, that is, the early stages of accommodation are hard and unpleasant, but excessive assimilation leads to boredom.

Piaget considers that the child goes through four major stages which are qualitatively different and which hierarchically unfold one after another in a predetermined and universal sequence.

The four major stages are sensory-motor (0-2 years), pre-operational (2-7 years), concrete-operational (7-11 years), and formal-operational (11 years on). The age intervals are not rigid and individual differences in reaching the various stages are wide ranging.

Sensory-motor Stage (0-2 years old): The nature of intellectual functioning processes are basically motor activities and sensory impressions from which mental operations are later derived. The infant in this stage learns to differentiate itself from the external world. The infant learns that objects exist even when they are invisible.

Time and space come to be perceived independently of the infant's own actions. The infant starts to learn the beginnings of cause and effect relationships. Manipulation of objects, visual, auditory, and tactile stimulation are important for the infant in order to make the most out
of this sensory-motor stage upon which the higher stages rest.

**Pre-operational Stage (2-7 years):** The pre-school child falls in this stage. In contrast to the preceding stage of sensory motor operations where the child's thought was directly related to action, the child now carries out actions in his/her mind. The capability of manipulating images results in the start of the symbolic schemata, so the child is able to use speech, gestures, fantasy play, etc.

Children at this stage are characterized by certain structures, such as: egocentrism, irreversibility, animism, and anthropomorphism. Egocentrism means the inability to place oneself in someone else's perspective. Irreversibility means the operations in the mind of the pre-schooler do not have an inverse. Animism and anthropomorphism are related to the fantasy thinking of the child. In the first, the child attributes life to non-life objects, while the second limitation is the attribution of human characteristics to animals and objects.

Later in this stage, at approximately age four, the pre-schooler starts to shed these structures gradually and reaches the period of intuitive thinking. At this level, and despite the development of certain mental operations
(such as ways of classifying, quantifying, or relating objects), the child cannot explain the reasons for solving a problem that involve one of these operations.

Concrete-operational Stage (7-11 years old): The child in this stage can think logically even if at a concrete level (logic based on objects and states that can be manipulated). The child can appreciate that some aspects of objects remain the same despite changes in appearance. He/she can understand relationships between classes and subclasses; however, he/she is unable to solve problems at an abstract level so visual aids and concrete demonstrations are important at this stage.

Formal-operational Stage (Beyond 11 years): The adolescent can reason on purely verbal or logical statements, tests hypotheses systematically, constructs a whole system of belief, becomes actively engaged in the world of ideas, and reflects on his/her own activity of thinking.

The Social-Learning View

As stated earlier, this view perceives the individual like a mirror that reflects the environment. The complex responses of the individual when analyzed to their origins can be directly related to certain antecedents in the environment (Berzonsky, 1981).
Two central concepts of learning theory are contiguity and reinforcement (Biaggio, 1981). Contiguity means learning by association; and it states that a stimulus acquires the same properties as another stimulus by mere contiguity, i.e., by being presented together. Reinforcement states that the behavior is learned as its consequences are rewarding or positive.

There are two types of association or conditioning: classical conditioning, and operant or instrumental conditioning. In classical conditioning, one begins with a reflex reaction (unconditioned response) and accompanies whatever stimulates it naturally (unconditioned stimulus) with some other (conditioned) stimulus so as to ultimately get a conditioned response.

In instrumental conditioning, one reinforces a behavior that the individual can already make (an operant), in order to increase the probability that the behavior will be repeated. Both kinds of conditioning utilize the concept of reinforcement (reward and punishment) to increase or extinguish behaviors. However, operant conditioning puts more emphasis on reinforcement, through the employment of schedules of reinforcement. Schedules of reinforcements are prescribed plans that rule the conditions under which reinforcement will, or will not, be provided. The principle that these schedules are
based on, states that the way in which the reinforcement is presented determines in large measure the strength of the resulting conditioning (Sprinthall and Sprinthall, 1981). Skinner has identified five major scales of reinforcement:

- **Continuous Reinforcement**: where every response of the individual is reinforced.
- **Fixed Ratio**: where the reinforcement takes place only after a fixed number of operants have been given forth.
- **Variable Ratio**: where the reinforcement takes place after a variable (unknown) number of operants.
- **Fixed Interval**: The schedule here is based on a fixed-time interval.
- **Variable Interval**: The reinforcement comes after a certain interval of time, but the length of time is unknown by the individual.

Another characteristic of the learning theory is its emphasis on the role of imitation in personality and social development. Miller and Dollard (Biaggio, 1981) considered imitation to be a special case of reinforcement (i.e., people imitate because they are vicariously reinforced when they watch a model receiving reinforcement
for some behavior performed, or because they have been reinforced for matching a model's behavior), p. 21.
Bandura (Gardner, 1982) suggested that the individual can learn a great deal merely by observing sequences of behaviors by others, grasping the effects of these behaviors on the person involved, then at a later time performing these learned behaviors.

The Preschool Child and Educational Television

What can we learn from the previous discussion that would be important for the pre-school television programs? As mentioned earlier, the development of the child is a result of the interaction between the internal readiness or maturation of the child and the suitable learning experiences provided by the environment. Any educational experience that is intended to be comprehensively grasped by the child should match his/her psychological and physical maturation. Educational television is no exception, but how does this apply to programs suited for the pre-schoolers?

The first thing that we learn is that the program content must be such that the child can accommodate it without too much strain. If the educational material is beyond the pre-schooler's comprehension and interests, the
process of accommodation won't even start. When the material is too easy, it may be quickly assimilated then becomes boring.

Considering the short attention span of the pre-schooler, the producers of pre-school programs should emphasize the social and cultural context and the format of presentation. By matching the social and/or the cultural settings of the target pre-schooler audience, a context that enhances the learning process is provided.

Lesser (1974) argued that the child learns from the format as well as the content of the program. Short segments, zoom-in techniques, and slow motion techniques are some examples of the format structures utilized in SESAME STREET. All of these techniques are intended to enhance children's understanding of the program's content. The program producer should be aware that the format, if not well presented, may have some negative impact on the audience, and it may attract the egocentric pre-schooler, and interfere with the process of learning.

The second thing we learn concerns the limitation of the cognitive structure in the pre-schooler which should guide Educational Television producers in producing films for children at this stage. Cartoons and muppet shows in which animals or even inanimate objects, such as letters
and numbers, act as human beings capture the pre-schooler's attention.

Social interaction with family members, caregivers, teachers, and peers is essential for the egocentric pre-schooler. The child struggles through a better understanding of people's motives and feelings, as he/she interacts with others. The absence of interaction is one of the deficiencies of the use of television as a teacher, since it is a one-way process. Therefore, supervision of the children while viewing educational television may be crucial to learning (Honig, 1983)

Third, the educational television experts should consider the implications of imitation. The child at this period is capable of imitating positive social and anti-social values and behavior. Thus a list of desired social behaviors may be thought of and performed by a lonely character of the educational program. For example, Lesser (1974) stated:

...on SESAME STREET we show children asking questions as a way of acquiring information, talking together until they solve a problem, or simply enjoying the feel and the sound of words. Since modeling is strengthened through children's identification with the character they are watching, we decided to introduce varieties of speech forms on the program, including some dialect and a considerable amount of informal street language. For similar reasons, we also showed several forms of Spanish speech and culture." (p. 85-86)
2.2 SESAME STREET and IPTAH YA SIMSIM

The 1960s were the years of the war on poverty in the United States. Joan Coney, a television producer, was among those who were heavily involved in this war. Her battle ended up with a proposal on the feasible utilization of television in teaching pre-school children, especially those who belong to the lower social class. By late 1966, the proposal was submitted to the Carnegie Corporation for possible funding. The proposal was funded by Carnegie, the Ford Foundation, Head Start and other private and public sources in the amount of eight million dollars for a two-year experimental period covering 1968-1970 (Carrico, 1971). This period was designed to include 18 months of pre-broadcast planning and 6 months of actual programming of a children's show that combined entertainment with education. This show was later given the title SESAME STREET.

From the first day, SESAME STREET was based on scientific research. A research department was established within the Children's Television Workshop (CTW), an independent production company, which produced the program, to supply the production staff with essential information with regard to the needs, interests and capabilities of the target audience. The CTW research
team was essentially engaged in formative research. The formative research involved the planning, the experimental broadcast, and the final broadcast of the program.

Several seminars were held in the Summer of 1968. Participants in the seminar included teachers, psychologists, sociologists, filmmakers, television producers, writers of children's books, and advertising personnel. The net result of these seminars was a proposed list of educational goals for the prospective program. These proposed goals, and subsequent recommendations of the CTW board of advisors were reviewed in a series of staff meetings after which a list of behavioral instructional goals emerged.

There were two main reasons underlying the behavioral format of the program's goals. First, to help the producer in designing and implementing segments of the show. This was done through a writer's manual which listed a range of situations that are familiar to young children and gave advice about various teaching strategies to be used. The second reason was to help design an achievement test, which would evaluate to what extent these goals were realized by the target audience.

After the completion of each season of SESAME STREET, the instructional goals were evaluated in order to
determine whether the curriculum was in need of revision or expansion.

Essentially, the goals of the program covered several areas such as reading symbols (letters), numerical symbols (numbers and numerals), geometric forms (identifying shapes), body parts, cognitive area (relations, classification, etc.) affective area and social development. The shows now include segments that deal with Spanish-speaking children, the handicapped, and mentally retarded children.

After the completion of the first season of *SESAME STREET*, Educational Testing Services (ETS)—an independent agency for testing and evaluation services—designed and planned a summative evaluation for the program. A sample of pre-schoolers was selected from widely separated areas of the United States. Children were assigned to control and viewing conditions. The study took place in schools and households; two television sets were provided to each experimental classroom while the control classroom had no sets. Before the research, parents and teachers were oriented and asked to supervise the children's viewing (Ball and Bogatz, 1970)

A pretest was administered to the total sample. The treatment extended over a period of six months after which the posttest was administered.
The original plan to compare viewers with non-viewers turned out to be infeasible, because of the contamination of all the sample. Due to the rising popularity of the show, all children of both control and experimental groups, whether in households or classrooms, watched the program. The researchers then had to decide on a new orientation for the research plan.

The sample was then divided into quartiles, each quartile contained 25 percent of the sample. The basis for decision was the amount of viewing. $Q_1$ rarely watched SESAME STREET, $Q_2$ watched two or three times a week, $Q_3$ watched four or five times a week, and $Q_4$ watched more than five times.

The researchers assessed the average differences between pretest and posttest scores in the four quartiles. The overall results showed that the more that children watched the program, the more they tended to improve their total score (Ball and Bogatz, 1970).

A later study done in 1972 by the same research team provided more information. By that time, new objectives had been added to the list of the behavioral goals of the program such as social and effective goals, and simple skills in Spanish. A new sample was selected, in addition to a group of children from the original sample. Both of the two subsamples were taken from urban disadvantaged
areas. The results essentially were the same as the previous study. Children who viewed *SESAME STREET* more frequently showed more improvement (Liebert, 1982)

Thomas Cook and his associates (1975) suggested that the results of the ETS study were not reliable because parents and teachers of the experimental group were encouraged by members of the research team to supervise the viewing of their children. They argued that this encouragement does not take place in real settings. The researchers also argued that the achievement between the advantaged and the disadvantaged children might be widened rather than narrowed by the program, because the frequency of viewing of the advantaged children was equal to the disadvantaged children if not greater. The difference in the quality of viewing due to the supervision of the well-educated middle class parent of his child's viewing and the lack of supervision in case of the disadvantaged parent could also contribute to this gap. Cook, et. al. concluded that these results suggest that the program does not fulfill its mission, which is to narrow the educational gap between social classes early in the life span.

