THE PERSONAL INTELLIGENCES OF A GROUP OF LOW AND HIGH-SES TURKISH PRESCHOOLERS

by

Sibel (Saltiel) Kohen

B.A. in Psychology, Boğaziçi University, 1989

Submitted to the Institute for Graduate Studies in Social Sciences in partial fulfillment of the requirements for the degree of

Master of Arts

in

Educational Sciences

Boğaziçi University

1994

THE PERSONAL INTELLIGENCES

OF

A GROUP OF LOW AND HIGH-SES TURKISH PRESCHOOLERS

APPROVED BY

Assoc. Prof. Sevda Bekman : _____
(Thesis advisor)

Prof. Diane Sunar : _____

Prof. Necla öner : _____

DATE OF APPROVAL: 17.2.1994

ACKNOWLEDGMENTS

I would like to express how I am deeply grateful to my thesis advisor Doç. Dr. Sevda Bekman for the encouragements, friendly guidance and constructive criticisms that she provided throughout this study. Not only she devoted endless time and energy for the completion of this thesis, but she was always there to provide her friendly counseling sessions whenever I needed.

I wish to express my thanks to my committee members, Prof. Dr. Diane Sunar for her sincere interest and constructive guidance in the statistical analyses of this study; and Prof. Dr. Necla öner for her encouraging behavior throughout this research.

Thanks are also given to Aysun Dağlı, Nilcan Kuleli and Gülşah Seral, my three faithful friends who helped me in collecting the observational data of this study.

My special thanks go to directors and teachers of the centers for their kind cooperation.

I would also like to express my appreciation to my friend Selim Nahmiyas who helped me through the problems in access to my statistical program SLM.

Finally, I would like to thank my husband for his patience and helping behavior; my son for his incredible understanding; and my family for their supportive behaviors troughout this study.

Sibel Kohen

ABSTRACT

The present study aimed to compare a group of low-and high-SES Turkish preschoolers on the measures of Gardner's (1983) personal intelligences: intra-personal intelligence and inter-personal intelligence. Thus, it is a replica of a small part of Project Spectrum (1988) study where the assessment of the personal intelligences in the preschool years were carried out.

For this purpose, 24 high-SES and 24 low-SES preschoolers were compared on two kinds of measurement included in the assessment of personal intelligences. First was the measurement of social analysis tapping children's understanding of themselves, understanding of peers, understanding of social roles, and personal intelligence (which was the sum of the scores obtained from the first three). Second was the measurement of social roles where observation of children in social interaction provided their fit (or unfit) into some social roles. The appropriateness of the sample allowed also the comparison of the two age groups (four and five year olds) and the two gender groups (boys and girls) on the measures of personal intelligence.

The t test analyses applied to see the difference of the two SES groups on the measures of social analysis demonstrated that low-SES preschoolers obtained significantly higher scores on understanding of peers compared to their

high-SES counterparts. No significant sex difference appeared among t test analyses applied to see the differences between boys and girls on the measures of social analysis. Five year olds obtained significantly higher scores than four year olds in understanding of self and understanding of social roles. One-way analysis of variances applied to see the differences among the preschoolers from the four centers on the measures of social analysis showed that they were significantly different on the measures of understanding of peers and personal intelligence. In both measures subjects from one of the high-SES centers were found to obtain the lowest scores.

The chi square analyses applied to compare the SES, age and sex groups on the number of children who fit into a role showed that there was a significant sex difference on the frequency of role assignment, where a greater number of girls than boys fit into a role.

ÖZET

Bu çalışmanın amacı, yuva çağındaki bir grup düşük ve yüksek sosyo ekonomik düzeydeki çocuğu, Gardner'ın (1983) tanımladığı kişisel zekânın ölçümünde karşılaştırmaktır. Gardner, kişisel zekâ tanımında kişiye dönük zekâ ve kişiler arası zekâ olmak üzere iki ayrı zekâdan bahseder. Bu araştırma, kişisel zekânın ölçüldüğü Spectrum Projesi'nin (1988) küçük bir kısmının kopyasıdır.

Bu amaçla 24 düşük ve 24 yüksek sosyo ekonomik düzeyde çocuk kişisel zekâların ölçümü için önerilen iki çeşit ölçek üzerinden karşılaştırılmıştır. Bunlardan ilki sosyal analiz ölçümünü içerir. Bu ölçüm çocukların benlik anlayışlarını, yaşıtlarını ve sosyal rolleri anlamalarını irdeler. Bu üç bölümün puanlarının toplamı da kişisel zekâ puanını verir. İkinci ölçümde ise sosyal roller incelenir. Bu inceleme çocukların sosyal etkileşim esnasında gözlenmesini içerir. Gözlemlerden elde edilen veriler sonucu her çocuğun bazı sosyal rollere uyup uymadığı belirlenmiştir. Örneklemin uygunluğu yaş ve cinsiyet gruplarının da bu ölçümler üzerinden karşılaştırılmasını sağlamıştır.

İki sosyo ekonomik grubu sosyal analiz ölçümleri üzerinden karşılaştırmak için yapılan t-test analizleri düşük sosyo ekonomik düzeydeki çocukların yaşıtlarını anlamada yüksek sosyo ekonomik düzeydeki çocuklara kıyasla istatistiksel olarak önemli derecede daha yüksek puanlar

aldıklarını göstermiştir. Sosyal analiz ölçümlerinin hiç birinde cinsiyet farklılığı bulunmamıştır. Beş yaşındaki çocuklar benlik anlayışı ve sosyal rolleri anlamada dört yaşındakilerden istatistiksel olarak önemli derecede daha yüksek puanlar almışlardır. Araştırmaya dahil edilen dört okul öncesi kurumundaki çocukların sosyal analiz ölçümleri üzerinden aldıkları puanlardaki farklılığı incelemek amacıyla yapılan varyans analizleri, yaşıtlarını anlama ve kişisel zekâ ölçümlerinde istatiksel olarak önemli farklılık göstermiştir. Her iki ölçümde de yüksek sosyo ekonomik düzeydeki iki kurumdan birine devam eden çocuklar en düşük puanları almışlardır.

Sosyo ekonomik düzey, yaş ve cinsiyet gruplarını sosyal rollere uyan çocuk sayısına göre karşılaştırmak için yapılan ki-kare analizleri, cinsiyet grupları arasında istatiksel olarak önemli fark olduğunu ortaya çıkarmıştır. Bu da erkek çocuklardan oldukça daha fazla sayıda kız çocuğunun sosyal rollerden birine uyduğunu göstermiştir.

TABLE OF CONTENTS

LIST OF TABLES

Page

LIST OF ABBREVIATIONS

MI	Multiple Intelligences
SES	Socio-economic status
UOS	Understanding of one's self
UP	Understanding of peers
USR	Understanding of social roles
PI	Personal intelligence

I. INTRODUCTION

Intelligence is a phenomenon that has been extensively studied by researchers in the field of psychology, with different views of intelligence being proposed by different scientists. Recent theories of intelligence try to capture also the social aspect of the construct in their formulations. One of these recent theories is Howard Gardner's (1983) Theory of Multiple Intelligences. His theory tried to touch upon the social aspect of intelligence by proposing the existence of "personal intelligences" that cover two of the seven independent intelligences suggested by him. These two intelligences are called intra-personal and inter-personal intelligences. As the names suggest, basically the former is an intelligence related to one's self and the latter is an intelligence related to one's relations with other people.

The study presented here is an attempt to investigate the personal intelligences of a group of low and high-SES Turkish preschoolers. With this aim, the study tried to compare the preschoolers in the two SES groups on their intra-personal and inter-personal intelligences. Since the social aspect of intelligence is rarely touched upon by the educational efforts in our country, this study aimed to take a preliminary step towards the development of a useful measurement of social intelligence during the preschool years.

1.1 Theories of Intelligence

There are two major views of intelligence among the related theories: On one side there are the researchers such as Galton, Goddard, Spearman and Terman who proposed that intelligence is a single and easily measurable factor, while on the other side there are researchers such as Thurstone, Cattell and Guilford who considered intelligence to be made up of a multiple but finite set of mental abilities (Lewis and Sullivan, 1985).

1.1.1 Two Factor Theory

In the early 1900's, when Binet was working on the development of the first mental test, Charles Spearman who was a British psychologist and statistician, suggested the existence of a single factor of "general intelligence" (Kretch, Crutchfield, Livson, Wilson & Parducci, 1982). According to Anastasi (1988), this theory holds that all activities of intellect possess a single common factor called the general factor or g, and additionally there are numerous specific (s) factors, each of which represents a single specific activity. According to this theory, the g factor was shown to be responsible for the positive correlation between any two functions. Relatively, the higher saturation of the two functions with g would suggest a higher correlation between them, while the correlation between functions would be lowered by the presence of specifics. As Horn (1986) states, the Spearman model for g assumes one

reason for the intercorrelation of distinct abilities forming a set, which is that each of these abilities possess the same g component in common. So, although this theory proposes two factors (g and specifics), Anastasi draws attention to the fact that the correlation between two functions is only explained by the single factor g. She claims that this fact differentiates this theory from other theories of trait relations, in that it could more clearly be assumed as a single-factor theory.

1.1.2 Multiple Factor Theories

Anastasi (1988) explains that the prevalent contemporary American view of trait organization suggests a number of moderately broad group factors, each appearing in different tests with different weights. She notes Thurstone as one of the leading exponents of multiple factor theory.

According to Krech et al. (1982), the work of L.L. Thurstone was a major response to the two factor theory. They explain that Thurstone used a different method of factor analysis to develop his group factor theory, and that this theory holds that it is possible to postulate seven primary abilities to be responsible for most of human mental capacity. These primary abilities are: "number; word fluency; verbal meaning; memory; reasoning; spatial perception; and perceptual speed" (p. 334). Krech et al. further state that there are some tests developed for each of these factors, named the Thurstone Primary Mental Abilities

Tests. These primary mental abilities were not found to be independent, but on the contrary, they were found to be positively intercorrelated.

1.1.3 Structure of Intellect Model

Anastasi (1988) states that some factor analysts have worked on organizing the traits into a systematic schema, such as Guilford who proposed a boxlike model called the structure-of-intellect model (SI) in 1967. This model assumed that the intellectual traits could be grouped along three dimensions: (a) operations- refers to different kinds of mental processes involved in the abilities (cognition, memory, divergent production, convergent production, and evaluation); (b) contents- refers to different kinds of information that the mental processes operate on (figural, symbolic, semantic and behavioral--i.e., information about other persons behavior, attitudes, needs, etc.); (c) products-refers to the form in which information items are processed by the respondent (units, classes, relations, systems, transformations, and implications) (Guilford, 1985). Since operations, contents, and products include respectively 5x4x6 categories, the model provides for 120 cells, each of which contains at least one factor or ability. In some cells there may be more than one factor, and each factor is described in terms of all three dimensions (Anastasi, 1988).

1.1.4 Hierarchical Theories

Anastasi indicates that some British psychologists, such as Burt (1949) and P.E. Vernon (1960), and an American psychologist Humphreys (1962) suggested an alternative schema for the organization of factors. She notes Vernon's system where he considers Spearman's g factor to be at the top of the hierarchy. The next level includes two broad group factors that relate to verbal-educational and to practical-mechanical aptitudes. As Anastasi explains, the further subdivision of these major factors is possible, and still by further analysis some narrower subfactors can be found. Thus, the lowest level of the hierarchy involves the specific factors. She thinks that such a hierarchical structure looks like an inverted genealogical tree, where g stands at the top, s factors stand at the bottom, and some narrower group factors progressively standing in between. Anastasi points at a later elaboration of the model in 1969, where P.E. Vernon "included certain more complex interrelations and cross-contributions of factors at the third level, especially in connection with educational and vocational achievement" (pp. 387-388).

1.2 Gardner's Theory of Intelligence

Hatch and Gardner (1986) remark that in the 1980's the definition of intelligence that appeared in 1900's was still on the stage, and that also IQ tests have remained

almost the same since 1930. According to them the conception of a general intelligence, which a standard intelligence test can reliably measure, has been questioned by a number of cognitive developmental psychologists such as Howard Gardner and David Feldman. Like some others these two investigators drew attention to the existence of a wide variety of human cognition competencies, and to the striking individual differences among normal and gifted children. According to Hatch and Gardner, this questioning of the standard view of intelligence provides a transition from a single intelligence tested traditionally to the assessment of a range of competencies. They further state that according to Gardner and Feldman, if naturalistic settings (e.g. classrooms) were incorporated to the assessment of culturally valued performances, more effective examination of the competencies would be possible.

In their later article, Hatch and Gardner (1989) argue that linguistic symbolization and logical mathematical symbolization, two forms of symbol use which are dominantly stressed in academic settings, were dominant in the construction of items on intelligence, aptitude and achievement tests. According to them, Gardner felt uneasy with this extensive reliance on these two forms of symbol use, and he proposed the existence of a number of autonomous human intelligences. Providing a set of criteria that explain the features of a human intelligence, he defined intelligence as "the capacity to solve problems or to fashion products that are valued in one or more cultural settings" (Hatch and

Gardner, 1989, p. 5).

Gardner (1983) has claimed that intelligence should be considered as being made up of at least seven different competencies-- linguistic, logico-mathematical, spatial, bodily-kinesthetic, musical, inter-personal and intra-personal. According to Hatch and Gardner (1986), this **"Multiple Intelligences" (MI)** view of Gardner assumes that it is possible for a person to be gifted in one kind of competence while being average or below average in the others. They point out that the concept of a general intelligence is not able to explain such possible differences in an individual's ability.

Hatch and Gardner (1989) explain how Gardner arrived at his seven intelligences. According to them Gardner's formulation does not involve features of the existing psychometric instruments. The approval of a candidate ability as an intelligence is due to its recurrence as an identifiable entity in a number of different lines of study of human cognition. Gardner and his colleagues came up with his list of intelligences as a result of an extensive examination of the literature in several areas. In the list, they incorporated capacities that appeared repeatedly in these different literatures, while they ignored those abilities that hardly appeared or were found in a variety of configurations in disparate sources. As a result of this massive survey, Gardner arrived at his provisional list including seven intelligences. He explained the component processes operating at the core of each intelligence as well

as providing some end-states for each. Hatch and Gardner further state that according to Gardner, both heredity and environment are responsible for the fact that while the range of intelligences is existent in all humans, individuals differ in their current profile of intelligences.

1.2.1 The seven intelligences

Hatch and Gardner (1989) briefly summarize the seven intelligences, providing information about their core components and stating some end-states for each:

1. Logical-mathematical intelligence: This intelligence refers to the ability of being sensitive to and capable of apprehending logical or numerical patterns as well as being able to work with long chains of reasoning. This competence is represented by the end-states of being a scientist or mathematician.

2. Linguistic intelligence: Showing its optimal development in the poet or the journalist, this intelligence involves the ability of being sensitive to the sounds, rhythms and meaning of words, as well as having a fine understanding of different functions of language.

3. Musical intelligence: The core components of musical intelligence involve sensitivity to different forms of musical expressiveness and capability of producing as well as being sensitive to rhythm, pitch and timbre. Not surprisingly at the end-state one can see a composer or a

violinist.

4. Spatial intelligence: This competence refers to the ability to perceive correctly the visual-spatial world, and to the capability of transforming one's initial perceptions. Spatial competence is exemplified in the navigator or the sculptor.

5. Bodily-kinesthetic: This intelligence involves the control of one's body movements and skillful handling of physical objects as the core capacity. The dancer or the athlete reflect highly developed bodily-kinesthetic intelligence.

The remaining two intelligences--i.e. intra-personal and inter-personal intelligences-- will be examined in more detail as these two are the concern of the present study.

1.2.1(a) The Personal Intelligences. Gardner (1983) claimed that the capacity standing at the core of intra-personal intelligence is "access to one's own feeling life-one's range of affects or emotions: the capacity instantly to effect discriminations among these feelings and eventually to label them, to enmesh them in symbolic codes, to draw upon them as a means of understanding and guiding one's behavior" (p. 239). According to him at the elementary level intra-personal intelligence involves briefly the differentiation of basic feelings from one another (e.g., pleasure and pain) and the relative withdrawal from vs involvement in a

situation. On the other hand, the highly developed end of this competence involves detection and symbolization of much more complex and distinct sets of feelings. The end-state is exemplified by the novelist who is able to write intensively about his/her inner feelings, the patient who tries to obtain knowledge about his/her feelings, and the wise elder who possess extensive bunch of inner experiences, which enables him/her to make suggestions to the people around. Gardner's inter-personal intelligence is a competence related to other individuals around the person and "the core capacity here is the ability to notice and make distinctions among other individuals and, in particular, among their moods, temperaments, motivations and intentions" (p. 239). Gardner maintains that at the start of its development this intelligence involves the basic capacity reflected in the young child's ability to distinguish among the other individuals around him/her and to notice the different kinds of moods that they might possess. However, when a person stands at the highly developed level of this competence he/she is able to detect the wishes and the intentions of the individuals around him/her and he/she is able to use this kind of knowledge in influencing their own behaviors. According to Gardner, at the end state of inter-personal intelligence there may be the political and religious leaders, highly skilled parents and teachers, or people involved in professional helping like counselors or therapists.

Gardner (1983) proposed the existence of a wide variety of intra- and inter-personal intelligence forms present in distinct cultures. For him, the underlying reason is the different symbol systems possessed by different cultures, leading to various systems of meanings that shape the raw materials of personal intelligences. Thus, a behavior labeled abnormal in one culture can be quite normal in another. In contrast with Gardner's other intelligences, the personal intelligences have a wide variety of developmental patterns and breakdowns, thus many options at the end-states. Moreover, these two intelligences are always explained together because they are linked to each other. In other words, self knowledge and knowledge of one's relations with other people are dependent on each other. Another difference of personal intelligences from the other forms of intelligence pointed out by Gardner is that while a person is more comfortable in making the decision to use or not use his/her other intelligences, he/she is obliged to use his/her personal intelligences. A basic reason indicating this necessity is the person's need to consult his/her self understanding to improve his/her relations with people around.

Gardner (1983) assumes the emerging sense of self to be an important element of personal intelligences. Although it may seem to be related to intra-personal intelligence at first sight, the sense of self comes from a mixture of knowledge from one's intra- and inter-personal worlds. This idea is supported by the fact that there are extensively

different selves throughout the world. He proposes that the term "sense of self" refers "to the balance struck by every individual--and every culture--between the promptings of 'inner feelings' and the pressures of 'other persons'" (p. 242).

1.2.1(b) The Development of Personal Intelligences.

According to Gardner (1983), the origins of personal knowledge lie in the early bond between the infant and its mother (or other caretaker). This strong attachment to the mother gradually becomes more flexible after the first year. Any kind of breakdown in this bond may lead to a negative effect on normal development, inhibiting the ability to obtain self knowledge and knowledge of other people around. During the second year of life the young child becomes aware of its own physical separateness and identity while trying to cope with the rules set for him/her by the people around. During the ages 2 to 5 the child stars to use symbols. For Gardner, this has very important implications for the development of the personal intelligences. The child is not only discriminating his/her own moods and those of other people, but he/she is also trying to make a transition from this understanding to more complex discriminations interpreted by the symbol systems of his/her entire society. Role playing helps the child to develop this ability of symbol use, in that while engaged in a role play, the child tries to understand the behaviors associated with different roles and comes to know the different feelings involved in the characteristic behaviors of these roles. The child

compares his/her behaviors and states with those of other persons. An important form of self discrimination developed by the child of this period is his/her sexual identity. In summary, the child's own affective experiences are shaped by the interpretive system of the community. The child understands his/her place among other people via observing them.

1.1.2 Education and Assessment of Intelligences

As Hatch and Gardner (1989) state, in order to investigate the implications of the **Multiple Intelligences Theory**, Gardner and his colleagues have tried to establish the scientific adequacy of the theory and to demonstrate its potential contributions to educational reform. They felt the need for a fresh approach to assessment, accepting the existence of a number of intelligences that can be found mainly in culturally meaningful activities. With their approach they tried to assess individual intelligences at different age levels. They argue for the importance of "intelligence-fair" assessment of the psychological processes involved in different intelligences. According to Hatch and Gardner, "intelligence-fair measures seek to respect the different modes of thinking and performance that distinguish each intelligence" (p. 6). Thus intelligence-fair methods emphasize direct perception and manipulation of the visual-spatial information. They criticize the standard approaches that worked on intelligence as isolated from the specific

cultural activities. They state that the **Multiple Intelligences Theory** treat intelligences and their assessment in line with their cultural manifestation, and proposes some adult end-states related to these intelligences.

1.2.3 Applications of the Theory

Hatch and Gardner (1989) summarize three applications of the theory: 1) Arts Propel--a project at the high school level; 2) A project in Indianapolis for the elementary level; and 3) Project Spectrum codirected by David Feldman who has developed a number of curriculum activities and assessment options appropriate for the child-centered structures of many preschools and kindergartens. The third application will be explained in detail as it relates to the concern of the present study in which one part of the application at the preschool level is replicated. According to Malkus, Feldman and Gardner (1988), there are three reasons why they focus on preschoolers: (a) They are interested in the possibility of reliably detecting individual differences in these early years of life; (b) because young children have not received training yet, their natural trends should be easier to observe at this age; (c) compared to children attending a formal school, preschoolers are less resistant to innovations in the curriculum and assessment.

The immediate goals of Project Spectrum stated by Wexler-Sherman; Gardner and Feldman (1988) are to: (a) develop assessment materials and procedures that help the preschoolers to demonstrate their own abilities employed across a broad range of content areas. (b) provide a detailed picture of children's strengths of cognition.

At present, Project Spectrum incorporates 15 activities each tapping a particular intelligence or set of intelligences, and a Spectrum classroom which contains intelligence-fair materials (Hatch & Gardner, 1989). These materials not only enable children to engage in experiences related with their distinct intelligences, but also give teachers the chance to observe and assess children's strengths, interests and trends. They also carry out more formal assessment of intelligences via administering specific games to children and applying scoring systems developed especially for the research. Wexler-Sherman, Gardner and Feldman (1988) explain that the assessment materials of Project Spectrum are incorporated into the natural ongoing curriculum. This provides the participation of the children in the activities whenever they feel interested and ready. They do not force children to be engaged in activities related to all of the content areas, but they try to encourage them to do so via informal interaction with children. They choose materials that can easily be manipulated by children. Moreover, they try to decrease the verbal demands in order to make it easier for children to

participate in the activities and to eliminate the interfering effects of their general verbal ability. Together with some informal observations, the semi-structured activities touching specific skills provide information about children. To avoid the strangeness effect of the testing materials and formats, they introduce activities that are compatible with the usual classroom materials. Wexler-Sherman, Gardner and Feldman contend that in this way, children do not realize that they are being assessed, and they willingly get engaged in the exploration of the given materials.

Hatch and Gardner (1989) indicate that the Project Spectrum instruments are used in two different settings to see if the intelligences are largely independent of one another. For this purpose, they tried to determine: "a) whether young children exhibit distinct profiles of intellectual strengths and weaknesses ; b) whether or not performances on activities designed to tap different intelligences are significantly correlated" (pp. 7-8). They explain two studies conducted to examine these two statements. In the first study they had 20 preschool children from a primarily white upper middle income population who were engaged in a yearlong Spectrum program. Their assessment incorporated 10 different activities, as well as Stanford-Binet intelligence scale. Using the standard deviations of children, their analysis showed that these children performed at different levels across the activities.

Thus, it demonstrated that these children had different intellectual profiles. Also using Spearman rank-order correlations, they found that children's performances on the activities were independent. Moreover, there was a limited relationship between children's performances on the Stanford-Binet and Spectrum assessments. Spearman rank-order correlations showed that it was only the children's performances on the number activities that showed significant correlations with IQ. The other activities including story telling, drawing, singing, music perception creative movement, social analysis, hypothesis testing and assembly did not show any significant correlations with IQ. In the second study, they assessed eight kindergartners and seven first graders on the seven activities included in the Modified Spectrum Field Inventory (an instrument created by Gardner and his colleagues). This inventory examines several intelligences in two 1-hour sessions and it involves materials and activities common in many preschools. The results showed that unlike the findings of the earlier study, some children performed quite well and others performed quite poorly across many of the activities. Attributing these results to the sample being small in size and the age ranges being wide, they claimed that these results possibly reflect differences in developmental level and gender differences. Their measures related to the independence of different activities showed that with kindergartners they obtained only one significant correlation (between art and social analysis), while with first graders there were a number of

significant correlations. They concluded that with the exception of the first graders in the second study, the overall results are consistent with the claims of the **Multiple Intelligences Theory**--such that the children did not perform at the same level across activities--i.e., they demonstrated distinct intellectual profiles.

1.2.4 An Evaluation of the Theory

Messick (1992) provides an evaluation of Gardner's theory of Multiple Intelligences and Sternberg's (1985) Triarchic Theory of Human Intelligence. In this evaluation not only does he compare the two theories, but also examines the differences and similarities of these two to the factorial and hierarchical theories.

According to Messick (1992), Gardner stands on the neo-nativist side as he claims the existence of innate intelligences, the products of which are shaped by the cultural practices and values. Relating to Gardner's definition of intelligence (Hatch & Gardner, 1989, p. 5), Messick indicates Gardner's emphasis on the idea that each intelligence possesses culturally endorsed products and accomplishments in response to realistic tasks and activities. He elaborates on the role of the culture in Gardner's theory as follows:

> For Gardner, culture circumscribes the kinds of tasks and settings that should be used to reveal, in

> culturally meaningful and valued ways, the distinctive modes of thinking and performance that characterize each innate modular intelligence. Culture also determines which of the seven intelligences, in what combination are highly valued in a given society (p. 365).

Messick (1992) indicates that when referring to the seven intellectual modules as "relatively autonomous", Gardner's emphasis is clearly on the term "autonomous" rather than "relatively". According to him, there are two components providing the autonomy of Gardner's multiple intelligences: (a) Each intelligence has its own core information-processing mechanism that work in line with its own principles; (b) The presence of certain forms of information can be enough for direct activation of the core information-processing mechanisms.

Examining the relation of Gardner's theory to the preceding structural, hierarchical and factor-analytic theories, Messick (1992) claims that although there is support for the empirical differentiation of Gardner's Multiple Intelligences, there is also evidence of interdependencies among these intelligences. He explains that "These interdependencies take the form of general intellective processes as well as shared information-processing resources for encoding and structuring, memory retention, reasoning, judgment, fluent retrieval, and flexible structuring" (p. 371). He concludes that the two

main characteristics of Gardner's seven intelligences (being autonomous in function and having unique core information-processing mechanisms) received little or no psychometric evidence. He assumes Gardner's theory to be limited because of two main reasons:

1. Gardner's claim that the multiple intelligences have autonomous functioning is wrong.

2. Gardner considers seven isolated intermediate- to higher-order complexes, describing no general processes interconnecting them.