Until 1976, *SESAME STREET* had been broadcast in its original English language version in more than 40 countries and territories outside the United States including countries in the American continent such as
Canada, or in Europe, Africa, and New Zealand. It also had been broadcast in eight foreign language adaptations in 19 countries (Plamer and others, 1976)

The foreign adaptation essentially follows one of the two formats: the OPEN SESAME format and the Cooperation format. The first adaptation is the OPEN SESAME format, which consists of a continuous blocks of segments, usually running either about 13 or 27 minutes—all selected from the original U.S. version and presented in English or in the language of the adapting country.

In the second format, approximately half of the program's materials are taken from the original American program, while the other half is produced locally. Extensive local adaptation of this kind had been introduced in seven countries by 1978. One of the countries producing the program IFTAH YA SIMSIM was Kuwait (Plamer, 1978)

As shown in Chapter I, IFTAH YA SIMSIM was the feasible and economic solution for improving the attendance of Kuwaiti children in pre-school programs. And as in the United States, the disadvantaged children are the target population to whom the program is aimed.

The formative research done by the team of the Arabian Gulf States Joint Program Institution, the producer of the program, was mainly concerned with the
pre-production and the production phases of the experimental shows.

Al-Rumaihi and associates (no date) describe the summative research for *IFTAH YA SIMSIM*. The study sought to answer two questions. The first question was concerned with the assessment of the possible impact of the show on pre-schoolers in the cognitive, verbal, and affective domains. The second question dealt with the amount of variance in the posttest explained by a selected set of variables such as age group, socioeconomic status, country of residency, etc.

The target population of the summative research consisted of pre-schoolers between the ages of 3-6 years in six Arab countries: Bahrain, Iraq, Kuwait, Qatar, United Arab Emirates, and Yemen Arab Republic. Sample selection took place in kindergartens and households in different districts of the participating countries.

The sample size during the pretesting stage was 1,395 pre-schoolers; however, according to the records, a great number dropped out during the treatment. The sample was representative of the population in terms of residency areas (rural-urban) and children's sex.

For purposes of comparison, the sample was divided into six age groups using intervals of six months. They were then given a pretest, shown several shows of *IFTAH YA*
Simsim, and given a posttest. Parental attitudes toward the program were measured.

The director of the research team listed several threats to the internal validity of the study, such as: lack of research competency among research assistants and government officers, lack of unified strategy for sample selection, and the high mortality rate in the sample.

The research team worked hard to overcome these problems and eventually completed the study. However, there is no documentation available.

In Kuwait, the Ministry of Education assigned a committee to evaluate the program's educational impact on children. The committee consisted of a group of educators headed by a professor from the College of Education at Kuwait University. They critically reviewed ten selected shows, using the original set of behavior goals and objectives of Iftaḥ Ya Simsim. In their final report, the committee members mentioned the positive aspects and the negative aspects of the program along with their recommendations for future improvement of the program.

Among the positive points, they mentioned the use of MSA (Modern Standard Arabic) Language for the program, the preparation and the scientific basis of the program's goals and objectives, the suitability of the time period
of the show, the sense of humor, and the variety of well-produced segments of the show.

Among the negative remarks about the program, they mentioned the inclusion of too many segments in a single show, the excessive repetition of some segments, the misuse of language in some dialogues, the use of some foreign words that have synonyms in the Arabic language, and too little emphasis on the religious goal (Department of curricula, 1982)

As far as the impact of IFTAH YA SIMSIM beyond Kuwait is concerned, the program is currently being broadcast in 16 Arab countries. Some of these countries have had the program since 1979 when it was broadcast for the first time, while others aired it after its popularity expanded. No available research about the effect of the program on those countries was found.

From the above discussion, SESAME STREET and IFTAH YA SIMSIM share several aspects in their history and their current situations. For both programs, there was a national need for them as feasible and economic solutions to improve the attendance of children in pre-school programs. The target population for both programs is the pre-school children. In recent additions of IFTAH YA SIMSIM, a few segments were directed to children between 6 and 9 years old.
However, it should be mentioned that there are several differences between the social contexts of the United States and Kuwait, and the projection of these difference on the educational settings in the two countries. For example, while the inclusion of religion in the public school curriculum is against the constitution in the United States, spirituality was one of the areas covered by IFTAH YA SIMSIM's original behavioral objectives.

Another difference in the two contexts is the lack of entertainment devices in Kuwait which would increase viewing by children from different socioeconomic levels in Kuwait. Since Kuwait has only two television channels, and since only one station starts early in the afternoon, there seems to be little competition for IFTAH YA SIMSIM during its broadcast.

A third difference could be the language. And while almost all inhabitants in the United States speak English, Arab citizens speak different local slangs. Thus, MSA (Modern Standard Arabic) was the proper choice for the growing generations in the Arab countries. The pre-production research showed that Arab children could understand MSA up to 90 percent (Al-Dannan, 1978).
2.3 Factors Affecting the Viewing Behavior of Children

It is not an easy task to interpret human behavior, because this behavior is a function of several developmental and environmental factors. The viewing behavior of children, especially pre-schoolers, is no exception.

Banks and Gupta (1979) suggested that viewing behavior is a result of the interaction of four components: child-parent value system, child-parent views, parent's television behavior, and child demographics. Homberg (1978) listed five factors that influence the attention children give to television: the program, the time of the year, average television consumption by the household, the consumption of other media, and direction of the child's activities whether the home or to peers and school.

Child/television relations are not then an isolated process taking place in a vacuum. For this reason, this section is devoted to reviewing the literature on the factors affecting the viewing behavior of children in general, and the pre-schoolers specifically. The approach taken in this review was to examine the three dimensions that encompass all the factors under study. These dimensions are: the child's developmental factors, the home environment and the school environment.
**Child Developmental Factors**

This section deals with the literature related to the effect of the age and sex of the child on viewing behavior. The birth order of the child is also considered; however, this factor is also discussed in the home environment section.

**Age of Child:** Cognitive-structural scholars have shown that as the child grows older, his/her behavior changes, both qualitatively and quantitatively.

Bloom posited that there is a decreasing positive effect from a beneficial environment with increasing age. Three-year-old children benefit more from enriching experiences than seven- or eight-year-old children. He argued that two-thirds of the ultimate cognitive ability is formed by age six (Sprinthall and Sprinthall, 1981).

Anderson and his associates (1979) report that until age one-and-a-half and two, children tend to keep themselves away from the television set with little attention to the screen. Preschool children tend to look at the screen for three seconds with their attention span. Factors that affect attention span include the presence of other activities taking place in the room, the content of the program, and the comprehensibility of the message.
Interpretation of the television message is a major limitation for the young. This is due mainly to the failure of the young pre-schooler to distinguish television people as actors and not as real people (Hawkins, 1977). Sturm and Jorg (1981) found that five-year-olds differ from six- and seven-year-olds in their ability to process pictorial material. The younger children seem to rely more on verbal cues which direct their attention.

Brown (1976) found that age is the strongest correlate of television watching. In the United States, the average number of hours spent viewing television varies from about 3 hours a day for pre-schoolers to five hours a day for elementary school children (Singer, 1981).

Holtz (1981) reported that results of research on *Sesame Street* suggest that regular viewing of the program by 3, 4 and 5 year olds produced significant cognitive gains beyond those that would have been reached by normal maturation without viewing the program. He added that these findings are true for the program's foreign adaptation.

**Sex of Child:** Sex variable study results seem to be contradictory. While researchers disagreed on which of the two sexes view more, they do agree on the program preferences of each sex.
A survey which was done in Britain, United States, and Australia showed that there was little difference in the amount of television viewed by the two sexes (Sharman, 1979). These results are supported by a study in Britain, which revealed that sex was not a strong correlation of television watching (Greenberg, 1976).

However, a recent study in the United States showed that five-year-old boys watch television more than girls of the same age and more than three-year-old boys. The same study showed no difference in viewing between sexes at age three (Huston, 1983). Singer and associates (1980) found that parents tend to place more restrictions on girls watching television than they do for boys. Therefore, heavy viewers in the United States tend to be males.

In Japan, Fura (1971) reported that studies there revealed that Japanese boys view greater amounts of television than girls. This was due to the different role expectations of boys and girls. Fewer demands to help with household duties are made on boys than on girls.

Sharman (1979) found no significant difference in the time that Australian boys and girls devoted to television, but strong differences appeared in program choice and favorite programs.

In Sweden, Sonesson (1979) showed that the sex of the child is the main influence in their program preference.
Girls were more positive to educational and entertainment programs, while boys were more positive to exciting programs. The study also showed that mothers had more influence on the television behavior of girls than on boys.

Huston (1983), reported that boys were more attentive to animated and high action children programs than girls. And Lyle (1976) found that there was a consistently higher recognition level of SESAME STREET characters among boys than girls.

Birth Order: A look at diverse cultures throughout the centuries will show that children are often treated differently as a result of their birth order (Gardner, 1982). Children born earlier tend to have higher I.Q.'s than those born later. Earlier born children are likely to experience more individual contacts with parents, especially in the formative years. Parents have a limited amount of time available for their later children (Hetherington, 1979)

The older sibling tends to be dominant, initiating most of the aggressive and prosocial interactions, while the younger sibling shows a high level of imitation to the older ones (Ambramovitch, 1982)

In the study done in Sweden, Sonesson (1979), reported that the eldest child and the only child were
more positive to educational programs than those who were the youngest or middle children.

**Home Environment**

As stated before, it is difficult to isolate the factors that affect child viewing. The home environment from the researcher's perspective interacts with the other variables outside the home to develop the behavior. This section consists of a review of the effect of the number of siblings, parental age, parental education, parental attitude toward the program, and the socioeconomic status of the household on the viewing behavior of the prechooler.

**Number of Siblings of the Preschooler:** When family size increases, opportunities for extensive parental contact with the individual child decrease. However, opportunities for a variety of interactions with siblings expand (Hetherington, 1979)

Children who do not have older brothers or sisters are to a greater degree influenced by the values of the mother. Those who have older brothers and sisters are influenced by the preference of their siblings. The sibling status also influenced the social situation while viewing television; and while it is natural that the only
child mostly views television alone, middle children are least likely to view television alone (Senson, 1979). Rubin (1982) found that 50 percent of children whose ages were between 5-7 years old watched television with brothers and sisters, 28 percent viewed television with their parents, while the remaining 22 percent watched television with others or alone.

A study conducted by Lynne and Walsh (1980) revealed that the larger the number of children in the family, the less parents are told by the children what they had seen on television. Therefore, the parents are then more likely to report that the child watches television too much. When children were asked whether they prefer their parents to watching television, children with 3 or more siblings in the family were found to have a slightly higher preference for both parents over television than those coming from smaller families (Newby, 1980)

**Parental Age:** This variable seems to have little effect on the child's viewing behavior. Spaner (1976) found no strong association between the mother's age and her child's viewing of SESAME STREET. Bybee (1982) examined the level and nature of parental guidance regarding television exercised by a group of mass media scholars, and found age to be unrelated to parental guidance.
The relation between parental age and education seems to be inversely related due to the rapid development of society in Kuwait.

**Parental Education and Socioeconomic Status:** These variables are the most frequently mentioned variables in the children's viewing behavior literature. The general trend is that a poor home environment is associated with low levels of education for parents and low socioeconomic status.

Research showed that the amount of television viewed by the child is negatively correlated with the father's occupational status, education of parents and degree of parental restriction on television. Children of better educated parents watch more documentary and educational programs but less entertainment and adventure programs. (For example: Cook T. and others, 1975; Howe M., 1977; Sharman, 1979; Singer D. and others, 1981; Bybee C., 1982)

Huston (1983) found that maternal education was the single best predictor of viewing. The more educated the mother, the less television the child watched. Other factors in the family background such as father's education and occupational status generally behaved the same but maternal education was the most accurate. Bybee (1982) found that female media scholars were more likely than heir male counterparts to be involved in restrictive
and unfocused guidance of their television viewing. In Sweden, Sonesson (1979) found that well-educated mothers tended to overestimate their children's choices for educational programs and underestimated their preference for entertainment and adventure programs.