1.3 Social Development

In this section, first the social development during preschool years will be examined. Gardner (1983) as well as some other investigators (Bee, 1975; Fogel & Melson, 1988; Petit, Dodge & Brown, 1988; Rubin & Rose-Krasnor, 1992) emphasized the importance of the early bond between the infant and the mother on the development of social intelligence. Therefore, the first step of information will include Erikson's stages of psychosocial development as it explains best the infant's and the child's social emotional development and its relation to parental behavior. Next the views of Piaget and Kohlberg on moral reasoning will be explained. The reason for including these two views lies in the strong belief by the researcher of the present study that

they provide a basis for information about human social cognitive functioning. As Shantz (1983) also states, the idea that how one interacts with other people is largely effected by the way in which one conceptualizes and reasons about others. In other words, the child's social conceptions are heavily influenced by social interaction and experiences. As a final theoretical base, Social Learning Theory will be explained briefly, as it provides intensive information on moral development which lies at the heart of social development. Secondly, there will be a closer look at the development of self, as it strongly relates to one's intra-personal intelligence. Thirdly, as Gardner's personal intelligences overlap with social cognition and/or social intelligence, these concepts will be explained referring to the related literature. This will start with the examination of the development of social understanding and interpersonal problem solving, as these two subjects relate to Gardner's inter-personal intelligence. Then the place of social intelligence and its assessment in the extant literature will be presented. Following, individual differences in social intelligence will be examined, as it is related to the aim of the present study which tried to compare the personal intelligences of a group of Turkish low-and high-SES boys and girls. The final step in this last part will cover the importance of peer relations in children's social competence and interpersonal problem solving skills. The reason is that the present study investigates the peer interaction among subjects of the study as it is part of the assessment of

Gardner's personal intelligences.

1.3.1 Social Development During Preschool Years

1.3.1(a) Erikson's stages of psychosocial development. Stressing social and cultural aspects of development Erik Erikson proposed that individuals cross eight crisis points over the course of their lives; and that the lives of individuals are shaped by the way they cope with their social experiences. On the other hand, the social institutions and people shape the inner laws of development in each crisis period. This shaping may result either in filling or frustrating the person's needs (Clarke-Stewart, Perlmutter & Friedman, 1988).

As Hendrick (1988) states, early childhood covers the first three of these eight stages of Erikson: i) Trust vs Mistrust, ii) Autonomy vs Shame and Doubt, iii) Initiative vs Guilt. These will be explained here.

i) Trust vs Mistrust. Development of trust involves the baby learning that other people can be depended on and that he/she can depend also on him/herself to elicit needed responses for them. The quality of the care provided by mother plays an important role in this developmental process. When the infant's needs are met, he/she feels that he/she is valued and important (Hendrick, 1988).

Santrock (1990) explains that the feeling of trust toward the world--i.e., a trust that someone will always be around to care for one's needs-- will develop if the parents provide an infant care with warmth, regularity and affection. On the other hand, if the parents fail to meet his/her needs, the infant develops a sense of mistrust.

ii) Autonomy vs Shame and Doubt. Hendrick (1988) stresses the fact that the formation of the attitudes of this stage takes place during the same period of toilet training. Around the age of two the child has a fundamental exercise in self assertion and control. The child's striving for independence in this period is expressed by making choices and decisions. Santrock (1990) points out that encouraging and patient parents help the child develop a sense of autonomy, while highly restrictive and impatient parenting results in a sense of shame and doubt.

iii) Initiative vs Guilt. Hendrick (1988) states that the attitudes of this stage form around the age of four or five when the child becomes interested in the exploration of the world around him/her, in trying things out and in the effect of his/her actions on other people. This is also the time for imaginative play and formulating concepts of appropriate sex roles. In Santrock's (1990) words the initiative in the child is promoted by parents who allow the child to continue to explore the world's unknowns and encourage symbolic thought and fantasy play. Parents who are restrictive and punitive, on the other hand, raise in their children feelings

of guilt and a passivity in receiving environmental stimuli.

As Erikson's stages of social development imply, parental attitudes shape the social emotional development of children. Parental behaviors have great influence in these early years of development where children try to establish a balance between their inner world of feelings, moods and wishes, and the outer world of personal relations. It is the development of moral reasoning that serves as a means to maintain this balance. Thus, it is also necessary to take a look into the development of moral reasoning to understand children's social-emotional as well as social-cognitive development.

1.3.1(b) Piaget's view on the development of moral reasoning. Making extensive observations of and interviews with children from ages four to twelve, Piaget investigated how the child thinks about moral issues. In order to find out how children used and thought about rules, Piaget observed children while playing marbles. Furthermore, he asked them questions related to ethical rules, such as theft, lies, punishment, justice. As a result of these observations and interviews, Piaget proposed two stages of morality in children, depending on their developmental maturity. Displayed by younger children (from four to seven years of age) the first stage is called heteronomous morality, and it refers to a primitive way of thinking. The second stage symbolizes a more advanced way of thinking, evolving around ten years of age or older. This stage is called autonomous

morality. The children in between these two stages, ages seven to ten, experience a transition period showing some features of both stages (Santrock, 1990).

Bee (1975) states that the period of heteronomous morality is a stage when the child is discovering the physical laws such as the laws of conservation. According to her, applying the immutability of physical laws to moral laws the young child assumes moral laws to be fixed, unchangeable and eternal. Related to this idea Santrock (1990) points out the fact that Piaget's suggestion of introducing new rules into the marble game received resistance from the young children. However, the older children displayed the autonomous morality, thus, they accepted the change and recognized that rules were subject to change by consensus, because they were socially agreed upon conventions. Santrock (1990) further notes that for the heteronomous thinker, the underlying intentions play no role in the judgment of the rightness or goodness of a behavior but the observable consequences do. Another sign of heteronomous thinker is his/her belief in imminent justice--i.e., the child's belief that the violation of the rules automatically leads to punishment. This belief is reflected in the behavior of young children when they look around worriedly after breaking a rule, expecting immediate and inevitable punishment. Older children, on the other hand, displaying autonomous morality, are able to understand that punishment is a social input and that he/she will be punished only if a concerned individual

sees his/her violation of the rule.

1.3.1(c) Kohlberg's stages of moral development. In contrast to the assumption of the existence of fixed traits, Kohlberg proposed that moral character develops and moral growth occurs in a series of developmental stages. He asked people from different backgrounds and different ages to respond to problems involving moral dilemmas. From the responses, he came up with six judgmental systems that led him to generate six stages of moral development. The first two stages are called **preconventional morality**, corresponding to ages between zero to nine (Sprinthall & Sprinthall, 1981).

According to Sprinthall and Sprinthall (1981), "What Piaget identified as stages of cognitive development and what Erikson suggested to be the stages of personal development, Kohlberg described as the stages of moral development" (p. 200). The first two stages will be examined here because of their correspondence to infancy and early childhood years.

Stage 1 is the punishment and the obedience stage. The person obeys and makes moral decisions based on a very simple conception of physical and material power. Judgment relates to physical consequences of action. One's motives are dominated by fear of punishment. The self is seen as being dominated by other sources. In Stage 2 the actions are based on satisfying ones own personal need. There is the notion of exchanging favors but with a bit more benefit for one's self.

In other words, moral thinking shows an instrumental hedonism that provides little regard for the other person. There is a materialistic orientation. There is a one-way concern about the other person, in that one considers the needs of the other person if he/she thinks that it will benefit him/her. Compared to this stage, in Stage 1 the person is more self concerned (Sprinthall and Sprinthall, 1981).

Discussing the implications of Kohlberg's first two stages for teaching, Hendrick (1988) stated what Santrock (1990) explained about the judgments of the heteronomous thinker. He points out that for young children right is what the rule says (i.e., they don't reason or question the fairness of the rule), and that they base their judgments only on the observable consequences of the events (i.e., they focus on results rather than the underlying intentions). As Hendrick indicates:

> Four year olds approaching Stage 2 are beginning to understand a very simple form of reciprocity as justice .... The implication for teaching ... is that this is a practical time to introduce the concept of bargaining as an alternative to simply demanding what one wants (p. 195).

According to Hendrick (1988), both Piaget and Kohlberg stress the fact that the young child is self-centered and this egocentrism prevents his imagining himself

in the shoes of another. He points to the research finding that "young children who are taught by parents and teachers using other-person-oriented rather than rule-oriented reasons for behavior tend to be more mature morally than are youngsters who are simply provided with arbitrary rules" (p. 196). Hendrick seems to value Damon's (1978) indication that the interplay between cognitive maturation and social experience leads to the progression from one stage to the next. Social learning theory explains the processes involved in the development of moral behavior during this progression.

1.3.1(d) Social Learning Theory. Santrock (1990) indicates that social learning theory has influenced the study of moral behavior. According to him, children's moral behavior is explained by the main processes of this theory. These processes are: reinforcement, punishment and imitation. An enormous amount of evidence shows that children imitate the models around them and that such imitation helps children learn new behaviors (Bee, 1975).

Apart from its stress on the role of imitation on moral development, there are two important points about the social learning view of the moral development: First, there is an extensive situational influence on moral development. In other words, the behavior of a child in a particular situation is only weakly related to his/her behavior in other situations. Second, the development of

self control is strongly important because of its links to the ability to resist temptation. The child should control his/her impulses when he/she wants something prohibited. Accordingly, he/she must learn how to be patient, and how to delay gratification. Recently, social learning theorists assumed cognitive factors to play an important role in the child's development of self control (Santrock, 1990).

1.3.2 Development of Self

The early phases of the development of self concept involve two cognitive accomplishments: 1) The child should realize that he/she is separate from others; that his/her body and the mother's body are not a single unit. Parallel to the development of the object concept during the first six or eight months, the notion of separation of self from the rest of the world develops. 2) Following the notion of the separation of self, the child starts to understand that self is a constant event. At this point the child begins to see his/her body and his/her self as a single and continuous event. It is this understanding that leads to the development of a stable concept of self. The experience of this understanding during the first several years turns into a stable and unitary view of one's self by two or three years of age (Bee, 1975).

Harter (1983) summarizes four major approaches to the emergence of self during infancy:

a. Visual recognition studies: These studies provide evidence that during infancy the first development of the sense of self involves a sense of it as subject--i.e., "an active agent independent of other active agents" (p. 290). Following this developmental acquisition comes the infant's appreciation of "self as a physical object with invariant features that it can recognize and differentiate from others as recognizable objects" (pp. 290-292). The results of these studies suggest that the infant learns the self as agent before learning the other as agent; while the learning of the self as a recognizable object comes after the learning of the other as a recognizable object.

b. Mahler's phases of separation-individuation: This model holds a view of self-other differentiation with a more socio-emotional thrust. Taking mother as the center of the separation-individuation process, this theory is interested in the infant's developing representations of more the mother rather than of the self. During infancy a stable or constant intrapsychic representation of mother is developed. This representation of the mother helps the infant to feel comforted when the mother is absent.

c. Ainsworth's phases of attachment: This theory converges to Mahler's, in stage descriptions of the attachment process. Additionally, there is an emphasis on the delineation of individual differences in the pattern or nature of the attachment bond and the possible effects of these differences on children's developing sense of self.

d. Sander's stages of mother-infant interaction: This model can be considered as a first step of an attempt to integrate the preceding three frameworks, in order to provide a comprehensive model of the development of the self understanding. Interested in how the particular features of the mother-infant interaction affects the infant's emerging sense of self, Sander primarily focused "on the cognitive representations that come to define the self as an active agent, schemata that form the basis for one's sense of self-constancy" (Harter, 1983, p. 292).

Children's realization that they are distinct from other people comes by the age of two (Clarke-Stewart et al., 1988). Bee (1975) indicates that it is only about two years of age that children begin to use their own name when referring to themselves. She points out that around the age of three the child begins to show considerable independence and insistence on autonomy, which may reflect the developing concept of the self. The assertive attempt to do things by him/herself enables the child to measure the boundaries of his/her skills.

According to Allport (cited in Bee, 1975), by age four, the extension of self indulges in possessiveness. The child's increasing participation in cooperative rather than parallel play can be a reason for this possessiveness. Other's judgments about one's abilities and behavior are perceived by the child during the early years, and it is

these early inputs that help the child to form his/her overall self-image. Around age five or six there starts the verbalization of one's feelings about one's self. The child at this stage has positive and negative judgments about him/herself. The child's knowledge and belief about him/herself is shaped by environmental messages--i.e., the judgments of others about him/her and by their actions toward him/her-- as well as by his/her own experiences of competence and failure (Bee, 1975).

Like many researchers interested in the issue, Harter (1983) also points out the importance of the social context in examining the self in relation to others during childhood. According to her, in order to understand how the judgments of significant others affect one's concept of self, it is important to examine the interface between cognitive-developmental factors and social influences, in the form of perspective taking. Another related important point comes from the ideas and findings of some researchers that for preschoolers the definition of self comes in terms of physical actions and possessions rather than abstract psychological qualities (Broughton, 1978; Clarke-Stewart et al., 1988; Keller, Ford and Meacham, 1978; Secord and Peevers, 1974).

1.3.3 Social cognition and social intelligence

The development of social knowledge and social reasoning have been studied only during the past 15 years (Shantz, 1983). Taylor (1990) indicates that during this period very little social intelligence research has been carried out, and that there have been no attempts in the related literature to directly connect social intelligence theory with social competence. He claims that using different terms, concepts similar to social intelligence have been investigated by behavioral scientists. According to him, in the literature related to social perception, social competence, social cognition and person perception, there is information parallel to the concept of social intelligence.

Rubin and Everett (1982) believe that the recent trend to investigate how children conceptualize the figurative and literal points of views of others stems from Piaget's idea that similar cognitive operations work in the growth of knowledge concerning the social-personal and the physical worlds. They state that this new line of research emphasizes the child's engagement in social cognizing, i.e., "child's abilities to think about their social worlds" (p. 97). According to Shantz (1983), social development and cognitive development have been studied as largely isolated from each other, and the field of social cognitive development tries to understand the relation between social behavior and cognitive development. Another important feature

of the field of social-cognitive development stated by Shantz is its attempt to extend the study of cognitive development from the traditional nonsocial problems to social ones.

Shantz (1983) explains the three major streams of work in the field of social-cognitive development as follows:

a) Piagetian view of cognitive development: Piaget was interested in understanding how children communicate with one another and how they understand the rules of games. Although the portion of his work dealing with social concepts and reasoning was small, providing him less clear evidence for the stages of the social concept development than in the nonsocial areas, this work resulted in his proposition of the construct of egocentrism. A good deal of research has focused on this construct.
b) Studies by social psychologists on adults' social reasoning and social judgment.
c) Recent belief in the need for observation of children in social interaction in order to gather information about social knowledge and reasoning.

1.3.3(a) Development of social understanding during the preschool years. During preschool years children develop some skills that help them deal with important aspects of social understanding. These aspects are: understanding people who exist in one's social world; interpreting their emotions and intentions; and effective communication with

people around. During the early childhood period children start to learn to understand people's emotional expressions and to guess the emotions that are likely to be provoked in particular situations. By age three children are able not only to recognize and label facial expressions but also to give examples of these expressions as well. Different studies have led to the conclusion that the preschooler's interpretations of emotional expressions and social situations are clearly more skillful than that of the toddler's. However, they make interpretations that are still relatively unsophisticated, superficial and unsubtle (Clarke-Stewart et al., 1988).

According to Fogel and Melson (1988), following a cognitive developmental framework, Selman (1980) proposed the most comprehensive theory about interpersonal understanding. They state that in order to gather information about how children view people around them, friendships, parent-child relations and peer groups, Selman made extensive interviews with children at different levels of age. Some researchers mention Selman's view as a model of social perspective taking (Shantz, 1983; Rubin & Everett, 1982). Examining the social perspective taking in young children, Rubin and Everett (1982) placed Selman's model under the category of cognitive perspective taking which they define as follows: "the ability to consider others' thoughts and intentions" (p. 97). The other social perspective taking categories they mention are affective and spatial perspective taking. Selman, Schorin,

Stone & Phelps (1983) proposed that in the early years of development the child discovers the capacity of social perspective taking.

According to Selman and his colleagues, the definition of the understanding of the interpersonal world involves "person's conceptions of other people in general (i.e., intrapsychic functioning), close friendships and peer group relations" (Pellegrini, 1985, p. 253). Selman et al. (1983) explained that social understanding initially is confused and syncretic, and that it is about three to six years that the first of the five qualitative levels of reflective understanding appears. Rubin and Everett (1982) state that this first stage is called Stage 0 (egocentric role taking stage), and that although the child can not make a distinction between his own perspective and those of others who share a common experience, he is able to understand that others may have distinct thoughts and feelings. According to these two authors, in this stage the child thinks that the experience shared with others is perceived by others in the same way as by the self. Selman et al. proposed two important realizations emerging in this first level: "a) distinction within the self between intentional and unintentional actions, b) a distinction between self and other, the recognition that different persons may or may not have different subjective perspectives on the objectively same social situation" (p. 82).

Shantz (1983) describes two major models of perspective taking one of which is Selman's model. Examining the two models, she decides that describing the different types of perspective coordination that occur in ontogenic development, Selman's is more structural. The second model she describes is Flavell's (1968), which is an information processing model sequencing four cognitive acts in learning to take the role of another: 1-Existence, 2-Recognition of need, 3-Inference, 4-Application. The existence phase is a period where the individual engaged in social cognition discovers the possibility of the existence of different points of view possessed by different people.

Flavell and his colleagues have extensively studied the existence phase in the spatial perspective taking view (Shantz, 1983). Rubin and Everett (1982) present Flavell's propositions on spatial perspective taking as follows: Flavell attributes the children's performance variation on different spatial tasks to the existence of two different perspective taking levels. The first level refers to the skills of 3 year olds. The child in this level is able to recognize that others may have a vision of the objects different from the self, and to identify what objects are in the vision of others. In later preschool years the child possesses the skill denoted by the second level. In this level the child not only discovers what others see, but also understands the way others view objects and events.

1.3.3(b) Interpersonal problem solving. Rubin and Rose-Krasnor (1992) discussed the importance of interpersonal exchanges of ideas, perspectives and concerned actions on the promotion of development of social cognition and social competence. Providing different definitions of social competence by different researchers within an interpersonal problem solving framework, these two authors concluded that the concerned definitions shared the following features:

1) In their definitions of social competence, most researchers refer to "effectiveness"
2) "Competence" seem to refer to the person's manipulation of others to meet his/her own needs and goals. It is important in this manipulation to use "conventionally accepted means in accord with common sense" (p. 285)

After reviewing different related definitions, Rubin and Rose-Krasnor (1992) provide their own definition of social competence as follows: "the ability to achieve personal goals in social interaction while simultaneously maintaining positive relationships with others over time and across situations" (p: 285).

Pellegrini (1985) contends that two aspects of social cognition are interpersonal understanding and means-ends problem solving ability. He reports Jahoda (1953) to be one of the first researchers to recognize the possibility that the individual chooses and applies a variety of problem

solving skills and strategies in problematic social situations. According to him, the variety of discrete social problem solving skills identified in a recent body of research, shows that the ability of means-ends thinking plays the central role as a mediator of adjustment from middle childhood onward. Pellegrini presents the definition of this ability as "the ability to plan and coordinate a series of specific steps in order to reach a social goal and to recognize potential obstacles and alternative means to the goal within a realistic time framework" (p. 254). Furthermore, he claims a positive relationship between the maturity of one's interpersonal understanding and the effectiveness of one's means-ends thinking.

Rubin and Rose-Krasnor (1992) examined the construct of interpersonal problem solving by reviewing the literature extant and they concluded that the study of interpersonal problem solving and social competence is still in its infancy. They provide a good deal of information about the conceptual models for the processing of social information:

Goldfried and D'Zurilla (1969) provided one of the earliest models of social competence. Their approach to problem solving ability suggested a multistep process. This process sequence included: 1-Identifying a problematic situation, 2-Generating possible alternatives to solve the problem, 3-Deciding on an appropriate alternative for the situation, and 4-Implementing the chosen strategy. This model

influenced the writings of Spivack and Shure (1974), who proposed that the best definition of children's social competence involves a set of interrelated interpersonal cognitive problem solving skills. Assuming a developmental framework for the elements of these skills Spivack and Shure diverged from Goldfried and D'Zurilla's model. According to them the interpersonal cognitive problem solving skills included the following components: a) the ability to sense or to cognize interpersonal problems, b) generation of alternative solutions to solve these problems, c) consideration of step-by-step means to achieve social goals (means-ends thinking), d) articulation of the consequences of social acts for one's self and for others, and generation of alternative consequences to socially significant acts before deciding how to behave (casual thinking), e) identification of and understanding the motives and behaviors of others. Including advanced perspective taking skills and the ability to appreciate consequences play important role in the last three components of interpersonal cognitive problem solving skills. However, according to a strictly Piagetian view the possession of advanced perspective taking skills and the ability to appreciate consequences are virtually nonexistent in early childhood (Rubin and Rose-Krasnor, 1992).

According to Rubin and Rose-Krasnor (1992), there are three major models of social competence that emerged in the 1980's. One of them is Selman's model, which they assumed to

have a neo-Piagetian perspective and called a "model of interpersonal negotiation and communicative competence" (p. 293). They claim that the other two models have a decidedly information processing bias:

1) Rubin and Rose-Krasnor's Social Information Processing Model of Social Competence- Emphasizing the significance of context this model takes into account the following components: a) children's social goals (goals refer to the end state of the problem solving process and they are the basis for outcome feedback), b) accessing and selecting strategies (There are several means that strategies are chosen to achieve social goals; e.g., retrieval from a cognitive repertoire, generating and testing the available strategies) c) production of strategy behaviors in the relative context, d) outcome of the strategy (assessment of the relative success of the initial problem solving interchange) e) This last component comes on stage when the initial strategy is judged to be a failure. In such a case three options are possible: i) stopping the sequence and leaving the goal unattained, ii) repetition of the original strategy, iii) alteration of the previous strategy to reach the same goal. The behaviors of social competence are significantly influenced by factors such as internalized attributions, self perceptions and emotions (Rubin and Rose-Krasnor 1992).

2) Dodge's Model of Social Information Processing: This model aimed to explain and predict the consistent demonstration

of aggressive behavior in children. Four sequential steps are proposed to be necessary for the demonstration of skilled social behavior: a) encoding of social cues, b) interpretation of the encoded cues, c) accessing and generating possible responses to the interpreted social cues, d) enacting the chosen response. Like Rubin and Rose-Krasnor's model, Dodge's also incorporates the rapid occurrence of the processing steps in real time. Moreover, both models assume a dynamic interrelation as well as separation among the information processing steps and a particular sequencing of these steps. Finally, both models assume the possibility of the processing to be automatic at the unconcious level. However, Dodge's model focuses on externalizing disorders whereas Rubin and Rose-Krasnor's focus is on children with internalizing difficulties. Besides, Rubin and Rose-Krasnor's examination involves observation of social activity while Dodge's involves more the use of interview procedures.

1.3.3(c) Social intelligence. One reason for the recent attention to social intelligence by a growing number of researchers is the curiosity of psychologists, educators and parents about the relationship of traditional measures of intelligence to the demands of everyday reality. Since everyday life necessitates some interpersonal skills to get along with people around, these skills might be as crucial as testing the spatial ability or analogical reasoning. Not only that there may be up to 29 different indicators of social

competence, but some traits (e.g., assertiveness or independence) might be appropriate in one situation while inappropriate in another. Knowing when to use such skills is one important index of social intelligence (Rice, 1979).

Keating (1978) states that the term "social competence" can be used instead of the term "social intelligence", "if one prefers to reserve intelligence for more traditional uses" (p. 218). Wilkinson (1983) proposes that "the term social intelligence refers to the range of human competencies involved in functionally appropriate interpersonal behaviors" (p. 305). Her conception of social intelligence includes communicative competence as the main aspect, and this competence refers to "the ability to communicate effectively in social situations" (p. 305). According to Wilkinson (1983), one examination by Sternberg, Conway, Ketron and Bernstein (1981) demonstrated that both experts and nonprofessionals in the intelligence testing movement assumed a domain of social competence underlying human intelligence. However, she claims nonprofessionals to be more likely to describe social intelligence as a significant separate factor following the factors of verbal ability and practical ability. This factor of social intelligence involves the components such as sensitivity to the needs and wishes of other people and being easily interested in the environment.

Ford and Tisak (1983) suggest three criteria defining the domain of social intelligence as it appears in the literature: (a) Decoding of social information- involves the abilities of understanding nonverbal cues and making correct social inferences. (b) Effectiveness or adaptiveness of one's social performances- In this criterion, the key element in the definition of social intelligence is the behavioral outcomes which are supposed to be preceded by social-cognitive skills. (c) Measure of any social skill is treated as included within the domain of social intelligence. Ford and Tisak state that in their study searching for social intelligence, they used the behavioral effectiveness criterion to define social intelligence. They define social intelligence as "one's ability to accomplish relevant objectives in specific social settings" (p. 197).

It was Thorndike in 1920 first to present the idea that there is a social intelligence distinct and different from other intellectual processes such as academic skills (Ford & Tisak, 1983; Taylor, 1990). Another important researcher on this issue pointed out by Taylor (1990) is Chapin (1942) being among the firsts to study the relationship between the internal psychological processes and social behavior. He states that according to Chapin (1942), being triggered by cues, the social insights or skills allow people to appropriately change from one environmental context to another; and these skills involve both unconscious

motivations and cognitive functions.

The 1960's witnessed the most intensive period of social intelligence research and instrument development. Guilford's theory proposed that behavioral skills were separate from academic abilities and that they involved at least 30 measurable social factors (Guilford et al. 1965). Unlike Guilford, the new social intelligence models--i.e., the ones emerging during the 1980's--emphasize interactional ecological and contextual issues. Also more emphasis on common or practical skills required for work, interpersonal relationships, social planning and daily living is provided by these new models. The idea of social intelligence maturity evolving through identifiable stages gained importance. The studies of many investigators supported this notion that social growth is stage dependent (Taylor, 1990).

According to Taylor (1990), psychosocial maturity is assumed to include three processes: "(1) effective individual functioning, (2) effective social relationships, and (3) systems maintenance" (p. 448). He indicates that effective social relationships involve some features of mutual predictability, which refers to individual's capability of predicting relative constancy of attitudes, values, and behaviors of the people in his/her field of interaction. Taylor also points out Marlowe's (1986) demonstration that social intelligence involves five factors, each of which is independent of verbal and academic

intelligence. These factors are: "(1) prosocial attitudes or interest, (2) social skills, (3) empathy skills, (4) emotionality and (5) social anxiety" (p. 448).

In his extensive review of literature on the assessment of social intelligence, Taylor (1990) also mentions Gardner's theory as one of the recent models expanding social intelligence concepts to include social psychological and neurological terms. According to him, in Gardner's model social intelligence is referred to as personal intelligence, being an independent system coordinated by the frontal lobe. He specifically points out Gardner's belief in the influence of culture and history on the development and expression of social intelligence. He further states that a study carried out by him and his colleagues (Taylor et al., 1988) provided support for Gardner's primary concepts.

Keating (1978) tried to investigate social intelligence as a separate domain of ability, however, his study was not able to support the existence of a social intelligence domain. He reported three criteria for the selection of the social intelligence measures in his study: "a) location within the conceptual domain of social intelligence, b) existence of reasonable validational evidence, (c) objective scorability and reliability" (p. 218).