With the availability of more television channels in the area social class and channel determined the viewing choice of British children. Children from different social backgrounds seemed to require different types of television program contents, and lower class children seemed to gain more satisfaction from television than do their peers in the middle class (Greenberg, 1976)

As far as the viewing of SESAME STREET is concerned the same results are applied. Families with large incomes and better education were more likely to tune into SESAME STREET (Cook, 1975)

Middle-class children learned more from SESAME STRASSE (the German version of SESAME STREET) than did those from lower social classes (Pawlik, 1981). Research showed the same result with the Mexican version, PLASA SESAMO (Reyes-Lagunes, 1981)

The above discussion suggests that the significance in the differences of social classes lies in the viewing settings. Children who interact with their parents while watching television will benefit more from the educational
program. Guidance and supervision seem to be the two main factors that are associated with better-educated households. As a result of these two factors, children will gain more from educational television programs.

**Parental Attitude:** Oppenheim and Vince (1958) found that the example of the parents and their control over television were more important than social class (Sharman, 1979). Parents who were alert to what their children view and who restricted viewing and set rules succeeded in limiting the children's total viewing. Some parents seemed to encourage certain programs' viewing (Huston, 1983)

Corder-Bolz and O'Bryant (1978) showed how adults can significantly influence children's attitudes by discussing program content with them.

Mothers who had the highest education in the Swedish study were less positive to media, and had more restrictive attitudes toward television viewing behavior. The highest degree of consistency in the mother-child attitude toward the media was among the well-educated mothers, while the lowest consistency was associated with the less-educated mothers. Further, the mother's ability to influence her child's viewing decreased when the child had older siblings whose viewing habits might have been influenced by individuals outside the home, and within
certain groups, the television viewing behavior of children might cause the mother's attitude and not vice versa (Sonesson, 1979)

**School Environment**

The pre-school environment involves the child for about 5 hours daily. With younger ages, these hours may have a great effect on the development of the pre-schooler.

With respect to the school environment, the two variables of interest are: the teacher's evaluation of the pre-schooler's performance in the classroom, and the teacher's attitude toward the educational television programs.

**Teacher's Evaluation** of the pre-schooler inversely correlated with the child's frequency of watching television in general. Amount of television viewing is a good predictor of academic success, i.e., those who watched more television earned lower grades than those who watched less (Burton, 1979). However, heavy viewers of **SESAME STREET** were rated by their teachers as better prepared for school than low viewers (Liebert, 1982). So the child who seeks television as a source of knowledge and who is more selective in his viewings would perform better at school
than the child who escapes to television as a source of entertainment (Sharman, 1979)

Teacher's Attitude toward children's television programs may be determined by the impact of those programs on the pre-schooler inside the classroom. Teacher's satisfaction with the pre-schooler who is heavily involved in watching certain educational programs may result in a good attitude being held by the teacher toward that program.

2.4 Summary

This chapter reviewed the literature that related to three areas of interest. First, two paradigms in the area of developmental psychology were presented: cognitive-structural, and environmental-learning paradigms. Piaget's theory for cognitive development represent the first school of thought, while social-learning theory represents the other school. The applications of both theories in the field of children's educational television were presented.

The second section of the review dealt with history and current situations of both SESAME STREET and its Arabic adaptation IFTAH YA SIMSIM. Formative and summative evaluation in both programs was presented, and their similarities and differences were discussed.
The third and last section discussed the literature related to the effect of a selected set of developmental and environmental factors on the viewing behavior of the pre-schoolers in the Western World. Cross-cultural research findings were cited whenever possible.
CHAPTER III
METHODOLOGY

3.1 General:

This is a correlational study whose aim is to explain the relationship between the viewing behavior of "IFTAH YA SIMSIM" by the Kuwaiti pre-schooler and selected developmental and environmental variables.

This chapter describes the methods and procedures used to conduct the research study. It describes the population to be studied, sample selection, measurement of the variables and instrumentation, data collection procedures, and data analysis techniques employed.

3.2 Population

The target population was Kuwaiti pre-schoolers between the ages of 3 and 6 years and who attended kindergartens in the scholastic year 1983-1984 in four selected Kuwaiti districts.

There were several reasons for restricting the study to the Kuwaiti portion of the society. On the one hand, Kuwaiti pre-schoolers comprise approximately 70 percent of
the population of kindergarteners who regularly attend schools in the country. And while Kuwaiti children of all levels of socioeconomic status attend kindergartens (because no tuition fee is required), only middle or upper class non-Kuwaiti children attend private kindergartens.

On the other hand, the Kuwaiti districts are more stable in terms of the criteria used by the researcher to classify districts. The non-Kuwaiti people, in most cases, consider themselves temporary residents of Kuwait. The majority of them live in commercial areas where apartment complexes and buildings are rented. In these commercial areas, all levels of socioeconomic status are represented and no simple classification of districts is economically feasible.

Kuwaiti districts, as stated earlier, are more stable. First, because the Kuwaiti people own their houses, and secondly, because these districts tend to be more homogenous in regard to social class. One can easily identify urban districts, rural districts and districts that are occupied by only well-educated people.

From the 34 Kuwaiti residential districts, 4 were selected to represent all levels of socioeconomic status: rural low, urban low, middle, and high socioeconomic status. The criteria used to determine the socioeconomic
status of a household were the educational level of the father and the type of housing unit.

The first criterion included not only the educational level of the father but also his occupation. The other criterion—the type of housing unit—included: private, middle-class, limited income, and popular housing.

Traditional high-class districts usually consist of the of housing that is referred to as private. Residents bought the land and built the houses without any governmental aid. Middle-income housing is usually offered to the Kuwaiti graduates from colleges or universities. Limited income housing is offered to those who have high school degrees and less. For the middle-class and limited income types, the government provides aid to the citizen to buy the house. The loan is paid later in interest-free monthly payments. The fourth type of housing is the popular units. In this case, residents are offered temporary housing until they get their limited income housing. They may be required to pay a symbolic monthly rent. Residents of this type are disadvantaged non-professional workers. Popular housing is usually located in rural areas where most of the residents are illiterate. Based on these two criteria, I have chosen four districts to represent a cross-section of the Kuwaiti population.
1. Residential Shuwaikh:

Generally a traditional upper-class district; most of its residents are businessmen or high-level government employees (Al-Thakib, 1974). Most of the housing units located here are private.

2. Rawda:

A typical middle- to lower-class district. There are two types of housing units: private and limited income. Generally speaking, the residents here are middle- to lower-level government civil servants, while a sector of them are upper-level servants or businessmen.

3. Mushrif:

An emerging district that has mostly one type of housing, middle-class units. Most of the residents of this district are from the well-educated stratum of the population. And most of them occupy mid-level governmental positions.

4. Jahra Area:

A typical rural district. The population here is a mixture of middle-class, lower-class, and disadvantaged people. All four kinds of housing are represented in this district. The majority of the population in this district
work in low-paying jobs. The rest are either businessmen or serve in middle-level governmental positions.

3.3 **Sample:**

A stratified random sampling technique was employed to select a sample for the study. From each of the four districts, called strata, a simple random sample was drawn.

The amount of information in a sample depends on the sample size, \( n \), since the variance of the estimators, namely, the dependent variables, decreases as \( n \) increases. Since there were three dependent variables used in this study—recognition, frequency of viewing, and supervision of viewing—a needed sample size was calculated separately for each.

The largest of the three needed sample sizes was selected to serve as the most conservative estimate to achieve the desired precision at the .05 level of confidence (\( \alpha = .05 \)).

To determine the approximate sample size needed for each dependent variable required an estimate of the population variance in addition to the specified confidence level and sampling error. Since there was no prior research on the two dependent variables using an assigned-
interval scale, Tchebysheff's Theorem was used to obtain an approximation of the population variances. The theorem requires knowledge of the expected range of scores within each stratum. The range is divided by four standard deviations to obtain the estimated variance.

For the dependent variable, recognition, the maximum range was 12, therefore, the estimated standard deviation and variance was 3 and 9, respectively. For the dependent variable, frequency of viewing, the maximum range was 5; therefore, the estimated standard deviation and variance was equal to 1.25 and 1.563, respectively.

For the dichotomous dependent variable, supervision of viewing, a maximum variance of \( p = q = .5 \) was used as the most conservative estimate. The needed sample size for this variable yielded the highest needed sample size (\( n = 343 \)), and was therefore, used in this study (Scheaffer, et.al., 1979, p. 79).

\[
n = \frac{\sum_{i=1}^{L} \frac{N_i^2 p_i q_i}{w_i}}{N^2 D + \sum_{i=1}^{L} N_i p_i q_i}
\]

where \( N \) = total number of pre-schoolers in the population.

\( N_i \) = number of pre-schoolers in \( i^{th} \) stratum.
\[ p_i q_i = \text{the estimated population variance in } i^{th} \text{ stratum.} \]

\[ w_i = \text{the fraction of observations allocated to stratum } i. \]

\[ D = \frac{B^2}{4} \quad B = .05, \text{ sampling error; and} \]
\[ 4 = Z_{\alpha/2} \text{ for } \alpha = .05. \]

Thus, with the sampling error set at .05 and \( \alpha = .05 \) for a two-tail test, confidence intervals can be constructed so that, in repeated sampling, the true population parameter is enclosed approximately 95 times out of 100.

The best allocation scheme is affected by three factors: the total number of elements in each stratum, the cost of obtaining observation from each stratum, and the variability of observation within each stratum (Scheaffer, et al., 1979, p.68). In residential Shuwaikh, Rawda and Mushrif, the cost is expected to be equal because of the urban nature of the three districts. If one of the parents fails to come to the interview, the researcher can follow that up easily via telephone or some other means of communication. This is not the case, however, with the Jahra area where most of the residents are illiterate and do not readily cooperate with the school's administration. The researcher expected the observation in the Jahra area to cost twice as much as the observation in the other three districts.
To calculate the allocation of the sample in the different strata, the researcher applied the following equation (Scheaffer, et.al., 1979, p. 79):

\[
n = n \frac{N_i \sqrt{p_i q_i / c_i}}{\sum_{k=1}^{L} N_k \sqrt{p_k q_k / c_k}}
\]

where \( c_i \) denotes the cost of obtaining a single observation from \( i \)th stratum.

The allocation for the sample is shown in Table 2.

**Table 2. Distribution of the Sample**

<table>
<thead>
<tr>
<th>District</th>
<th>Kindergartens</th>
<th>Preschoolers</th>
<th>Needed Sample</th>
<th>Actual Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shuwaikh</td>
<td>1</td>
<td>137</td>
<td>23</td>
<td>34</td>
</tr>
<tr>
<td>Rawda</td>
<td>2</td>
<td>643</td>
<td>108</td>
<td>89</td>
</tr>
<tr>
<td>Mushrif</td>
<td>1</td>
<td>416</td>
<td>70</td>
<td>59</td>
</tr>
<tr>
<td>Jahra Area</td>
<td>3</td>
<td>1,186</td>
<td>142</td>
<td>136</td>
</tr>
</tbody>
</table>

| TOTAL      | 7             | 2,382        | 343           | 318           |

To draw the sample, school records in each district were used. Lists of students' names were prepared for each district and a random sample was taken from each.

3.4 Measurement of Variables

The researcher studied three dependent variables that measured the degree of viewing of *IPTAH YA SIMSIM* by the kindergartener. These dependent variables were: the score on a recognition test, frequency of viewing of the show, and level of supervision. Eleven original independent variables that were considered factors influencing viewing behavior were investigated.

In this section all study variables are described:

**Dependent Variables:**

1. Recognition Score:

This dependent variable is the child's final score on a recognition test that included pictures of six human characters and six muppets of *IPTAH YA SIMSIM*. This variable was intended to measure the child's familiarity with the program. The child was asked to give names of the characters and muppets. Each correct response counted
one point on an interval scale. The minimum score on that scale was zero, while the maximum was twelve.

2. Frequency of Viewing:

This dependent variable was based on the parents' report of their child's frequency of viewing. This was done through a six-item ordinal scale, namely: none; occasionally; once a week; twice a week; three times a week; more than three times a week. The lowest degree of viewing was given one, while the highest degree was six.

3. Supervision:

The third dependent variable dealt with the supervision of viewing, and whether or not the child was supervised by an adult. This variable was assessed by an item that asked with whom does the child usually view the program. The answer was given a code before the analysis. Those who were not supervised by adults were included in group 1, while group 2 included those who were supervised by adults. The supervision variable was measured on a nominal scale.
Independent Variables

1. Child's Age:

Which was taken from the child's school record. The first day of the scholastic year, 1983-84 was the criterion for determining the child's age in months. When the difference between the child's birth date and the first day of school was 15 days or less, his age was considered to the last month. If the difference was more than 15 days, then the age was considered to the present month. This variable is a continuous variable which was measured on a ratio scale. Expected values of this variable were between 36-72 months.

2. Child's Sex:

Whether a male or a female. This dichotomous variable was measured on a nominal scale.

3. Birth Order:

The child's position among his siblings with regard to birth, was represented on an ordinal scale. A value of one was assigned to a child who was first born or an only child.
4. **Number of Siblings:**

Number of brothers and sisters of the child, no matter how many there were of the two sexes. This was measured on a ratio scale, where zero means that the child was the only one in a given family.

5 & 6. **Parental Ages:**

Reported ages for both parents were determined in years according to the last birthday.

7 & 8. **Parental Level of Education:**

A six-item ordinal scale (illiterate - read and write - elementary - intermediate - high school - some college or graduate). Number one was given to the lowest level, while the highest was number six. Illiterate parents are those who do not read or write. The difference between this category and the (read and write) category is that parents here can barely read and write but do not have any formal education. Elementary school, intermediate, high school, and some college or graduate were given when the participant has the degree for these educational levels.

9. **Parental Attitude Toward IPTAH YA SIMSIM**

This was measured by a 13-item scale. Eight items measured the parent's attitude toward the main goal of the program, which was taken from the producer's documents.
The five other items dealt with parent's background with regard to the program and his/her attitude toward the relationship between the program and formal education. For a given item, the parent had to choose one response on a 5-point scale, namely: strongly disagree, disagree, do not know, agree, and strongly agree.

10. **Teachers' Attitudes Toward IPTAH YA SIMSIM**

Teachers' attitude was measured by the same attitude scale of parents except for item 9, which deals with the attitude about the claim that the program is an American program.

11. **Teacher Evaluation of the Preschooler's Academic Performance**

To measure the judgement of teachers on their students, the researchers included an item that asked the teacher to judge the general academic performance of the child on a four-scale measurement: (below average; average; good; and very good).

12. **Socioeconomic Variable (SES)**

This variable was analyzed in the further treatment section. SES was measured on a 5-point measure that resulted from adding father's education and of housing,
and averaging their sum. The socioeconomic measure ranged from 1-5.

Other Variables

There were other variables that described some attributes in the sample; however, they were not used in the hypothesis testing analyses.

The first variable was the level of housing. As mentioned earlier, this variable described the type of housing that the family occupied. There were four levels in this ordinal variable: popular, limited-income, middle-income, and private housing. This variable was used in conjunction with the father's education variable to determine SES.

The second variable dealt with television availability in the household. It seems that there was no variance in this dichotomous variable, that is to say, every household the researcher contacted had at least one television set.

The third variable asked if the viewing behavior of the pre-schooler was affected by the new version of IPTAH YA SIMSIM which was broadcast during the research period. This variable had an ordinal scale of three levels: (agree, do not know, and disagree). Later investigation
showed that out of the 298 parents who responded to this item, 256 (86 percent) disagreed that their children's viewing behavior was affected by the new version.

3.5 **Instrumentation**

The researcher developed three measurement devices for the purpose of this study. These instruments were: a recognition test, a parental attitude scale, and a teacher attitude scale.

**Recognition Test**

As to the recognition test, the researcher contacted three experts in the Arabian Gulf States Joint Program Institution, the producer of *IPTAH YA SIMSIM*, in order to get their advice about six human and six muppet characters that validly predict the pre-schooler's familiarity with the show. All three agreed on the set of pictures that later were included in the instrument.

The 12-point recognition scale yielded a reliability coefficient of .828 for the 318 participating pre-schooler. The recognition test is shown in Appendix C.
Attitude Scales

During the summer of 1982, and with the help of a measurement expert in the psychology department at The Ohio State University; the researcher developed a 33-point attitude scale that was intended to measure parental and teacher's attitudes toward IFTAH YA SIMSIM.

After analyzing the results of the pilot study which included 31 teachers and 40 teachers; the researcher ended up with a 13-item scale to measure parental attitude, and a 12-item scale to measure teacher's attitude toward the show.

As to the validity of the attitude scale, 8 out of the 13 items asked about the parent or teacher opinion of the show's goal. The propositions for these items were taken from the producer document; the rest of the items asked about the educator's or caretaker's opinion of the educational value of IFTAH YA SIMSIM.

The analyses of parental and teacher's scales yielded a reliability coefficient of .758 for 318 parents, and .774 for 78 teachers participating in the study. Both scales are shown in Appendix B.

As far as the rest of the study variables are concerned, the researcher included two dependent variables (frequency of viewing and supervision); nine independent
variables (child's age, sex, birth order, number of brothers and sisters [siblings], parental age variables, parental education variables, and teacher's evaluation of the pre-schooler); and six additional variables (child's name, school name, district's name, level of housing, TV availability, indifference in viewing behavior) in one sheet called The Information Sheet. The Information Sheet is shown in Appendix A.

3.6 Data Collection Procedures

The administration of the previous instrument was carried out by the researcher in Kuwait from the middle of November 1983 until the middle of February 1984. The researcher spent the first two weeks in preparation for the study by conducting things such as: translating the instrument to the Arabic language, developing the recognition test in the Kuwait University photography laboratory, and getting permission from the Ministry of Education to conduct the study in the four districts' schools.

As far as the actual data collection was concerned, the researcher divided the instrument into four main parts: the information sheet, the parental attitude
scale, the teacher's attitude scale, and the recognition test for the kindergartener.

The information sheet was filled by the researcher during the personal interview or the telephone interview with one of the parents and the teacher of the kindergartener. Telephone interview techniques were used with about 50 percent of the parents.

The second and the third parts were the attitude scales for both parents and teachers. The researcher administered the scale during the interview and after both the parent and the teacher finished filling out information sheets.

The fourth part was the most delicate one, because it dealt with the pre-schoolers. The recognition test included twelve colored photographs of characters and muppets of "IFTAH YA SIMSIM" printed on three separate sheets. Under each of the pictures there was a number that corresponds to another one on the answer sheet. Seven trained assistants helped the researcher in administering this test. Each one of these assistants was a full-time counselor in each of the seven kindergartens and all had careers in educational psychology or social work.
The researcher explained the procedure of conducting the recognition test to each assistant, trained the to apply the rules of administration for the pre-school child, then supervised and helped in the process of testing. Rules followed in administering the recognition test are shown in Appendix C.

3.7 Data Analysis and Hypotheses to be Tested

The information collected by the instruments were stored in IBM cards. One card was assigned to each pre-schooler. The researcher utilized 64 columns in each card to fill in the demographic variables, the attitude scale results, and the recognition test results.

Data analysis and application of statistical techniques were done using The Ohio State University's AMDAHL 470 V/8 computer system.

The computer programs in both SPSS and SPSSX (Statistical Package for Social Sciences) were utilized to get the summary statistics, the correlational matrix, test the study hypotheses, and to do further treatment.

The following hypotheses were tested using three different statistical techniques to test relationships, explanatory power, and discriminating power of the independent variables with regard to three dependent
variables: recognition score, frequency of viewing, and supervision.

1. For testing the variation in the dependent variable, recognition score, explained by the eleven developmental and environmental variables:

\[ H_0: R^2_{y.12...11} = 0 \]

\[ H_a: R^2_{y.12...11} \neq 0 \]

2. For testing the variation in the dependent variable, frequency of viewing, explained by the eleven developmental and environmental variables:

\[ H_0: R^2_{y.12...11} = 0 \]

\[ H_a: R^2_{y.12...11} \neq 0 \]

Multiple regression analysis statistical technique was used to test hypotheses 1 and 2.

3. For testing if there is a linear combination of the developmental and environmental variables or a subset of them that maximally discriminate against an adult-supervised group of kindergarteners from a non-adult supervised group:

\[ H_0: D_{y.12...11} = 0 \]

\[ H_a: D_{y.12...11} \neq 0 \]

where \( D \) is the discriminant function.
Discriminant analysis was used to test the discriminating power of the independent variables to maximize the distance between the two groups of preschoolers according to the type of supervision.

4. For testing the relationships between the best linear combinations of the set of dependent variables and the linear combinations of the set of developmental and environmental variables:

\[ H_0: \ R_{C_i} = 0 \]

\[ H_a: \ R_{C_i} \neq 0 \]

where \( i = 1, 2, 3 \), which refers to the 3 possible sets of linear combinations.

Testing the probability level for null hypotheses that all canonical correlation coefficients are zero in the population required treating the data using a canonical correlation statistical technique.

As far as the relationships between variables are concerned, Pearson product moment correlation was used to test the significance of the relationship between the variables pairwise.
3.8 Summary

This chapter was devoted to discussing the methods and procedures used to conduct the research study.

First, the population was studied, the selection for four Kuwaiti districts was justified, and a description of their characteristics was provided.

The sample size and allocation in the four districts was then determined in terms of needed sample and actual sample.

Measurement of variable was the next section in this chapter. Both dependent and independent variables in this chapter were described and their measurement scales were identified.

The instrumentation was then presented. Three instruments developed by the researcher were discussed in terms of their measurement validity and reliability.

The researcher then discussed the data collection procedures and the administration of previous instruments.

The last section discussed data entry, data analysis, and hypotheses to be tested.
CHAPTER IV
ANALYSIS OF DATA

4.1 General:

This chapter presents the results of the data analysis related to the study of the relationship of Kuwaiti pre-schooler's viewing behavior and selected developmental and environmental variables.

The study sought to answer four research questions with regard to the interrelations of these variables. The operational hypotheses related to those questions were statistically tested, then either accepted or rejected.

The four main research questions were:

1. Which of the independent variables from a selected set of developmental and environmental variables explain the highest proportions of variance in recognition scores, one measure of the degree of viewing of IPTAH YA SIMSIM by Kuwaiti kindergarteners?
2. Which of the independent variables from the selected set of developmental and environmental variables explain the highest proportions of variance in frequency of viewing, another measure of the degree of viewing of IFTAH YA SIMSIM by the Kuwaiti kindergarteners?

3. Which of the independent variables from a selected set of developmental and environmental variables maximally discriminate between kindergarteners who watch IFTAH YA SIMSIM with adult supervision and those who watch it without adult supervision?

4. What is the nature, practical importance, and significance of relationship between the best linear combinations of the set of dependent variables (recognition scores, frequency of viewing, and supervision) and the linear composites of the set of developmental and environmental variables?

The sequence of the major steps related to the data analysis is summarized below:
1. First, the summary statistics of the different variables of the study and their pairwise correlations were examined.

2. Second, the explanatory power of the eleven independent variables were examined. These variables were regressed on two dependent variables: the recognition score, and the frequency of viewing of the program by the kindergartener.

3. Third, the discriminating power of the eleven independent variables was examined, to find the optimum set of independent variables that increase the distance between the two different types of supervision of viewing.

4. And finally, the set of dependent variables was correlated with the set of independent variables through the use of the canonical correlation technique. The patterns of relations among variables were reported and the shared variance between the two sets of variables was determined.
4.2 **Summary Statistics**

In the first step of the analysis, the researcher investigated the descriptive statistics of each variable in the study. Table 3 shows the mean, standard deviation, standard error of measurement, skewness, range, and the number of observations for each variable.