Ford and Tisak (1983) followed Keating's (1978) study. Using the same methodological model--i.e., correlational analyses--they were able to find a distinct social intelligence factor. They indicate that in Keating's (1978) study, the failure of correlational analyses to support the existence of a social intelligence domain is consistent with most previous research. They agree with Keating's (1978) own explanation of the negative results of his study, pointing at the possibility of the inadequacy of the selected measures for the social intelligence domain. Emphasizing the behavioral effectiveness criterion Ford and Tisak correlated four measures of academic intelligence and six measures of social intelligence in three different ways. They were not only able to demonstrate both convergent and discriminant validity as a result of the univariate correlations, but they also found a distinct social intelligence factor as a result of factor analyses. Furthermore, their study reversed the finding of Keating (1978) suggesting that the academic measures are a better predictor (than the social measures) of social competence. As a result of the related multiple regression analysis, Ford and Tisak found a greater power of social measures to predict a behavioral measure of social effectiveness. They attributed the success of their study to the clear and consistent use of a behavioral effectiveness criterion in selecting the measures of social intelligence; and they concluded that their study supported the identification of an empirically coherent domain of social intelligence at least within the

adolescent age range (their subjects consisted of 620 adolescents).

Wilkinson (1983) describes three main issues recurring consistently in the eight decades of research of adults and infants, and she maintains that there has been no resolution to these controversies. These issues are as follows: (a) Is social intelligence a separate factor or a social application of general intelligence? (b) Should the measure of social intelligence include the use of standard tests or the observation of the natural behavior? (c) Is social intelligence influenced by experience?

1.3.3(d) Assessment of social intelligence. Taylor (1990) draws attention to the definition of intelligence by Wechsler (1975) as "the capacity for understanding, coping and responding to life events" (p. 446), and he criticizes that most IQ scores have almost no reflection of the brain's social domain. According to him, instruments with IQ scores not only fail to indicate the degree of support an individual experiences within an environmental setting, but they also do not assist in estimating skill changes from one environment to another. Ford and Tisak (1983) indicate that being modeled after the traditional intelligence tests, most social intelligence measures included items that are abstract, decontextualized and outside the range of everyday problems. As a result of this kind of a measurement strategy, they claim that most social intelligence tests do not have a link

with one's actual competence in salient social situations.

Wilkinson (1983) examines different views of various researchers on the assessment of social competence. According to her, Zigler and Trickett (1978) proposed two criteria to be tapped by the assessment of social competence. These were the success of the person in meeting the societal expectations; and the self actualization or personal development of the human being. As Wilkinson states, Lee (1979) criticized Zigler and Trickett's model as ignoring the cultural variations, and proposed that the assessment of social competence should include observations of natural behavior during social exchanges. She indicates that according to Lee, this was necessary to understand effective behavior, the related goals and the circumstances under which it occurs. Wilkinson also presents Greenspan's (1980) belief that such assessment should involve a more focused range of elements including temperament, character and social awareness. She indicates that for Greenspan, both the outcome and the process is important in the adaptation of the individual to social context; in other words he is interested in "whether" and "why" individuals succeed. According to Wilkinson, another figure emphasizing the adaptation of the individual to everyday life is Charlesworth (1976), who also believed in the importance of the observation of spontaneous behavior in natural circumstances in the assessment of individual's intelligence.

According to Taylor (1990), the review of extant literature shows that the development of a social intelligence scale has been extremely slow and often unproductive. He points out two suggestions on the issue that appear in the literature:

1) It is possible to use part of the SOMPA (The System of Multicultural Pluralistic Assessment) as a traditional psychometric method of measuring social intelligence or practical intelligence. Using a behavioral criterion model for instrument construction, the rating system in SOMPA involves the observable behaviors, social and cultural learning, multienvironmental role performance and academic achievement. The underlying idea suggests that social intelligence skills and behaviors change according to the role and environmental perceptions and therefore there is a need for a contextual measurement of abilities within specific ecological systems.

2) Measurement of social intelligence should be based on a system of expert group comparisons. This system incorporates the use of a prejudged expert or highly skilled group to which an individual's performance is compared.

SOMPA, which is an adaptive-behavior inventory, is also mentioned by Rice (1979) as a typical attempt at measurement of social intelligence or social competence. However, Taylor (1990) contends that SOMPA necessitates the

use of outside observers and only a limited population can be tested with it. According to him the second option suggested is also difficult, expensive and almost impossible approach for a treatment team to implement. Hence he concludes that the unfortunate requirement that social intelligence assessments be primarily developed from professional insights, skills and judgments, forces the clinician to construct semistructured interviews and to use some established instruments that were not originally designed for measuring social intelligence.

Among the numerous published social skill rating scales, Taylor (1990) values three:

1) The Vineland Adaptive Behavior Scales: The revised interview schedule includes structured questions examining communication proficiency, daily living skills, socialization, motor skills and maladaptive behaviors. The socialization section includes interpersonal relationships, play and leisure time, and coping skills. Knowledgeable observers provide the data, but an easy adaptation of the questions to investigate the client's personal perceptions is also possible.

2) K-ABC or Kaufman Assessment Battery for Children: Although not designed as a social intelligence instrument, following the neuropsychological theory, this battery provides insights into the measurement of social problem solving skills, social knowledge and social flexibility.

Abilities and perceptions are evaluated in relation to the social information. The items' predictive power for actual social competence need to be investigated in future studies.

3) Social Systems Card Sort: Requiring children to rank order pictures of community systems, this instrument demonstrated that a child's social knowledge, self esteem and social maturity is in part dependent on age and social perceptions. Although it lacks validity and reliability for the moment, it seems to be an excellent instrument to use at the beginning of a social intelligence assessment, as it produces little client anxiety, asks for opinion rather than knowledge and has an assisting process in structuring communications.

Under the light of all the related information, one can conclude that there is only a recent attempt to explore the field of social intelligence; that possibly because of the lack of a comprehensive definition, there are different views and conflicting results of related studies; and that it needs an establishment of validity measurement and hence a lot of related investigations to be carried out.

1.3.3(e) Individual differences in social intelligence-social competence, and interpersonal problem solving skills. Individual differences in social intelligence and interpersonal problem solving skills will be examined with respect to social class and sex. As Pellegrini (1985)

states, generally, social-cognitive functioning is demonstrated to have a little relation to sex and only a modest or moderate relation to social class.

i) Social Class Differences in Social Intelligence and Interpersonal Problem Solving Skills. Tyler (1965) states that generally the differences between social classes on various personality characteristics are wider than their differences on measures of ability. She mentions different studies providing evidence that there are significant class differences in interests, attitudes and values. According to him, an important related issue is that class differences in personality traits are related to class differences in methods of rearing children. He mentions one main difference that appeared as a result of related studies, in that lower class child is not taught to inhibit his aggressive and sexual impulses, as is the middle class child; and that the lower class child seeks immediate gratification rather than deferred satisfaction.

Tyler (1965) also points out some studies supporting the oversocialization of children in the middle and lower classes, in that middle class children are found to express feelings less directly and exercise more self-control. One of such studies is Alper et al.'s (1955), where they found four year olds from middle and lower classes displaying different reactions to fingerpaints. Finding middle class children to be more anxious about smearing paints around, they attributed

the differences to socialization factors in the two classes, and particularly to the earlier and more severe toilet training in the middle class. Another interesting example is a group of studies carried out by Miller and Swanson (1960). Tyler summarizes the important results of these studies and she indicates that the results provided evidence for many propositions about socialization practices that were in line with the psychoanalytic theory. The results showed that while middle class parents displayed more psychological methods of discipline, working class mothers employed more the use of corporal punishment and either concrete rewards or no rewards at all. Moreover, the middle classes incorporated earlier weaning and more forceful toilet training. Tyler concludes that "As Freud would have predicted, these differences resulted in more repressive kind of defenses, along with more planning and self control, in middle class children, and to more direct behavioral expressions of anger and anxiety in working class children." (p. 359)

There are also other investigators implying the indirect effect of different parenting and child rearing practices leading to different social behaviors of children from different classes (Fogel & Melson, 1988; Golden & Birns, 1983; Hart & Edelstein, 1992). Fogel and Melson (1988) summarizes the consistent class differences in parenting as found in research. They mention five dimensions of behavior where such differences appeared: responsiveness to children, language, discipline, values, affection. They conclude that

the middle class parent seems to be more authoritative, and less permissive or power assertive than the lower class parent. However, Fogel and Melson (1988) draws attention to the fact that the concerned research provides overlap in parent child interaction. They indicate Maccoby's (1984) finding that within class variation--differences between families of the same social class--is greater than between class variation.

One important issue with regard children's social competence seems to be parent-child interactions, which in the early years lead either to a secure or insecure attachment (Bee, 1975; Fogel & Melson, 1988; Petit, Dodge and Brown, 1988; Rubin & Rose-Krasnor, 1992). According to Rubin and Rose-Krasnor (1992) the attachment relationship leads to the child's development of an internal working model of the self in relation to others; hence, it is possible to suggest a conceptual link to the development of social problem solving skills within the context of a secure relationship. They state that secure relationships seemed to be caused in part by sensitive and responsive parenting. Some of the other important aspects of parent child interaction as it relates to social competence of children are presented by Rubin and Rose-Krasnor (1992) as follows:

1) Secure attachment leads the child to actively explore the social environment where the child probably will experience peer play.

2) It is the competent parent who provides the child with an appropriate social problem solving model as well as encouraging the independent development of the related processing skills. The competent parent has the following abilities: emotional availability to the child, sensitive to social situations as well as the thoughts and emotions of his/her child, ability to participate his/her child's behaviors and the consequences of the child's actions as well as predicting the outcome of his/her own actions.

3) Insecure attachment provides the child cognitions of a comfortless and unpredictable social universe. Such children either withdraw from the social situation or engage in an inappropriate exploration involving a kind of battle with peers--a behavior that finally leads to peer rejection and isolation.

4) Incompetent parents and insensitive, unresponsive care giving result in an insecure attachment. Having adult centered goals and limited range of alternatives of social strategies and choosing problem solving strategies that are highly power assertive, incompetent parents are poor problem solvers within the context of the parent child relationship.

Another important issue on children's social competence seems to be verbal interaction in the parent-child relationship. The importance of verbal skills in one's self understanding and social competence is noted by

different researchers (Golden & Birns, 1983; Hart and Edelstein, 1992; Luria, 1973; Piche, Rubin and Michlin, 1978; Taylor, 1990).

Assuming that communicative competence is an important aspect of social intelligence, Wilkinson (1983) points at the infants' inborn ability to participate in social interaction with others and the importance of verbal and nonverbal communicative behaviors present in the parent-child relationship in facilitating the acquisition of communicative competence. Shachter and Strage (1982) mention the importance of social class differences in the socio-emotional and motivational aspects of the early verbal environment. According to them, being an active process, language development requires self confidence and motivation and it is the responsive style in talking to young children, displayed by the high-education/ income mothers that fosters the growing autonomy and independence as well as the self confidence of the language learning child. They arrive at this conclusion by referring to Shachter's (1979) related study where he found differences in responsive speech in different social classes; although there was no difference in the level of instructional talk and initiation of conversations by the mothers of the two social classes. Low-education/income mothers were speaking to their children in a communication style which involves directives and direct instructions. Whereas high-education/income mothers were speaking responsively with their children in a communication

style which involves response to a communication started by the child related to topic introduced by the child. Furthermore, high-education/income mothers were also found to produce three times more (than the low-education/income mothers) in response to a prior communication of the child.

Hart and Edelstein (1992) state that "Vygotsky's theory would suggest that differences in language use between higher and lower social classes merit special attention in investigations of the link between social context and self understanding." (p. 365). They provide several reasons for social class differences in children's self understanding. These reasons involve comparisons of middle and lower class parents, where middle class parents are found: 1) to use more personal-subjective statements, 2) more to value intellectual achievement, 3) to be more successful in encouraging the development of social perspective taking. Although reporting a modest effect of social class, Hart and Edelstein (1992) found that higher social class children were more likely to think of themselves in terms of psychological characteristics. According to them, this finding provided support to the idea that social class is an influencing factor in shaping children's understanding of self.

Golden and Birns (1983) examine studies comparing social classes with respect to children's behavior. One interesting example they provide is a longitudinal study by White (1975) where the subjects were 40 children between one

and three years of age from five different SES groups. They state that using White's index of social competence and some cognitive measures including Bayley mental scale, this study found no relationship between social class and social competence at 12 months of age. At three years of age, although there was a significant correlation between social class and intellectual competence (measured by the Stanford-Binet), social class did not correlate with social competence. After reviewing some studies comparing social classes with respect to children's behavior, Golden and Birns claim the possibility of an interaction between social class and sex on some cognitive and personality measures. Hence, they suggest that reports of social class differences should provide results on males and females stated separately.

ii) Sex differences in Social Intelligence and Interpersonal Problem Solving Skills. Tyler (1965) examines sex differences in social sensitivity and organization of personality. According to her, a large number of research with different measuring techniques and subjects of all ages from preschool to adulthood, has shown that females are more dependent upon people, and more personal in their orientation to life than males are. Tyler indicates that many of the developmental studies led to the conclusion that the same home influences such as child training methods and parental attitudes, have different effects on boys and girls. One of the related examples she provides is Bronfenbrenner's (1961) analysis of home influences related to responsibility and leadership in

tenth graders. The results indicated that boys with warm and nurturant mothers and moderately strong disciplinarian fathers, were found to be high in responsibility and leadership traits. However, for girls, strong paternal discipline was related to irresponsibility; and nurturance and warmth were associated to dependency rather than leadership. Another interesting example provided by Tyler is Schaefer and Bayley's (1963) analysis of a longitudinal data from infancy through adolescence. According to Tyler (1965), their interpretation of the results of this analysis suggested that the adjustment measure of boys demonstrated more stable developmental structures of interpersonal relationships, while the adjustment measure of girls provided their current interpersonal worlds. A related investigation by Shure and Spivack (1978) demonstrated that "maternal choice of inductive techniques (suggesting solutions, explaining consequences) to socialize children's interpersonal problem solving skills was associated significantly with their daughter's production of numerous alternatives to hypothetical social dilemmas. Similar findings were not discovered for mothers and their sons" (Rubin and Rose-Krasnor, 1992, p. 306).

Like in SES differences, some researchers indicate the importance of different parental attitudes on development of sex differences. Bee (1975) pointed at differences in infant rearing that result in a more secure attachment of girls (than boys) to their mothers. Another example is Fogel

and Melson (1988) who indicated that there are some studies on early parent-child interaction, which illustrate differences in parental behavior and attitudes toward each sex. Examining individual differences in emotional understanding, Fogel and Melson (1988) state that there are no consistent sex differences found by the research extant to support the belief that girls show more sensitivity and caring than boys. Instead they emphasize the role of environmental experiences (especially parental attitude and play experiences) to explain individual differences in understanding the feelings of others.

Providing a good summary of sex differences on personality and social interaction, Bee (1975) contends that sex differences in personality and behavior are positively related to age; in that the difference increases with age. Whereas the behavior of aggression is an exception, there are consistent sex differences in aggression observed from the earliest years.

According to Rice (1979), the results of a study investigating interpersonal relationships of three year olds demonstrated that the social behavior of children is effected by the family structure and parental beliefs as well as by their sex. In this study girls were found to prefer ending of a friendship in case of hitting of the friend or the friend playing with someone else. Rice also explains the results of a study with three and a half year olds where children were

asked what they would do during a game if there are three children and only two of them want to play. In this study girls were found to be more optimistic than boys in the prediction of the success of their strategy. Furthermore, it is stated by Rice that when the first strategies fail, girls tend to give up rather than develop alternatives, while boys were more likely to display aggressive strategies like hitting. Studying children's influence strategies, Cowan and Awants (1988) found evidence supporting the idea that sex differences in strategy use emerge in childhood; and that the socialization within the family may have a partial influence on these sex differences.

1.3.3(f) The importance of peer relations in children's social competence and interpersonal problem solving skills. As Santrock (1990) indicates, Piaget believed that the social interaction experienced in peer relations fosters the development of social understanding. He also points at the similarity of power and status of others to the individual in the peer group. According to him, this feature of peer group helps the child to be engaged in the negotiation and coordination of plans as well as in reasoning about and solving of the probable disagreements. Piaget's proposition that conflict resolution during peer play is important in the development of children's moral understanding is also mentioned by some other researchers (Berndt, 1983; Clarke-Stewart et al., 1988; Fogel & Melson, 1988; Rubin & Rose-Krasnor, 1992).

There has been an increasing recognition of the role of children's peer relations in the development of competence (Asher, Renshaw & Hymel, 1982). Some investigators indicate the strong relationship between children's social skills and popularity among and acceptance by peers (Bee, 1975; Clarke-Stewart et al., 1988; Hartup, 1992; Rubin & Rose-Krasnor, 1992). The general view proposes that popular and easily accepted children possess positive skills of social competence. Asher, Renshaw and Hymel (1982) point out the suggestion by correlational studies that later adjustment problems (e.g., dropping out of school, suicide, delinquency, mental health problems, discharge from military service) are related to the early difficulties in social interaction with peers. According to these researchers, the acceptance of the child by the peer group is an important factor influencing the social knowledge and the social behavior of the child. They also state the importance of improving children's social skills in increasing the acceptance of the child by the peers. For Asher, Renshaw and Hymel, there are three main social skills contributing to peer acceptance: 1) initiating interaction with peers, 2) maintaining relationship, 3) conflict management.

1.3.4 Literature in Turkey

The personal efforts of the present researcher did not reveal the existence of any study in Turkey examining specifically SES, age or sex differences on social competence

in the early years of life. However, there are some studies examining child rearing practices and parental attitudes in different social classes. One example is Lecompte's (1978) study where she examined child rearing practices displayed by the different social classes in Turkey. She demonstrated that lower class parents do not provide their children with a democratic environment involving independence and friendliness, but they valued more the discipline and control over the children. Lower class parents were found to apply control over their children's behavior more than middle class parents in a study by Ulugtekin (1977), where she investigated the relationship between child rearing practices and children's aggressive and dependent behavior.

According to Bekman (1982), in Turkey, studies of sex differences as related to child rearing practices and parental values indicate differential attitude towards and socialization of boys and girls. One of the related examples she provides is Kağıtçıbaşı's (1978) study, where attitude towards and socialization of boys and girls were found to be related to sex-role differentiation. Literature outside Turkey also points out the environmental assertion that boys and girls receive different treatments from birth on (Bee, 1975; Clarke-Stewart, Perlmutter & Friedman, 1988; Fogel & Melson, 1988; Smith & Cowie, 1988; Tyler, 1965).

1.4 The Concern of the Present Study

The literature reviewed indicated that the development of social knowledge and social reasoning were studied only recently. The reason for the recent attention on social intelligence by a growing number of researchers was the interest in the relationship of traditional measures of intelligence to the demands of everyday reality (Rice, 1979). Wilkinson (1983) contends that most criticisms of the traditional concepts of intelligence testing reflect the fact that the role of social and personal factors in human problem solving behavior is not explained in these measures. The attention given to the social aspect of intelligence provided the basic push for the present study. Based on Gardner's (1983) proposition of the existence of personal intelligences independent from other forms of intelligences, the present study tries to investigate the social intelligences of a group of low- and high-SES Turkish preschoolers. In a way it intends to provide a preliminary step towards the development of a measurement of social intelligence that would be appropriate to use in the educational efforts present in our country.

The literature review related to the SES differences in social competence showed that one line of studies focused on parent-child interactions. The main idea was that different parental attitudes led either to secure or insecure attachments of children. Another line of studies focused on

communicative competence and verbal environment in different social classes. Both line of studies did not find lower class parents to provide the positive influences needed to promote the development of a secure attachment and the development of communicative verbal skills of their children. There are two statements to make at this point. First is the fact that some investigators value the influence of a secure attachment (Bee, 1975; Fogel & Melson, 1988; Petit, Dodge and Brown, 1988; Rubin & Rose-Krasnor, 1992) and a developed communicative competence (Golden & Birns, 1983; Hart & Edelstein, 1992; Luria, 1973; Piche, Rubin & Michlin, 1978; Taylor, 1990) on the development of self understanding and social competence. However, while interacting with their children compared to high- or middle-SES parents, low-SES parents are generally found to display such behaviors that lead to insecure attachment and less developed communicative competence in their children. Second is the fact that some studies in Turkey (Lecompte, 1978; Ulugtekin, 1977) revealed that the attitude of lower class parents towards their children mirrors the attitude of lower class parents examined in the literature outside Turkey. For, their behaviors lack the positive influences needed to promote the development of social competence in their children. These two facts together may lead to the logical statement that just like the relative indications stated by the literature outside Turkey, the low-SES children in this country live in an environment

counterparts. Hence, it is logical to expect the high-SES preschoolers to be better developed on social competence.

The effect of age and sex variables are always valued in the investigations of domains of ability such as social competence. When one looks at the development of self as stated by Erikson's psychosocial stages and the development of moral reasoning as stated by Piaget's and Kohlberg's assumptions, it is seen that the related theoretical explanations proposed a positive correlation of self development with age. In that, both the development of self and the development of moral reasoning are proposed to increase with maturation. Some investigators talked about age related differences in the development of self (Bee, 1979; Clarke-Stewart et al., 1988; Harter, 1983), which indicates infant's and child's awareness of their selves distinct from the other people around. The development of social understanding is also explained in relation with maturation of the young child (Clarke-Stewart et al., 1988). When different models of perspective taking (like Selman's and Flavell's) and models of interpersonal problem solving skills (like Rubin and Krasnor's and Dodge's) are considered one can see that these models as well mention the developmental changes related with age. Under the light of all these information, one can expect that older preschoolers will be better developed on social competence than younger preschoolers. The indication by review of literature that family influences such as child rearing practices and

parental attitudes are different for boys and girls, suggests a difference in children's social intelligence behavior. However, since there is no earlier research known to examine specifically the sex differences of preschoolers on measures of social intelligence (and especially on the one set by Project Spectrum as related to social analysis measure), no direction can be predicted for sex difference.

1.4.1 The aim of the study

The present study aims to compare a group of low-and high-SES Turkish preschoolers on the measures of Gardner's (1983) personal intelligences--i.e., intra-personal and inter-personal intelligences. As the assessment of personal intelligences in the preschool years is carried out in Project Spectrum (1988), the present study is a replica of a small part of this project.

Project Spectrum provides two kinds of measurement for the assessment of the personal intelligences. Therefore, the two SES groups will be compared on these two measurements. First there is the measurement of social analysis where the child's understanding of him/herself, understanding of peers, understanding of social relations, and the sum of these three which gives the child's personal intelligence are measured. Second there is the measurement of social roles where observation of children in social interaction provides their fit (or unfit) into one of the five social roles: leader,

independent player, facilitator, team player and transitional child. The appropriateness of the sample allows also the comparison of the two age groups (four and five year olds) and the two gender groups (boys and girls) on the measures of personal intelligence.

1.4.2 Hypotheses

In line with all the information gathered so far the hypotheses of the present study will be as follows:

1. Hypotheses related to the SES variable:

   (a) The high-SES children will obtain significantly higher scores on all the measures of social analysis than the low-SES children.

   (b) The frequency of the high-SES children fitting into one of the social roles will be significantly higher than the relative frequency of the low-SES children.

2. Hypotheses related to the AGE variable:

   (a) Five year old preschoolers will obtain significantly higher scores on all the measures of social analysis than the four year old preschoolers.

   (b) The frequency of the five year old preschoolers fitting into one of the social roles will be significantly higher than the relative frequency of the four year old

preschoolers.

3. Hypotheses related to the SEX variable:

(a) Girls and boys will differ significantly in their scores on all the measures of social analysis.

(b) Girls and boys will differ significantly on their frequencies of fitting into one of the social roles.

It is very important to consider the social context in examining the self in relation to others during childhood (Harter, 1983). The ecological models of human development (Brim, 1975; Bronfenbrenner, 1976) place a great deal of importance on the systems present in children's environment in influencing a child's development. Also Gardner (1983) mentioned the importance of the contextual influences on the development of personal intelligences. Therefore, a final investigation will be carried out to see if the students from the four centers included in the study show any difference in their scores on the measures of social analysis.

II. METHOD

2.1 Purpose of the Study

The purpose of the present study was to investigate the differences between low- and high-SES Turkish preschoolers on their personal intelligences--i.e., intra-personal and inter-personal intelligences.

2.2 Subjects

Subjects were 4 and 5 years old children of four educational preschools in istanbul; two serving high-SES children and the other two serving low-SES children. Since it was almost impossible to find more than two low-SES educational preschool centers in istanbul, the total number of the centers in the study was kept four for equal sampling of SES centers. The number of subjects in each SES group was 24, making a total of 48 children. Subjects were matched with respect to age and sex in order to eliminate maturity and gender effects (See Table 1).

TABLE 1

Distribution of the subjects

		AGE	BOYS	GIRLS	TOTAL
HIGH-SES CENTERS	CENTER 1	4	3	4	7
		5	3	4	7
	CENTER 2	4	3	2	5
		5	3	2	5
LOW-SES CENTERS	CENTER 3	4	3	3	6
		5	3	3	6
	CENTER 4	4	3	3	6
		5	3	3	6
		TOTAL	24	24	48

The SES levels of the centers were determined according to three components : 1. Geographical location of the center, 2. Children's fathers' educational level, and 3. Children's fathers' occupational level.

1. Geographical location of the center: If a center was located in a high-SES area of the city such as Levent or Etiler, it was defined as a high-SES center. Whereas if a center was located in one of the low-SES areas of istanbul such as Kağıthane or Zeytinburnu, it was defined as a low-SES center.

2. Children's fathers' educational level: A center was defined as a high-SES center when at least 70% of the

fathers of attending children were university graduates. A center was defined as a low-SES center when at least 70% of the fathers of attending children had an educational level less than university.

3. Children's fathers' occupational level: A center was defined as a high-SES center when at least 70% of the fathers of attending children were identified as holding professional jobs-such as teachers, doctors, lawyers, managers. A center was defined as a low-SES center when at least 70% of the fathers of attending children were identified as holding a civil servant job, or being a worker in a factory or being employed in a small business.

According to these three criteria, Center 1 and Center 2 were located in Levent. The percentage of the high-SES fathers in Center 1 was 85 per cent, while it was 78 per cent in Center 2. Center 3 and Center 4 were located in Zeytinburnu. The percentage of the low-SES fathers in Center 3 was 80.5 per cent, and in Center 4 it was 72 per cent .

2.3 Instruments

In order to serve the aim of this study, the two social tasks proposed by the Project Spectrum (Wexler-Sherman; Gardner & Feldman, 1988) were measured. These measures were:

1. Social analysis measure: classroom model activity (See Appendix I and II)
2. Social roles measure: observations of executive, facilitating and care taking social roles (See Appendix III, IV and V)

2.3.1 Measurement of Social Analysis

Classroom Model Activity. This was an activity that aimed to assess children's abilities to observe, reflect on and analyze social events and experiences in their classroom. This model allowed children to reflect upon a range of social themes without being judged by their peers. The classroom model activity was utilized through a classroom replica and a classroom model questions sheet.

1. Classroom Replicas: In order to carry out the classroom model activity, 8 scaled-down three-dimensional replicas of the physical classrooms with small cardboard figures of each person in each class were constructed. Each model was set on an approximately 60x90 cm thick cardboard. The models replicated exactly the eight classrooms with the different play areas, doors and windows. The materials that were used to make the models and the furniture were cardboard, pasteboard, color pencils, pieces of cloth, shaped and dried colored playdough. The furniture, fabrics and colors were matched as closely as possible to the actual classroom set-ups. The play areas were identified by creating tiny replicas

for each activity--e.g., miniature paintings for the art table, tiny blocks for the block area etc. Every child and adult was represented by a 5x7 cm figure made out of thick cardboard, with a photograph glued to the front. The figures were in a standing position by the help of the attached footplates, again made out of the thick cardboard.