It should be noted in Table 3 that the sample is normally distributed in terms of age and sex of children. The average birth order of the sample was approximately four with each pre-schooler having an average of about four brothers and/or sisters.

The mean score for children's performance in the recognition test was 5.66 on a 12-point scale.

As far as parents are concerned, the sample consisted of mothers who were approximately seven and one-half years younger than the fathers. The typical father had achieved an early high school level, while the typical mother's education was mid-intermediate school.

The average family's socioeconomic status was 3.4 on a 5-point scale. Parents in the sample had a mean of 4.3 on a scale of 5 points that measured attitude toward **IFTAH YA SIMSIM**. Parents also reported that
<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Standard Error</th>
<th>Skewness</th>
<th>Range</th>
<th>Number of Observations (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Recognition score</td>
<td>5.664</td>
<td>3.187</td>
<td>.185</td>
<td>.206</td>
<td>0-12</td>
<td>298</td>
</tr>
<tr>
<td>2. Frequency of Viewing</td>
<td>5.672</td>
<td>.882</td>
<td>.051</td>
<td>-3.029</td>
<td>2-6</td>
<td>299</td>
</tr>
<tr>
<td><strong>Developmental</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Age (in months)</td>
<td>54.180</td>
<td>7.963</td>
<td>.447</td>
<td>-.290</td>
<td>36-68</td>
<td>317</td>
</tr>
<tr>
<td>2. Sex*</td>
<td>1.538</td>
<td>.499</td>
<td>.028</td>
<td>-.152</td>
<td>1-2</td>
<td>318</td>
</tr>
<tr>
<td>3. Birth Order</td>
<td>3.736</td>
<td>2.971</td>
<td>.170</td>
<td>1.344</td>
<td>1-17</td>
<td>307</td>
</tr>
<tr>
<td><strong>Home Environment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Number of Siblings</td>
<td>4.046</td>
<td>3.169</td>
<td>.181</td>
<td>1.409</td>
<td>0-20</td>
<td>306</td>
</tr>
<tr>
<td>2. Father's Age (years)</td>
<td>37.539</td>
<td>8.936</td>
<td>.522</td>
<td>1.142</td>
<td>24-76</td>
<td>293</td>
</tr>
<tr>
<td>3. Mother's Age (years)</td>
<td>30.184</td>
<td>5.520</td>
<td>.319</td>
<td>.577</td>
<td>20-46</td>
<td>299</td>
</tr>
<tr>
<td>4. Father's Education</td>
<td>4.164</td>
<td>1.604</td>
<td>.093</td>
<td>-.432</td>
<td>1-6</td>
<td>299</td>
</tr>
<tr>
<td>5. Mother's Education</td>
<td>3.552</td>
<td>1.863</td>
<td>.108</td>
<td>-.139</td>
<td>1-6</td>
<td>299</td>
</tr>
<tr>
<td>6. Parental Attitude</td>
<td>4.312</td>
<td>.457</td>
<td>.027</td>
<td>-1.058</td>
<td>2.167-5</td>
<td>281</td>
</tr>
<tr>
<td>7. Socioeconomic variable</td>
<td>3.392</td>
<td>1.077</td>
<td>.063</td>
<td>-.182</td>
<td>1-5</td>
<td>292</td>
</tr>
<tr>
<td>8. Housing</td>
<td>2.647</td>
<td>.909</td>
<td>.053</td>
<td>-.016</td>
<td>1-4</td>
<td>292</td>
</tr>
<tr>
<td>9. TV Availability</td>
<td>1.0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1-1</td>
<td>299</td>
</tr>
<tr>
<td><strong>School Environment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Teacher's Evaluation</td>
<td>2.678</td>
<td>.945</td>
<td>.055</td>
<td>-.055</td>
<td>1-4</td>
<td>292</td>
</tr>
<tr>
<td>2. Teacher's Attitude</td>
<td>4.088</td>
<td>.476</td>
<td>.057</td>
<td>-.778</td>
<td>2.636-5</td>
<td>70**</td>
</tr>
</tbody>
</table>

*Dummy coded: Supervision: (1) No adults; (2) Adult
  Sex: (1) Male; (2) Female.
**Out of 78 teachers participated in the study.
their children's frequency of viewing of **IPTAH YA SIMSIM** was more than three times a week. However, the summary statistics showed that for the supervision variable, the majority of parents in the sample tended not to supervise their children's viewing.

The teachers in the sample had a mean of 4.1 on the 5-point attitude scale. Teachers evaluated the achievement of their pre-school students "Above Average" on a scale of 4 points.

### 4.3 Intercorrelations Among Variables of Study

Table 4 contains the correlation matrix of study variables. A summary of the magnitude and direction of relationships among variables was as follows:

**Dependent Variables**

**Recognition Variable:** The dependent variable, recognition, was found to correlate significantly with the following variables: teacher's evaluation, teacher's attitude, child's age, frequency of viewing, and mother's education. It appeared that the teacher variables and child's age had moderate correlations with the recognition variable. However, correlations
Table 4. Correlation Matrix of Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Dependent</th>
<th>Developmental</th>
<th>Home</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1  2  3</td>
<td>4  5  6</td>
<td>7  8 9 10 11 12</td>
<td>13 14 15</td>
</tr>
<tr>
<td><strong>Dependent</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Recognition</td>
<td>.21*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Frequency</td>
<td></td>
<td>.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Supervision</td>
<td></td>
<td>-.16*</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Developmental</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Child's Age</td>
<td>.29*</td>
<td>.16*</td>
<td>-.11**</td>
<td></td>
</tr>
<tr>
<td>5. Child's Sex</td>
<td>-.01</td>
<td>.04</td>
<td>-.03</td>
<td>-.06</td>
</tr>
<tr>
<td>6. Birth Order</td>
<td>-.08</td>
<td>.17*</td>
<td>-.36*</td>
<td>.15*</td>
</tr>
<tr>
<td><strong>Home</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. No. of Siblings</td>
<td>-.06</td>
<td>.16*</td>
<td>-.34*</td>
<td>.22*</td>
</tr>
<tr>
<td>8. Father's Age</td>
<td>.04</td>
<td>.15**</td>
<td>-.28*</td>
<td>.23*</td>
</tr>
<tr>
<td>9. Mother's Age</td>
<td>.06</td>
<td>.09</td>
<td>-.24*</td>
<td>.11**</td>
</tr>
<tr>
<td>10. Father's</td>
<td>.06</td>
<td>-.16*</td>
<td>.32*</td>
<td>-.20*</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Mother's</td>
<td>.10**</td>
<td>-.19*</td>
<td>.37*</td>
<td>-.22*</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. SES</td>
<td>.05</td>
<td>-.19*</td>
<td>.29*</td>
<td>-.20*</td>
</tr>
<tr>
<td>13. Parental</td>
<td>.02</td>
<td>.18*</td>
<td>-.08</td>
<td>-.14*</td>
</tr>
<tr>
<td>Attitude</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>School</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Teacher's</td>
<td>.32*</td>
<td>.12**</td>
<td>.10**</td>
<td>.05</td>
</tr>
<tr>
<td>Evaluation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Teacher's</td>
<td>.30*</td>
<td>-.01</td>
<td>.03</td>
<td>.24*</td>
</tr>
<tr>
<td>Attitude</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at p ≤ .01

**Significant at p ≤ .05.
of recognition with the home variables were low or negligible.

**Frequency of Viewing Variable:** This dependent variable correlated significantly with following variables: recognition score, supervision, parental education variables, SES (Socioeconomic variable), parental attitude, birth order, number of child's brothers and sisters, child's age, father's age, and teacher's evaluation. It appeared that all home variables except mother's age had the highest correlations with this variable.

**Supervision Variable:** This categorical variable was dummy coded so that it represented the absence and presence of adult supervision while the child was viewing the program. Thus, positive correlation implies association with adult supervision, while negative correlation reflects association with the no-adult supervision situation.

Variables that correlated significantly with the presence of adult supervision were: parental education variables, SES, and teacher's evaluation. While the absence of adult supervision situation associated with
birth order, number of brothers and sisters, parental age variables, and frequency of viewing.

These correlations indicated that adult supervision is more related to well-educated households, while the absence of adult supervision is associated with an increase in the family size.

**Independent Variables:** Among the set of developmental and environmental variables, there seemed to be very strong correlations such as the correlation between birth order and number of brothers and sister (.95), and the correlation between father's education and SES (.92). For the first correlation, when the kindergartener is late in birth order he/she is likely to have more brothers and sisters. For the second correlation, the more the father's education the better SES for the household. The directions of three correlations are negative with parental education variables and SES, which means that well-educated families tended to be smaller in size.

Parental education variables correlated negatively with parental age variable, which appeared to indicate that young parents tended to be more educated than older parents in the sample.
The lone significant correlation in sex variable was teacher's evaluation (.19), which indicates that for this dichotomous variable, teachers evaluated girls (2) higher than boys (1).

4.4 Hypothesis 1

For testing the variation in the dependent variable, recognition score, that is explained by the eleven developmental and environmental variables:

\[ H_0: \ R^2_{y.12...11} = 0 \]
\[ H_a: \ R^2_{y.12...11} \neq 0 \]

Multiple Regression analysis statistical technique was used to test this hypothesis. The researcher used the SPSS NEW REGRESSION statistical technique to investigate which among the independent variables will contribute significantly in explaining the relationship between the recognition test score and the set of independent variables.

In the stepwise procedure three independent variables entered the regression equation. They were: teacher's evaluation, teacher's attitude, and age, increasing the \( R^2 \) (.104), (.167), and (.202) respectively. Table 5 shows the summary of the multiple regression analysis of recognition variable.
Table 5. Multiple Regression of 11 Independent Variables on the Recognition Scores of Kuwaiti Kindergarteners

| Step | Variable Entered     | R Square | R Square Change | Simple r | F for R Square Change | p <  
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Teacher's Evaluation</td>
<td>.104</td>
<td>.104</td>
<td>.317</td>
<td>27.83</td>
<td>.000</td>
</tr>
<tr>
<td>2</td>
<td>Teacher's Attitude</td>
<td>.167</td>
<td>.063</td>
<td>.299</td>
<td>17.96</td>
<td>.000</td>
</tr>
<tr>
<td>3</td>
<td>Child's Age</td>
<td>.202</td>
<td>.035</td>
<td>.292</td>
<td>10.45</td>
<td>.001</td>
</tr>
</tbody>
</table>
The data showed that teacher's evaluation of the preschooler's performance in the classroom, teacher's attitude toward *IFTAH YA SIMSIM*, and child's age variable explained approximately twenty percent (20%) of the variance in dependent variable recognition score. $R^2$ is an estimate of the proportion of variance in the dependent variable accounted for by the independent variables that entered the regression equation. The $F$ test calculated to determine the significance of $R^2$ showed the values of $F$ to be significant at $p \leq .001$. Accordingly, hypothesis 1 was rejected.

4.5 **Hypothesis 2**

For testing the variation in the dependent variable, frequency of viewing, that is explained by the eleven developmental and environmental variables.

$H_0$: $R^2_{y.12...11} = 0$

$H_a$: $R^2_{y.12...11} \neq 0$

The multiple regression analysis technique was also used with the second dependent variable, the frequency of viewing of the program. In the stepwise procedure three variables entered the regression equation yielding an $R^2$ of (.089). The three independent variables and their cumulative contributions to the
proportion of explained variance were: parental attitude (.050), mother's education (.072), and teacher's evaluation (.089). Table 6 shows the summary of the second multiple regression analysis.

Therefore, with an $F = 4.40$ ($p < .037$), hypothesis 2 was rejected.

4.6 **Hypothesis 3**

For testing if there is a linear combination of the developmental and environmental variables that discriminate the adult supervised group of kindergarteners from the non-adult supervised group:

$H_0: D_{y.12...11} = 0$

$H_a: D_{y.12...11} \neq 0$

where $D$ is the discriminant function.

The third dependent variable (type of supervision) was measured on a nominal scale. The first group consisted of children who watched the program without adult supervision. The other group consists of children who were used to watching the program with adults.

The discriminant analysis statistical program of SPSS was used to analyze the discriminating ability of
Table 6. Multiple Regression of 11 Independent Variables on the Frequency of Viewing of Kuwaiti Kindergarteners

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable Entered</th>
<th>R Square</th>
<th>R Square Change</th>
<th>Simple r</th>
<th>F for R Square Change</th>
<th>p &lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Parental Attitude</td>
<td>.050</td>
<td>.050</td>
<td>.178</td>
<td>12.47</td>
<td>.000</td>
</tr>
<tr>
<td>2</td>
<td>Mother's Education</td>
<td>.072</td>
<td>.023</td>
<td>-.194</td>
<td>5.83</td>
<td>.017</td>
</tr>
<tr>
<td>3</td>
<td>Teacher's Evaluation</td>
<td>.089</td>
<td>.017</td>
<td>.124</td>
<td>4.40</td>
<td>.037</td>
</tr>
</tbody>
</table>
the independent variables or a subset of them to separate the two groups. The researcher decided to use the stepwise method with Rao's V criterion. In this method the independent variables are selected for entry into the analysis on the basis of their discriminating power. By sequentially selecting the "next best" discriminator at each step, a reduced set of variables was found.

The Rao's V criterion is a generalized distance measure. The variable selected is the one which contributes the largest increase in Rao when added to the previous variable and adds to the greatest separation of the groups. The change in Rao has a chi-square distribution with one degree of freedom (Nie, 1975, p. 448).

The stepwise discriminant analysis of the independent variables identified two variables as discriminators between children who were supervised by an adult and children who were not. Those two discriminators were birth order and mother's education variables. The results of the discriminant analysis are summarized in Table 7.

Therefore, with $X^2 = 7.41$ (p < .0065), hypothesis 3 was rejected.
<table>
<thead>
<tr>
<th>Step</th>
<th>Variable Entered</th>
<th>Change in Rao's $v^2$</th>
<th>$P &lt;$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Birth Order</td>
<td>39.16</td>
<td>0.0000</td>
</tr>
<tr>
<td>2</td>
<td>Mother's Education</td>
<td>46.57</td>
<td>0.0065</td>
</tr>
</tbody>
</table>

Wilks Lambda = .839, $df = 1$, $P < .0000$.

Chi-Square = 42.43, $P < .0000$. 

As to the rest of the independent variables beyond birth order and mother's education, none could add significantly to Rao's V at .05 level of significance.

The analysis also yielded a Wilks Lambda of .839 and a chi-square of 42.43 with one degree of freedom. This analysis was significant at the .05 level.

The classification results based on two discriminators are shown in Table 8.

Based on the discriminant analysis of the independent variables, 131 of the 223 children who watch *IFTAH YA SIMSIM* without adult supervision were correctly classified in the "No Adult" group. The analysis also correctly classified 64 of the 76 children who used to watch the program with an adult, as "Adult" supervised. The results of this analysis correctly classified 65.22 percent of the cases.

4.7 Hypothesis 4

For testing the relationships between the best linear combinations of the set of dependent variables and the linear combinations of the set of developmental and environmental variables.

\[ H_0: \ R_{C_i} = 0 \]
Table 8. Classification Results Based on the Discriminators of the Supervision Level

<table>
<thead>
<tr>
<th>Actual Group</th>
<th>Number of Cases</th>
<th>Predicted Group Membership</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No Adults</td>
</tr>
<tr>
<td>1. No Adults</td>
<td>223</td>
<td>131</td>
</tr>
<tr>
<td></td>
<td></td>
<td>58.7%</td>
</tr>
<tr>
<td>2. With Adults</td>
<td>76</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15.8%</td>
</tr>
</tbody>
</table>

Percent of "Grouped" cases correctly classified: 65.22%. 
\[ H_a: \ R_{C_i} \neq 0 \]

where \( i = 1,2,3 \).

\( i \) refers to the 3 possible sets of linear combinations.

The next major step in the analysis, after analyzing each dependent variable separately was to correlate the set of dependent variables with the set of independent variables through the employment of a canonical correlation statistical technique. The canonical sub-program of SPSSX was used to conduct this analysis.

The researcher tested three sub-hypotheses with regard to the canonical correlation coefficient, \( R_c \), associated with three possible sets of canonical variates (variables) of the dependent and independent variables.

The analysis resulted in the extraction of three sets of canonical variates that corresponds to three different constructs in the two sets of study variables. Two of the three canonical correlation coefficients were significant at 0.05, which means that two of the three sub-hypotheses were rejected. The values for these coefficients and their corresponding
levels of significance were (.508) at p < .000, (.417) at p < .000, and (.245) at p < .111 respectively.

To understand the nature and the practical importance of the two significant canonical correlations, one needs to study the standardized canonical coefficients of both the dependent and independent variables (see Table 9). For example, the first canonical variate can be expressed as follows: First canonical variate for the set of dependent variables = .741 (recognition) − .286 (frequency) + .572 (supervision). First canonical variate for the set of independent variable = .270 (child's age) − .121 (sex) − .567 (birth order) + .270 (number of siblings) + .076 (father's age) − .074 (mother's age) + .045 (father's education) + .452 (mother's education) + .029 (parental attitude) + .429 (teacher's evaluation) + .373 (teacher's attitude).

The size and the sign of these coefficients must be taken into account in examining the nature of the canonical variates. For example, a positive sign means that the variable made a positive contribution to the size of the canonical variate and a low score made a negative contribution. The converse is also true. Therefore, the size of these coefficients (weights) is
Table 9. The Standardized Canonical Coefficients Associated With the Two Canonical Variates of Dependent and Independent Sets of Variables

<table>
<thead>
<tr>
<th></th>
<th>First Canonical Variate</th>
<th>Second Canonical Variate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Criterion Variables Set</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Recognition Test Score</td>
<td>.741</td>
<td>-.626</td>
</tr>
<tr>
<td>2. Frequency of Viewing</td>
<td>-.286</td>
<td>-.469</td>
</tr>
<tr>
<td>3. Supervision</td>
<td>.572</td>
<td>.550</td>
</tr>
<tr>
<td><strong>Canonical R</strong></td>
<td>.508*</td>
<td>.417*</td>
</tr>
<tr>
<td><strong>Predictors Set</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Age of Child</td>
<td>.270</td>
<td>-.390</td>
</tr>
<tr>
<td>2. Sex of Child</td>
<td>-.121</td>
<td>.030</td>
</tr>
<tr>
<td>3. Birth Order</td>
<td>-.567</td>
<td>-.893</td>
</tr>
<tr>
<td>4. Number of Siblings</td>
<td>.270</td>
<td>.614</td>
</tr>
<tr>
<td>5. Father's Age</td>
<td>.076</td>
<td>-.193</td>
</tr>
<tr>
<td>6. Mother's Age</td>
<td>-.074</td>
<td>.112</td>
</tr>
<tr>
<td>7. Father's Education</td>
<td>.045</td>
<td>.157</td>
</tr>
<tr>
<td>8. Mother's Education</td>
<td>.452</td>
<td>.145</td>
</tr>
<tr>
<td>9. Parental Attitude</td>
<td>.029</td>
<td>-.272</td>
</tr>
<tr>
<td>10. Teacher's Evaluation</td>
<td>.429</td>
<td>-.483</td>
</tr>
<tr>
<td>11. Teacher's Attitude</td>
<td>.373</td>
<td>-.144</td>
</tr>
</tbody>
</table>

*Significant at p ≤ .001.
an index of the relative importance of each variable; whereas, the signs indicate the nature of the contribution made by the variables.

**Redundancy Measure:** The first canonical variate from the dependent variables set and the first canonical variate from the independent variable set were selected by the computer program so as to maximally correlate with each other, and form one construct. The first canonical correlation coefficient was (.508) and its squared correlation was (.257), while the second coefficient was (.417) with a squared correlation of (.170).

This means that (25.7) percent of variance in the first canonical variate in the dependent variables set was accounted for by the first canonical variate in the independent variables set and vice versa. The shared variance for the second pair of canonical variates was 17 percent.

Alpert and Peterson (1972) present a convenient way to explain variation in one set of variables using the other set, through the employment of "redundancy" measure.

Redundancy measure is aimed at determining the shared variance between the two sets of study variables by multiplying the proportion of variance in the variable set that is explained by the associate canonical variate times
the squared multiple correlation of that variate. Therefore, for the first canonical variate in the dependent variable set a "redundancy" of .091 was obtained by multiplying $R_c^2 (.257)$ times the proportion (.353). This is shown in Table 10. The information in the first three columns was provided by the computer output.

The two canonical variates associated with the criterion variable set had a redundancy measure of (.091) and (.063). The sum of these two measures is 15.4 percent of variance explained in that set. Using the same procedure with the set of independent variables resulted in explaining 9 percent of its variance.

The reason for the difference in the proportions of variance explained in each set is due to the unequal number of variables in each set. As Alpert and Peterson (1972) report the redundancy measure is rarely symmetrical because the total variance and the number of variables in each set is different (p. 192).

4.7 Further Treatment

Some variables which were not included in the previous analyses were worthy of investigation. The socioeconomic variable (SES) and the residential district were studied in the further treatment.
Table 10. Components of Redundancy Measure*

<table>
<thead>
<tr>
<th>Canonical Variate</th>
<th>Can R</th>
<th>Can $R^2$</th>
<th>Proportion of Variance Extracted From Dependent or Independent Sets of Variables</th>
<th>Redundancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Dependent Variables Set</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>.507</td>
<td>.257</td>
<td>.353</td>
<td>.091</td>
</tr>
<tr>
<td>2</td>
<td>.412</td>
<td>.170</td>
<td>.371</td>
<td>.063</td>
</tr>
<tr>
<td>Proportion of Variance Explained</td>
<td></td>
<td></td>
<td></td>
<td>.154</td>
</tr>
<tr>
<td>B. Independent Variables Set</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>.507</td>
<td>.257</td>
<td>.196</td>
<td>.050</td>
</tr>
<tr>
<td>2</td>
<td>.412</td>
<td>.170</td>
<td>.236</td>
<td>.040</td>
</tr>
<tr>
<td>Proportion of Variance Explained</td>
<td></td>
<td></td>
<td></td>
<td>.090</td>
</tr>
</tbody>
</table>

*Based on Alpert M. and Peterson, 1972.
The researcher also studied all variables after taking into account the multicollinearity of some of the independent variables.

The socioeconomic variable was included in the regression analysis of the frequency of viewing dependent variable. SES entered the equation at Step 2 after the entry of parental attitude. The two variables yielded an $R^2$ of (.074) with an F significant at $p < .015$.

The researcher included the 4 residential districts through the use of 3 dummy variables. After repeating all analyses, none of the districts significantly added anything, however, both Shuwaikh and Jahra districts had meaningful canonical coefficients in the second canonical variate. The coefficients for the two districts were (.294) and (-.265) respectively.

As far as the problem of multicollinearity is concerned, the pairwise correlations suggested that the researcher should take account of multicollinearity in two cases. The father's education and SES variables had a coefficient of (.923), while birth order and number of siblings variables had a coefficient of .949.

Repeating the analysis using one variable of each of the two highly correlated sets resulted in the entry of birth order as a discriminating variable that was
substituted for the number of siblings in the discriminant analysis. The canonical coefficients of birth order in both canonical variates had dropped from (.567) and (-.893) to (-.300) and (-.314), respectively. Table 11 showed the new standardized weights and the correlations of individual variables (loads) with the canonical variates.

4.8 Summary

This chapter was devoted to the analysis of data of Kuwaiti kindergarteners, their parents, and their teachers.