2. Classroom Model Questions Sheet: It included those questions that were asked by the researcher to the children during the classroom model activity (See Appendix I). The aim of these questions was to identify the children who were keen observers of the class, as well as to probe for a deeper understanding of social roles and dynamics. The classroom model questions tapped three different aspect of social analysis: questions 1 and 2 tapped child's understanding of her/ himself; questions 3-6 tapped a child's understanding of her/his peers; questions 7-11 tapped a child's understanding of social roles.

The classroom model activity was introduced as follows: "Today children will have a chance to play with the little classroom one at a time. You will be able to use all the little figures of the children and teachers." ["Bugün bütün çocuklar sırayla bu küçük sınıfla oynayabilecekler. öğretmenleri ve çocukları gösteren bütün bu küçük modelleri kullanabileceksiniz."] Then the researcher took each child one by one to a corner of the class that was farthest to the ongoing circle time activity. Each child was made sure that

he/she understood the location of each of the different activity areas by going over the different sections of the model with the researcher. Then the child was told that all of the children and all of the teachers were in their little classroom as little figures. The little figures representing all the members of the class were lined up at the entrance of the little model of the classroom. The photographed faces of the figures were turned to the child so that he/she can easily recognize them. Then she/he was asked to find her/himself among those little figures in front or him/her, and then the researcher followed the questions on Appendix I (classroom model questions), writing the child's responses in the appropriate spaces.

Scoring of the Classroom Model Questions. The majority of children's responses to the Classroom Model Questions were scored according to the social map (See Appendix II). Social map of each class was filled out by the teacher of that class to delineate each child's preferences for friends and activity areas and to identify the salient friendships and social roles. Filling of the social map was done immediately prior to the introduction of the classroom model activity to ensure that it reflected children's most recent preferences for friends and activity areas. Children received some points for their answers that matched the information recorded on the social map by their teacher. For the purposes of the map "friend" was defined as the child with whom one spent the greatest amount of time.

Questions 1 and 3-6 were scored with the help of the social map. The scoring for these questions was based on a correspondence between the teacher's and the child's responses.

Question 1: This question asked the child to show where he/she spent most of his/her time, to explain why that was his/her favorite activity, and to show a second choice of play area. Two points were awarded if the child's answer matched the teacher's relative answer on the social map of the class. If the child's first choice did not match but the second did, again he/she received two points (See Appendix I and II).

Question 2: Like Question 1, Question 2 drew upon self knowledge. Posing this question required the use of the photographs of children and adults engaged in activities related to five of the seven intelligences proposed by Gardner (1983). For this purpose, five activities related to the concerned five intelligences were prepared and carried out during the circle times of the days before the Classroom Model Activity was carried on. The teachers were asked to carry these five activities with their own students and the researcher took some photos covering all the children and the teacher during these activities. The concerned activities were as follows:

-a number activity as related to the logico-mathematical intelligence: an activity where children counted some beads.

-a spatial activity as related to the spatial intelligence: an activity where children described the positions of few things in relation to each other. (like: in the middle, on the side of, on, on the top of, over, above, beneath etc.)

-a musical activity as related to the musical intelligence: an activity where children sang a song together.

-a story-telling activity as related to the linguistic intelligence: an activity where children sat together and each child told one part of a simple story that they all knew by looking at the related picture book.

-an activity using the large muscles as relating to the bodily-kinesthetic intelligence: an activity where children jumped over big blocks in front of them.

Showing the pictures related to those five activities, the researcher asked the child at which of these games he/she has been the best; which has been the hardest for him/her; and which has been his/her favorite.

One point was awarded for an appropriate answer to the question "Which one do you think you were the best at? Why?"; and one point was awarded for an appropriate answer to the question "Which one was hardest for you? Why?". Thus, totally two points were allotted for Question 2, if the child's responses revealed a sense of self-understanding, e.g., "I like art the most but, I can't draw that good". The question "Which one of the games was your favorite?" did not receive any points but were asked to see whether the child's favorite activity was the same with the one that he/she

reported to be the best at (See Appendix I).

Question 3: This question asked the child to distribute his/her classmates' figures to the play areas according to where they liked to play most. One point was awarded for each response that corresponded to the names listed on the social map filled out by the teacher. At maximum six corresponding names received points. In other words, even if the corresponding names were more than six, the child would get six points (See Appendix I and II).

Question 4: In this question the researcher made use of the names present in the special friendships reported by the teachers on the social maps, asked the child to name the special friends of four children chosen from the teacher reports and seeming to be the center figures of different friendship clusters. "Special friend" was defined as the child with whom one spent the greatest amount of time. For each part of Question 4, one point was awarded for each matching answer with the teacher's answer on the social map. The child's response was considered as a "match" if she/he matched any of the names listed on the social map (See Appendix I and II).

Question 5: This question asked the child to show someone in his/her class who watched what other children were doing a lot of the time. Two points were awarded if the answer matched the teacher's related answer on the social map of the class (See Appendix I and II).

Question 6: This question asked the child to show someone in his/her class who liked to play alone most of the time. Two points were awarded if the answer matched the teacher's related answer on the social map of the class (See Appendix I and II).

Questions 7 - 11: These assessed a child's understanding of social roles. If a child said "I don't know" or gave a nonsensical answer, no points were awarded. One point was awarded for an answer, but no reason. Two points were awarded for responses with reasons that can be considered typical for four year olds. Responses with explanations that indicated an unusual sensitivity to social dynamics or self-awareness were awarded three points.

Question 7: This question asked the child to report his/her special friend and to explain what made the selected child the special friend of him/her. Typical responses included basic reasons such as stressing the behavior of playing together. Examples for such responses are (two points); "because he plays with me all the time", "because she likes to play with me". Examples for responses with a deeper understanding of the reciprocal nature of friendship are (Three points); " Ali is a friend of mine, but I'm not sure that he thinks of me as one of his friends", "She is my favorite friend that I know for a long time. She likes to help me with something. If I am hurt she would go to the teacher for me and seek help." (See Appendix I).

Question 8: This question asked the child why would they still be (or not be) friends if he/she and the selected special friend fought about a toy. One point was awarded for a Yes/No answer with no reason. Negative responses with reason statements such as "No, because we fought" received two points. Positive responses with reason statements such as "Yes, because we are back together later on" received three points (See Appendix I).

Question 9: This question asked the child to show the friend in his/her class who helped children when they needed it. The most typical response for a child was to name a friend and such responses received two points if the given name(s) matched the name(s) reported by the teacher on the social map. If children demonstrated a greater sensitivity to the characteristic helping behavior of a friend e.g., saying something like: "Fatma helps me when changing my clothes", then such responses received three points (See Appendix I and II).

Questions 10 and 11: These two addressed two kinds of leadership roles.

Question 10 asked the child to report a child in his/her class that was bossy and to explain what made that child so bossy. If the child's answer matched the teacher's relative answer on the social map of the class one point was awarded. If the matched name was followed by a reason that could be considered typical for four and five year olds two points

were awarded. Examples of typical responses: "because he hits", "because he is older", "because he is wise". If the child's reasoning involved explanations of particular bossy behaviors it was considered to be a three points response. An example of such a response was "because Murat is always telling kids in blocks what to do" (See Appendix I and II).

Question 11 asked the child to choose a friend from his/her class to be the teacher at meeting time and to explain why he/she chose that child. Like question 10, if the child's answer matched the teacher's relative answer on the social map of the class one point was awarded. If the matched name was followed by a reason that could be considered typical for four and five year olds two points were awarded. When a child's reasoning involved explanation of the leadership qualities of the chosen child, such response deserved three points. An example of a three points response was "me, because I know how to take care of babies" or a child who picked another child because of such leadership qualities as knowing a lot about the classroom (See Appendix I and II).

2.3.2 Measurement of Social Roles

2.3.2(a) Peer Interaction Checklist. (See Appendix III) According to Project Spectrum (1988) the purpose of this checklist was three-fold:

1. To provide a tool that can be used to analyze peer interactions;

2. To describe a range of children's behavioral tendencies during peer interactions;
3. To identify children who show strength in this area by consistently assuming a social role.

The assessment was based on the use of behavioral checklist. The 29 behaviors included in the checklist described the diversity of actions and responses that might characterize preschool children's interactions with their peers. These behaviors could be categorized in terms of one of four social roles that preschool children might assume. These roles were termed leader, facilitator, independent player and team player. In addition to these roles there was an intermediate category: transitional child; which might help the teachers to identify children who were struggling to find a role and who might need some social support. For this purpose, children were observed while interacting with peers. Then the observed behaviors were tried to fit into one of the five social roles.

Observational Procedure. The researcher worked with three female undergraduate university students to help her to collect the observational data, since the study had to be started and finished during the second semester of the educational year. The reason for this study to be carried out in the second semester was that by this time children would become acclimated to the routines of the school day, and would show preferences for certain children and types of activities. This was important for the measurement of both

tasks-especially for the classroom model activity. Two of the undergraduate observers were psychology students and the third one was a counseling student.

Each child was observed 50 minutes in the morning and 50 minutes in the afternoon making a total of 100 minutes per child. The two 50 minutes observations per child were held on two different days. Besides, each child was observed 50 minutes by the researcher and 50 minutes by one of the three observers. Half of the morning observations as well as half of the afternoon observations were made by the researcher, while the other halves were made by the three observers-each sharing 1/3rd of 2400 minutes of observation. Thus the researcher made 24 morning observations and 24 afternoon observations that included 50 minutes of the 48 subjects (2400 minutes), and each observer made 8 morning observations and 8 afternoon observations that included 50 minutes of 16 subjects (800 minutes for each observer).

The order of observations in each class was determined via drawing lottery. The order of the visits to the centers was as follows: CENTER 1, CENTER 2, CENTER 3, CENTER 4. This order was determined according to the centers' availability of welcoming the study.

Observational Schedule. The observations were mostly done during the child-initiated activities. For this purpose the daily programs of each of the 4 centers were examined carefully in order to decide on an observational schedule

that would fit all. The observation of children were made in the following periods: 20 minutes of the morning observation took place in the teacher and child-initiated activity and 30 minutes of it took place in the child-initiated activity. On the other hand, the afternoon observations were done only in the child-initiated activity. The teacher and child-initiated activities were either circle time or small group time activities; and the child-initiated activities were playtime activities.

Recording of the Observations. During each 10 minutes of observation the observer wrote down all the peer interactions related to the child observed, including actions and speech. A behavior was checked as much as it has occurred within 10 minutes period. At the end of each 50 minutes observation the observer went over each sheet of observation, carefully examined the interactions and identified those behaviors which were observed from the 29 behaviors of the checklist.

In order to make the observation in a systematic way, the peer interaction checklist was reorganized. The 29 behaviors included in the checklist were abbreviated so that all would fit on one sheet. Each sheet was used for the recording of ten minutes of observation. This sheet also included a reasonable blank space for the ten minutes recording as well as an information section to state the name of the observer and the child, the age and sex of the child, the date and the time of observation, the type of the activity during observation (See Appendix III).

Scoring Procedure. At the end of all the observations 10 sheets of checklists were collected for each child. The researcher went over the 10 sheets of checklists to decide on and to check the most descriptive behaviors for each child. For each behavior, the frequencies of checks in the ten checklists were added and those behaviors with the highest resultant frequencies were selected as the most descriptive behaviors of the child.

According to the Project Spectrum (1988) checking seven to nine behaviors for each child would accurately capture a child's mode of relating to peers. However, in this study nine to 15 behaviors were selected as the most descriptive ones because of the following reasons: When the frequencies of the 29 behaviors were ordered from the highest to the lowest for each child, for many children there were quite a number of behaviors with the same frequency after the fifth order. In such cases either only five behaviors standing at the first to fifth order would be selected as the most descriptive behaviors or all the behaviors standing after the fifth order would be added to the most descriptive behaviors. In this case the number of the most descriptive behaviors would be more than nine for that child. If the first option was taken as the criterion then a considerable number of these children (30 out of 48) would loose the chance to fit into a role. Therefore, in this study the latter option was accepted as the criterion for the selection of the most descriptive behaviors.

After selecting the most descriptive behaviors for each child an **individual summary sheet** (See Appendix IV) was completed by the researcher. The individual summary sheet helped to determine whether the pattern of a child's behaviors fit into a social role or not.

Each role was identified by six of the 29 behaviors except for the transitional child role which involved five behavior characteristics (See Appendix IV). If a child consistently displayed four out of the six behavior characteristics of a role, then the role was accepted as accurately identifying that child's mode of interacting with peers. If a child displayed behaviors across several or all of the roles, then that child's interaction with peers was not consolidated in terms of a single role.

2.3.2(b) The Pilot Study. A pilot study was carried out in order for the researcher and the three observers to get used to the observational schedule as well as to the variables to be observed. It also helped them to see if the translation of the peer interaction checklist was understood or not. During the pilot study eight children were observed-each for 30 minutes -by the researcher and the three observers.

The pilot study demonstrated that the observations of children during teacher-initiated type of activities produced either very few or no checks on the peer interaction checklist since these type of activities did not allow much for peer interaction. This fact led to the decision of making

the observations mostly during the child-initiated activities.

2.3.2(c) The interobserver reliability studies. Three interobserver reliability studies -one at the beginning, one in the middle and one at the end of the research- were carried out in order to see the agreement levels of the researcher with the three other observers on using the observational checklist. In each reliability study six students of the Bosphorus University's preschool were observed-for 30 minutes each.