The analyses of 3 dependent variables and 11 original independent variables involved the employment of pairwise correlational, multiple regression, discriminant, canonical correlational statistical techniques.

Further analysis included other variables or sets of the original variables.

The results of these analyses revealed that some variables contributed in the explanation of dependent variables.

Teacher's evaluation of the pre-schooler's performance in the classroom, teacher's attitude toward IFTAH YA SIMSIM, and child's age variables explained 20
### Table 11. The Standardized Canonical Coefficients (Weights) and Canonical Loads Associated With Canonical Variates of Study Variables

<table>
<thead>
<tr>
<th>First Canonical Variate</th>
<th>Second Canonical Variate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable</strong></td>
<td><strong>Weight</strong></td>
</tr>
<tr>
<td>_______________________</td>
<td>________</td>
</tr>
<tr>
<td><strong>Dependent</strong></td>
<td></td>
</tr>
<tr>
<td>1. Recognition Score</td>
<td>.757</td>
</tr>
<tr>
<td>2. Supervision</td>
<td>.559</td>
</tr>
<tr>
<td>3. Frequency</td>
<td>-.271</td>
</tr>
<tr>
<td>1. Teacher's Evaluation</td>
<td>.437</td>
</tr>
<tr>
<td>2. Mother's Education</td>
<td>.427</td>
</tr>
<tr>
<td>3. Teacher's Attitude</td>
<td>.384</td>
</tr>
<tr>
<td>4. Birth Order</td>
<td>-.300</td>
</tr>
<tr>
<td>5. Child's Age</td>
<td>.294</td>
</tr>
<tr>
<td>6. Child's Sex</td>
<td>-.115</td>
</tr>
<tr>
<td>7. Mother's Age</td>
<td>-.100</td>
</tr>
<tr>
<td>8. Father's Age</td>
<td>.075</td>
</tr>
<tr>
<td>9. Father's Education</td>
<td>.043</td>
</tr>
<tr>
<td>10. Parental Attitude</td>
<td>.034</td>
</tr>
</tbody>
</table>
percent of the variance in the dependent variable recognition score.

Parental attitude, mother's education, and teacher's evaluation variables explained 9 percent of the variance in the frequency of viewing variable. When the socio-economic variable entered, it removed mother's education and teacher's evaluation, and explained with the parental attitude variable 7.5 percent of variance in the frequency variable.

Mother's education, number of siblings, and birth order variables were the best discriminators among the independent variables. Their discriminant function correctly classified 65 percent of the children in the two levels of supervision "Adult" group, and "No adult" group.

The canonical correlation analysis resulted in two dimensions under which the study variables interrelated. In one construct, the good performance in the recognition test, associated with supervision by adults even with low viewing frequency. The corresponding independent variables in this construct were: mother's education, teacher's evaluation, teacher's attitude, birth order, number of siblings, and child's age. While in the second construct, bad performance in recognition test, lower viewing frequency, even with adults supervision, were
associated with teacher's evaluation, child's age, number of siblings, birth order, parental attitude toward IFTAH YA SIMSIM variables and high SES districts.

In all analyses, the researcher took account of multicolinearity.
CHAPTER V
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 General

This chapter summarizes the study in terms of its purpose, research questions, procedures for data collection, and data analysis. A discussion of results and conclusions and their implications are then presented. The last section presents the recommendations of the researcher for policy and for future research.

5.2 Summary

By studying the impact of illiteracy of Kuwaiti adults on their offspring in Kuwait as reflected by low attendance at pre-school programs, many governmental and popular institutions began to think seriously of a practical solution for this problem.

IFTAH YA SIMSIM, a children's television program for pre-schoolers that combines education with entertainment, was considered an economical solution to the problem of
low attendance at kindergarten. The program is mainly directed to children between the ages of 3 to 6 years.

The primary purpose of this research was to investigate the possible relationships between the viewing behavior toward *IPTAH YA SIMSIM* by kindergarten children in Kuwait and a selected set of developmental and environmental factors. The viewing behavior was measured by the kindergartener's score on a recognition test that measured the familiarity of the child with program characters, a parental report on the child's frequency of viewing, and whether or not the child's viewing was supervised by an adult.

Child's age, child's sex, birth order, number of siblings, mother's age, father's age, mother's level of education, father's level of education, parent's attitude toward the program, teacher's evaluation of the child's academic performance in the classroom, and the teacher's attitude toward the program comprised the set of independent variables examined. Socioeconomic variables and residential district variables were investigated in a subsequent analysis.

Four research questions were formulated to guide the study:
1. Which of the independent variables from a selected set of developmental and environmental variables explain the largest proportions of variance in recognition scores—one measure of the degree of viewing of IPTAH YA SIMSIM by the Kuwaiti kindergarteners?

2. Which of the independent variables from the selected set of developmental and environmental variables explain the largest proportions of variance in frequency of viewing—one measure of the degree of viewing of IPTAH YA SIMSIM by Kuwaiti kindergarteners?

3. Which of the independent variables from a selected set of developmental and environmental variables maximally discriminate between kindergarteners who watch IPTAH YA SIMSIM with adult supervision and those who watch it without adults supervision?

4. What is the nature, practical importance, and significance of relationship between the best linear combinations of the set of dependent variables (recognition scores, frequency of viewing, and supervision) and the linear composites of the set of developmental and environmental variables?

As far as the procedure of the research is concerned, a review of literature was conducted to collect material and information related to research questions. This review was divided into three sections: a summary of selective theories in the area of child development and their applications in the area of educational communication for pre-schoolers; literature that dealt with the history of the educational program IPTAH YA SIMSIM; and
literature related to variables under study and their relationship to the viewing behavior of preschool children.

Data were gathered by interviewing 318 Kuwaiti kindergarteners, their parents, and their teachers. The instrument used in data collection consisted of four parts: a recognition test for children, a parental attitude scale, a teacher attitude scale, and an information sheet that included data relative to the remainder of study variables.

Data collection took place in seven kindergartens representing four districts in Kuwait. The sample was selected using a stratified random technique, where the four districts were stratified according to socioeconomic status.

Data analysis methods used to analyze the data consisted of multiple regression, discriminant analysis, and canonical analysis.

Results of the multiple regression analysis indicated that a statistically significant amount of variance in the recognition score was explained by teacher's evaluation of the kindergartener's academic performance in the classroom, teacher's attitude toward IPTAH YA SIMSIM, and the kindergartener's age.
It also indicated that a statistically significant amount of variance in the frequency of viewing was explained by parental attitude toward *IPTAH YA SIMSIM*, mother's education, and teacher's evaluation. The entry of socioeconomic status resulted in the removal of the last two independent variables, mother's education and teacher's evaluation from the frequency of viewing analysis.

Results of discriminant analysis revealed that three independent variables, mother's education, birth order and number of brothers and/or sisters had significantly discriminated between children who were supervised by an adult and children who were not supervised by an adult.

Results of canonical analysis indicated that two sets of the linear combinations (variates) in the dependent and independent sets of variables were significantly correlated. For the first canonical variate, high in the recognition score, low frequency of viewing, along with adult supervision of viewing were associated with a high teacher's evaluation, a well-educated mother, a favorable teacher's attitude, the child being early in the birth order and having few brothers and/or sisters, and the child being slightly older in age.

For the second canonical variate, low score in the recognition test, lower frequency of viewing, and adult
supervision were associated with a low teacher's evaluation, younger child, the child being early in birth order and having few brothers and/or sisters, less favorable parental attitude, and the child tending to be from a wealthy residency district.

5.3 Conclusions

1. Recognition of IFTAH YA SIMSIM characters by Kuwaiti kindergarteners is explained in part by the teacher's evaluation of the kindergartener's academic performance in the classroom, teacher's attitude toward the show, and kindergartener's age.

This conclusion is based on the results of multiple regression analysis of the recognition dependent variable and the independent variables which indicated that the school environment factors along with age significantly associated with a cognitive ability of the pre-schooler—recognition. Age was expected to contribute to explaining recognition, as the literature showed that cognition develops better as the egocentric child grows older. However, the entry of school environment variables in the analysis was unusual in the sense that the literature did not discuss those variables frequently as is the case with parental variables, for example.
The pairwise correlations showed that teacher's variables were not significantly correlated with each other; however, both of them correlated significantly with the child's age variable. This might suggest that teacher's variables were consequences of good familiarity with the program's characters (and probably better achievement of its educational content) which was associated with older ages.

The findings also suggested that the role of teacher is crucial in the process of education in Kuwait. Parents in this analysis tended not to affect an important aspect of the child's viewing degree of an important educational program, so it might be true that the Kuwaiti parents tend to delegate the school to do most of the educational process.

2. Frequency of viewing of *IPTAH YA SIMSIM* by the kindergartner is explained in part by parental attitude toward the show, mother's education, teacher's evaluation of the kindergartner, and socioeconomic status of the household.

This conclusion is based on the proportion of variance in frequency of viewing explained by parental attitude toward the show, mother's education, and teacher's evaluation variable. Subsequent analysis using SES, resulted in the entry of parental attitude and SES in the equation.
Despite the fact that all these variables explained approximately ten percent of variance, there are two factors that contributed to this conclusion—the large sample size, and the severe skewness in the dependent variable which resulted in a small variance to be analyzed.

The variables that explained frequency of viewing were mainly related to socioeconomic status of the household. More viewing of *IPTAH YA SIMSIM* was associated with low socioeconomic level and low education for mother. Favorable parental attitudes toward the show may be the reason behind more viewing or vice versa. In another words, parents with good attitudes towards the program will allow the child to view more. The consequences of the show such as keeping the child off the street and babysitting him/ her (as stated explicitly by many rural parents), and the achievement of the program content (which was supported by the entry of teacher's evaluation variable in the analysis) could be the reason for the favorable attitude held by parents.

3. Adult-supervised group of pre-school viewers of *IPTAH YA SIMSIM* are maximized by three discriminating variables, mother's education, child's birth order, and number of child's brothers and/or sisters.
This conclusion is based on the results of the discriminant analysis of the supervision dependent variable. Those results suggested that when number of brothers and/or sisters increases and the child is late in birth order, the child was likely to view *IPTAH YA SIMSIM* show with his/her brothers and/or sisters. Well-educated mothers tended to watch the program with their children more than did the less-educated mothers.

The household socioeconomic settings were the determinants of the supervision behavior. The non-adult supervision was related to high frequency of viewing; however, it was inversely related to recognition score and teacher's evaluation variables. This implies that adult supervision adds to the quality of the child's viewing of the show.

4. The set of viewing behavior variables and the set of developmental and environmental variables have two significant linear combinations in common. Canonical correlation yielded similar results of Regression and Discriminant analyses.

This conclusion was based on the results of the canonical correlational analysis. Results implied that there were two dimensions that encompass the two sets of study variables.

In the first dimension, the probable viewing settings were a combination of low frequency of viewing,
supervision by adults, older age for the child, well-educated mother, being early in birth order with fewer brothers and/or sisters; the probable consequences were good performance on the recognition test, good evaluation by teacher inside the classroom, and a more positive attitude held by the teacher.

In the second dimension, the probable viewing settings were a combination of lower frequency of viewing with parental supervision, younger age for the child, the child being early in birth order with few number of brothers and/or sisters, less favorable parental attitude, being from a high socioeconomic status district; the probable consequences were a lower performance on the recognition test, and lower evaluation from teacher.

It should be noted, however, that these speculations tended to associate with the well-educated households, and this is because of the variability in their children's reported frequency of viewing which was the main source for the variance of that variable.

The results of the research are suggestive rather than conclusive due to methodological limitations and the ex post facto nature of the study. In addition to previously discussed delimitations of the study, the instruments consisted of fixed-alternative items. These closed items might force respondents to check answers that
did not fully describe their situation. The nature of the interview technique might reduce this limitation. Another limitation was the skewness in the frequency of viewing that resulted in the regression of the canonical analysis results toward the well-educated households.

5.4 Recommendations

Recommendations for Further Study

1. Any replication of this research study should increase the scale of the frequency of viewing variable in order to increase its variability.

2. This study sets the basis for any further study for IPTAH YA SIMSIM. Future research may focus on the effect of all or some of the developmental and environmental variables on the achievement of the program's educational objectives.

3. This study also sets the basis for any experimental study. Future researchers may employ factor analysis on this study's variables to determine the underlying dimensions and assign a subset of variables based on the factor analysis findings for experimental manipulation.
4. This study may be repeated with elementary school students, since age was among the significant variables.

5. The non-Kuwaiti children may also be included in future studies whenever it is deemed economically feasible.

Recommendations for the Policy

1. This dissertation assumes that the three aspects of viewing behavior—recognition, frequency of viewing, and supervision by an adult—should integrate to yield a more favorable viewing. The producer may emphasize the importance of the frequent watching of *Iftah Ya Simsim* and the importance of adult supervision while the child is watching.

2. Any educational television program should pay specific attention to the mother as the mother's education variable was a significant variable in both the frequency of viewing and recognition dependent variables analyses.
3. Teachers also should be considered as an important factor in determining the viewing behavior of the kindergartener as teacher's variables turned out to be significant in the recognition variable analysis. The producer may utilize this through the broadcast of the show during school hours.

4. The research revealed that both parents and teachers have good attitudes toward the program (high means in both scales). This implies that this may be the proper time to deliver any communicational message to both populations—parents and teachers—with regard to the improvement of the impact of IFTAH YA SIMSIM.
APPENDIX A

THE INFORMATION SHEET
INFORMATION SHEET

1) Kindergarten:
2) District:
3) Child's Name
4) Birth Date:
5) Child's Sex:
6) Birth Order:
7) Number of Brothers and Sisters (Siblings):
8) Father's Age (please include birth date):
9) Mother's Age (please include birth date):
10) Father's Level of Education:
    1. Illiterate  2. Reads and Writes  3. Elementary
    4. Intermediate  5. Secondary  6. Some College or Graduate
11) Mother's Level of Education:
    1. Illiterate  2. Reads and Writes  3. Elementary
    4. Intermediate  5. Secondary  6. Some College or Graduate

*) Housing:
4. Private House  5. Other

12) Television Availability: _____ Yes _____ No
13) Frequency of Viewing of *IFTAH YA SIMSIM*:

    ____ None
    ____ Occasionally
    ____ Once a week
    ____ Twice a week
    ____ Three times a week
    ____ More than three times a week

14) My pre-school child watches the second version of *IFTAH YA SIMSIM* with the same enthusiasm as he/she watched the first version:

    ____ Agree
    ____ Do not know
    ____ Disagree

15) With whom does the child watch the show:

    ____ Alone
    ____ With Mother
    ____ With Father
    ____ With both parents
    ____ With older siblings
    ____ With younger siblings
    ____ With others (please specify) ________________________

16) Teacher's evaluation of the pre-schooler's academic performance inside the classroom:

    ____ Below average
    ____ Average
    ____ Good
    ____ Very good
بطاقة المعلومات

1. رفعة:
2. منطقة:
3. اسم الطفل:
4. تاريخ الميلاد:
5. الجنس:
6. ترتيب بين أخواته وأخواتها:
7. عدد أخواته وأخواته:
8. عمر الأب (بحسب تاريخ الميلاد):
9. عمر الأم (بحسب تاريخ الميلاد):
10. مستوى الأب التعليمي (لاخ دائرية حول المستوى المناسب):
    - متوسط
    - تجربة
    - بكالوريوس
    - كلية أو جامعية
11. مستوى الأم التعليمي (لاخ دائرية حول المستوى المناسب):
    - متوسط
    - تجربة
    - بكالوريوس
    - كلية أو جامعية
12. هل في البيت تلفزيون:
    - لا
    - نعم
13. ما هو معدل مشاركة ابنك لبرنامج افتتح باسم:
    - لا يشاهد ابدا
    - يشاهد مرة في الأسبوع
    - يشاهد مرتان في الأسبوع
    - يشاهد مرة في الأسبوع
    - يشاهد مرتان في الأسبوع

14) أنى شاهد القسم الثاني نفسه الحماس الذي كان يشاهد به القسم الأول من البرنامج:
- موافق
- لا أدرى
- غير موافق

15) مع من شاهد الطفل البرنامج:
- والديه
- والدة
- مع والدها
- مع عموما
- مع الأختة الكبار
- مع الأخوات الغير المقربة
- مع آخر

16) رأي المدرسة:
-
المستوى العام لإدراك الطفل في الفصل:
- تحت المستوى
- متوسط
- جيد
- جدا جدا
APPENDIX B

PARENTAL ATTITUDE SCALE

TEACHER'S ATTITUDE SCALE
"IPTAH YA SIM SIM" Questionnaire for Parents

Directions:

Please circle the number that represent your opinion on the following topics concerning the children's television program, "IPTAH YA SIM SIM". The scale has five numbers: (1. Strongly disagree, 2. Disagree, 3. Don't know, 4. Agree, and 5. Strongly agree).

1. The program develops the identity of Arab children.

2. It reinforces the Arabic and the Islamic culture.

3. It uses Arabic language in an appropriate way.

4. It reinforces Arabic Arts.

5. There is a sense of humor in the program.

6. The program links the pre-schooler with contemporary life.

7. It helps parents in understanding their children.

8. It is suitable to interests and needs of the pre-schoolers.
9. The program is a translated copy of the American children's program known as "SESAME STREET".

10. Kindergarten teachers should reinforce the program's goals in class.

11. The program prepares kindergarteners for elementary school.

12. The program is a fantasy program that sugar-coats reality, the thing that shocks children when they enter elementary school for the first time.

13. The length of the program is suitable.
**"IPTAH YA SIMSIM" Questionnaire for Teachers**

Directions:

Please circle the number that represents your opinion on the following topics concerning the children's television program, "IPTAH YA SIMSIM." The scale has five numbers: (1. Strongly disagree, 2. Disagree, 3. Don't know, 4. Agree, and 5. Strongly agree).

<table>
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<th>Disagree</th>
<th>Don't know</th>
<th>Agree</th>
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<td>5</td>
<td></td>
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</tr>
</tbody>
</table>

1. The program develops the identity of Arab children.
2. It reinforces the Arabic and the Islamic culture.
3. It uses Arabic language in an appropriate way.
4. It reinforces Arabic Arts.
5. There is a sense of humor in the program.
6. The program links the pre-schooler with contemporary life.
7. It helps parents in understanding their children.
8. It is suitable to interests and needs of the pre-schoolers.  
   | 1 | 2 | 3 | 4 | 5 |

9. Kindergarten teachers should reinforce the program's goals in class.  
   | 1 | 2 | 3 | 4 | 5 |

10. The program prepares kindergarteners for elementary school.  
    | 1 | 2 | 3 | 4 | 5 |

11. The program is a fantasy program that sugar-coats reality, the thing that shocks children when they enter elementary school for the first time.  
    | 1 | 2 | 3 | 4 | 5 |

12. The length of the program is suitable.  
    | 1 | 2 | 3 | 4 | 5 |
استفتاء حول برنامج الأطفال (افتح باسمم
أولمبياء الآمون
التوجيهات : ضع دائرة حول الرقم المقابل لوجهة نظرك بما يختص في المجالات التالية لبرنامج " افتح باسمم ">
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<tr>
<td>على مدرس الروضة أن يتابع أهداف البرنامج ويعززها في العمل</td>
<td>1 2 3 4 5</td>
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<tr>
<td>الربيي للمدرسة الابتدائية</td>
<td>1 2 3 4 5</td>
<td>6</td>
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</table>
12) البرنامج خليالي يغطي أجواء الحياة المرة
بخلاف ما في السكن، الأمر الذي يسبب صعوبة
للطفل عند دخواله المدرسة الابتدائية
1 2 3 4 5 0
1 2 3 5 4 0
13) مدة عرض البرنامج مناسبة

استخبارات حول برنامج الاطفال ( افتح باسم) عمارات

التوجيهات: فهى دائرة حول الرقم المقابل لوجهة تطير بها يختص في المجالات التالية لبرنامج افتح باسم.

الموافق لادرى موافق موافق

الموافق

المرة

1. البرنامج يطور هوية وشخصية الطفل

2. البرنامج يعزز الثقافة العربية والإسلامية

3. استخدام اللغة العربية في البرنامج

4. البرنامج يعزز الفنون العربية

5. تقديم فقرات البرنامج روح مرحية

6. يربط البرنامج أفق الروح بالحياة المعاصرة

7. البرنامج يعين الوالدين على فهم تطبيقاته

8. البرنامج مناسب لاهتمامات واهتمامات طفل مائل للمدرسة

9. على مدرسة الروحية أن تتبع هدف البرنامج ويعززها في الفعل

10. البرنامج يفهم في أعداد الاطفال الرياض للمدرسة الابتدائية

11. البرنامج يحترم حقائق الحياة جرأة في الكبر، الأمر الذي يسبب مدة للطفل عند دخوله المدرسة الابتدائية

12. مدة عرض البرنامج مناسبة

الموافق

المرة

1 2 3 4 5

الموافق

المرة

1 2 3 4 5
APPENDIX C

RECOGNITION TEST, ANSWERS SHEET,
RULES OF ADMINISTRATION
ANSWERS SHEET

Kindergarten:

Name: 

<table>
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<tr>
<th></th>
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<tbody>
<tr>
<td>1.</td>
<td>Numan</td>
<td>( )</td>
<td>( )</td>
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<td>2.</td>
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<td>( )</td>
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<td>3.</td>
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<td>Ablah</td>
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<tr>
<td>5.</td>
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<tr>
<td>7.</td>
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<tr>
<td>8.</td>
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<td>( )</td>
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<td>Hasan</td>
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</tr>
<tr>
<td>12.</td>
<td>Hisham</td>
<td>( )</td>
<td>( )</td>
</tr>
</tbody>
</table>

Final Score: ________________
*RULES OF ADMINISTRATION OF RECOGNITION TEST*

1. Test one child at a time. The test should be given in a quiet place away from interfering subjects.

2. The examiner should be pleasant and encouraging.

3. As an introductory step, the examiner may ask the child about the show that encompasses all these characters. If the child is confused, the examiner may mention the name of the show.

4. The child is to be praised generously if he/she responds correctly, however, the child is not to be informed if he/she commits a mistake.

5. The child should be shown one picture at a time.

6. The child may take any reasonable amount of time per picture. However, after approximately one minute without a response, the child may be shown another picture.

7. When a child spontaneously changes a choice, record the final response.

*Based on: Singer and Singer, 1981.*
بسم الله الرحمن الرحيم

فيما يتعلق بالإسماء

الرقم:

<table>
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<td>همسام</td>
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</tr>
</tbody>
</table>

الدرجة النهائية: 

----------
قواعد يجب مراعاتها عند أخذ اختبار التمييز

1 - يجب اختيار طفل واحد في كل مرة ويراعى اختيار مكان هادئ لتجنب ما يهدد انتباه الطفل بعيدا عن محيفة الاختبار.

2 - يحسن بالمختبر اظهار البياض وذلك لتبسيع وحفظ الطفل على الذاكر الإotional.

3 - كمهمة للاختبار يحسن سؤال الطفل عن اسم البرنامج الذي يضم هذه النصائح جمعهما.

4 - يراعى تجميع الطفل بسخاء عندما يصبيغ اجابته كما يراعى عدم بيان أنه اخطأ عندما لا صيب.

5 - يراعى أن يطلع الطفل على صورة واحدة في كل مرة لنفسان التركيز.

6 - يجب اعطاء الطفل ما يحتاجه من وقت للاستجابة ويراعى أنه يحسن سؤاله عن صورة أخرى بعد مضى دقيقة واحدة دون استجابة.

7 - عند التردد أو ذكر أكثر من استجابة للصورة الواحدة تسجل الاستجابة الأخيرة.
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