2.3.2(d) Translation of the Classroom Model Questions Sheet and the Peer Interaction Checklist. The original classroom model questions and the peer interaction checklist were translated from English to Turkish by the researcher herself, a bilingual master student of early childhood education at the Bosphorus University. The two forms were then inspected by the thesis advisor. The ambiguous items were discussed by the researcher, the thesis advisor and the two committee members-one of which was a native speaker of English. At the end of these discussions the Turkish forms were derived.

The three observers were all bilingual and after the pilot study together with the researcher they met to discuss the English and Turkish forms of the peer interaction checklist. The pilot study and these discussions enabled to see whether the use of the Turkish form worked or not.

According to the Project Spectrum (1988), some of the classroom model questions would need to be eliminated, modified or replaced in order to reflect accurately an individual classroom. This flexibility made it easier to decide on the translation of the items that seemed to be ambiguous. One important example was Question 10 in the classroom model questions : The term "bossy" could not be translated directly into Turkish because it was sensed in a different meaning by the Turkish children. They thought it meant the same thing as to be a boss in the pretend play. Therefore, this word was modified as "a child who always tells other children what to do during the free play or the work time".

2.4 Procedure

The study began after the midyear, because of the reason that by this time children would become acclimated to the routines of the school day and would show preferences for certain children and type of activities.

First of all the four centers were selected according to the three components-ie. geographical location of the center, fathers' educational and occupational level. The visits to the centers started after the pilot and the first interobserver reliability studies.

In each center first the observations were done, then the subjects were introduced to the classroom model activity by the researcher. Each teacher was asked to fill out one social map sheet for her own class before the introduction of the classroom model activity to the class. During the circle times of the weekdays in between the completion of the observations and the classroom model activity, the teachers presented the five activities related to the five intelligences, and the researcher took some pictures of these activities. These pictures were then shown to the subjects during the classroom model activity to help them answer Question 2 easily.

The second interobserver reliability study was carried out after the completion of the visits to first two centers. The third one took place after the completion of the visits to all of the centers.

2.5 Statistical Analyses

2.5.1. Analysis for the Social Analysis Measure

Four different analyses were carried out where the high- and low-SES children were compared with respect to:

1. Their understanding of themselves: The points that they obtained from Classroom Model Questions 1 and 2 were added to get a score on understanding one's self.

2. Their understanding of their peers: The points that they obtained from Classroom Model Questions 3, 4, 5, and 6 were added to get a score on understanding one's peers.
3. Their understanding of social roles: The points that they obtained from Classroom Model Questions 7, 8, 9, 10, and 11 were added to get a score on understanding the social roles.
4. Their scores on personal intelligence were obtained via adding the points they received from all of the 11 questions on the Classroom Model Questions.

Four difference of means tests were carried out to see the differences between the four types of scores obtained by the high-and low-SES children.

Furthermore, the appropriateness of the sample allowed to compare the two age groups, the two sex groups as well as the four centers on these four types of scores. For this purpose, four difference of means tests were carried out to see the differences between the four types of scores obtained by the four year olds and the five year olds. Similarly, four difference of means tests were carried out to see the differences between the four types of scores obtained by girls and boys. Finally, a one-way analysis of variance was carried out to see the differences among the four types of scores obtained by the students of Center 1, Center 2, Center 3 and Center 4.

2.5.2. Analysis for the Social Roles Measure

The two SES, two age and two sex groups were compared with respect to the number of children fitting into one of the five roles: team player, facilitator, leader, independent player, and the transitional child. The differences of the three pairs of groups on frequencies of role assignments were investigated via carrying out three chi square analyses. Furthermore, the distributions of the children who fit into a role in the two SES, two age and two sex groups were examined with respect to the five roles.

III. RESULTS

In this section first the results of the interobserver reliability study will be presented. The demographic characteristics of the sample will follow. Then the results of the analyses related to the measure of social analysis will be presented. Finally the results related to the measure of social roles will be discussed.

3.1 Interobserver Reliability

The results of the interobserver reliability are presented in Table 2.

TABLE 2

Percentages of agreement between the researcher and the three observers on the observations of peer interaction

	1st study	2nd study	3rd study
R and 01	77.98	74.30	71.29
R and 02	80.10	75.96	73.95
R and 03	78.50	86.85	77.72

R = Researcher
01 = First observer
02 = Second observer
03 = Third observer

In each reliability study, the levels of agreement (between the researcher and the three observers) on the

observations of peer interaction were calculated. As seen from Table 2, in the first reliability study the agreement levels between the researcher and the three observers were all above 75 per cent. However the level of agreement showed a decline in the following two measures except for the third observer. The level of agreement between R and O1 was 77.98 per cent in the first measure then it declined to 74.30 per cent in the second measure and to 71.29 per cent in the third measure. Similarly, the level of agreement between R and O2 was 80.10 per cent in the first measure then it declined to 75.96 per cent in the second measure and to 73.95 per cent in the third measure. On the other hand, the level of agreement between R and O3 increased from 78.50 per cent in the first measure to 86.85 per cent in the second measure and then it declined to 77.72 per cent in the third measure. Although the levels of agreement for all the three observers showed a decline from the first to the third measure, all the three levels of agreement were higher than the set limit of 70 per cent in those measures.

The agreement percentages were calculated according to the following formula:

$$\frac{\text{Number of Agreements}}{\text{Number of Agreements + Number of Disagreements}}$$

For each child the checks of the researcher and the three observers on the 29 behaviors of the check list were examined. For each behavior the numbers of the checks in the researcher's list and the list of each observer were compared. If for a behavior there was no check both on the researcher's list and the observer's list then this was considered to be 1 agreement. If for a behavior there was X number of checks on both of the lists then this was considered to be X number of agreements. If for a behavior there was X number of checks on one of the lists and Y number of checks on the other list, then Number of Disagreements was considered to be equal to X-Y and Number of Agreements was considered to be equal to Y.

After setting the Number of Agreements and Number of Disagreements for each of the 29 behaviors, the total Number of Agreements and the total Number of Disagreements were derived by adding the Number of Agreements and Number of Disagreements of all the 29 behaviors. Putting these resulting Number of Agreements and Number of Disagreements in the appropriate places on the formula the agreement percentage per child was calculated. This was done for six children per observer. Then the mean of the agreement percentages of six children per observer was calculated in order to find the total agreement percentages between the researcher and each observer.

3.2 Demographic Characteristics of the Sample

3.2.1 Age

The age range of the whole sample (N=48) was 52 to 76 months with a mean of 63.2 months, while the age range for the girls (N=24) was 52 to 76 months with a mean of 62.7 months and the age range for the boys (N=24) was 54 to 76 months with a mean of 63.3 months. For the four year olds (N=24) the age range was 52 to 64 months with a mean of 57 months. The age range for the five year olds (N=24) was 62 to 76 months with a mean of 69.4 months.

Table 3 summarizes the information about the age of the sample with respect to SES, sex and age. As seen in Table 3, in all the comparable cells showing the mean ages in months for the two SES groups, low-SES subjects were always few months older than the high-SES subjects. This was true both for age and gender groups. The greatest difference of the mean ages between the two SES groups was for the five year old girls. In that the low-SES group was 4.5 months older than the high-SES group in its mean age. The relative mean ages were respectively 72.5 and 68 months.

TABLE 3

Mean age and age ranges of the sample with respect to SES, sex and age

SES	SEX	AGE	AGE RANGE IN MONTHS	MEAN AGE IN MONTHS
LOW-SES SUBJECTS	GIRLS	4	53-63	57
		5	70-79	72.5
	BOYS	4	54-64	59
		5	66-76	70
	GIRLS AND BOYS	4	53-64	58
		5	66-76	71
		4 and 5	53-76	65
HIGH-SES SUBJECTS	GIRLS	4	52-59	55
		5	62-72	68
	BOYS	4	54-63	56.5
		5	63-74	67
	GIRLS AND BOYS	4	52-63	56
		5	62-74	68
		4 and 5	52-74	62

3.2.2 Parents' Education

The distribution of the subjects' parents with respect to their SES and education is summarized in Table 4:

TABLE 4

Distribution of the subjects' parents with respect to their SES and education

			ESG	SSG	HSD	HSG	UD	UG	MD	PHD	Msg	TOTAL
LOW-SES SUBJECTS	MO	N	8	1	2	9	0	3	0	0	1	24
		%	33.3	4.16	8.33	37.5	0	12.5	0	0	4.16	100
	FA	N	3	4	2	11	0	3	0	0	1	24
		%	12.5	16.6	8.33	45.8	0	12.5	0	0	4.16	100
HIGH-SES SUBJECTS	MO	N	0	1	0	10	1	10	1	0	1	24
		%	0	4.16	0	41.6	4.16	41.6	4.16	0	4.16	100
	FA	N	0	0	0	5	1	14	1	1	2	24
		%	0	0	0	20.8	4.16	58.3	4.16	4.16	8.33	100
T O T A L		N	11	6	4	35	2	30	2	1	5	96
		%	11.4	6.25	4.16	36.4	2.08	31.2	2.08	1.04	5.20	100

MO = Mothers
FA = Fathers
N = Number
% = Percentage
ESG = Elementary school graduate
SSG = Secondary school graduate
HSD = High school dropout
HSG = High school graduate
UD = University dropout
UG = University graduate
MD = Masters degree
PHD = Doctor of philosophy
Msg = Missing (Level of Education not reported by the parents)

As seen in Table 4, only five of the fathers of high-SES subjects were high school graduates, the rest had higher levels of education (one university dropout, 14 university graduate, one Masters Degree, one Doctor of Philosophy). Ten of the mothers of high-SES subjects were high school graduates and 12 of them had higher levels of education. In other words in the high-SES group almost half of the mothers (11 out of 24) had an educational level less than university, while only five out of 24 fathers had an educational level

less than university.

Although only three of the fathers of low-SES subjects were university graduates, the rest were mostly high school graduates (11). There were also two high school dropouts, four secondary school graduates and three elementary school graduates among these fathers. Only three of the mothers of low-SES subjects were university graduates while the rest had lower levels of education (nine high school graduates, two high school dropouts, one secondary school graduate and eight elementary school graduates). In the low-SES group the number of the mothers and fathers having a university education and a high school education was quite the same. However, the number of mothers (8) fathers (3) with an elementary education differed from each other.

3.2.3 Parents' Occupation

Most of the fathers of the high-SES subjects had companies of their own (18 out of 24), some were employed as managers in big enterprises (5 out of 24); while one of them was an engineer. On the other hand, some of the fathers of the low-SES subjects were employed in small businesses (8 out of 24). Most of the rest were either workers or civil servants (respectively 7 and 6 out of 24). Two of them were unemployed, while there were 2 fathers with different occupations-one of them being a teacher and the other one being a football team player. Table 5 shows the distribution of the subjects' fathers with respect to their occupation:

TABLE 5

Distribution of subjects' fathers with respect to their SES and occupation

		WORKER	CIVIL SERVANT	ESB	MAN	OWN JOB	OTHER	UE	T
LOW-SES SUBJECTS	N	7	5	8	0	0	2	2	24
	%	29.16	20.83	33.33	0	0	8.33	8.33	100
HIGH-SES SUBJECTS	N	0	0	0	5	18	1	0	24
	%	0	0	0	20.83	75	4.16	0	100
TOTAL	N	7	5	8	5	18	3	2	48
	%	14.58	10.41	16.66	10.41	37.5	6.25	4.16	100

ESB = Employed in small business
UE = Unemployed
T = Total
N = Number
% = Percentage

Most of the mothers of the high-SES subjects were housewifes (20 out of 24) and 3 of the rest owned a job; while one mother was an economist. Most of the mothers of the low-SES subjects were either workers or civil servants (respectively 8 and 8 out of 24), two of the rest were housewifes while there were 6 mothers with different occupations-four were employed in small businesses, one was a teacher and one was a nurse. Table 6 shows the distribution of the subjects' mothers with respect to their occupation:

TABLE 6

Distribution of subjects' mothers
with respect to their SES and occupation

		HOUSEWIFE	WORKER	CIVIL SERVANT	OWN JOB	OTHER	TOTAL
LOW-SES SUBJECTS	N	2	8	8	0	6	24
	%	8.33	33.33	33.33	0	25	100
HIGH-SES SUBJECTS	N	20	0	0	3	1	24
	%	83.33	0	0	12.5	4.16	100
TOTAL	N	22	8	8	3	7	48
	%	45.83	16.66	16.66	6.25	14.58	100

N = Number
% = Percentage

3.3 Measure of Social Analysis

Four types of scores related with social analysis obtained from the subjects were analyzed with respect to SES, sex, age and center. These four types of social analysis scores were:

1. Scores on understanding of oneself (UOS)--i.e., the sum of the points they received from classroom model questions 1 and 2.
2. Scores on understanding of peers (UP)--i.e., the sum of the points they received from classroom model questions 3,

4, 5 and 6.

3. Scores on understanding of social roles (USR)-i.e., the sum of the points they received from classroom model questions 7, 8, 9, 10 and 11.
4. Scores on their personal intelligence (PI)--i.e., the sum of the points they received from all 11 classroom model questions. In other words PI = UOS + UP + USR.

For this purpose, first of all these four types of scores were calculated for each child. Then appropriate analyses were applied to compare these scores with respect to SES, sex, age and center.

3.3.1 Analyses with respect to SES

Four difference of means tests were carried out in order to compare the two SES groups with respect to the four types of social analysis scores. Among these, only the t test result of the mean scores for understanding of peers was found to be significant at $p = 0.05$ with an obtained t of 1.81. For the low-SES group, the mean score for understanding of peers was 9.5 with a standard deviation of 1.86, while for the high-SES group it was 8.33 with a standard deviation of 2.55. The mean values indicated that low-SES children were better in understanding of peers than high-SES children. Table 7 shows the means, the standard deviations and the t test results of the four types of social analysis scores for the two SES groups:

TABLE 7

The means, the standard deviations and the t test results of UOS, UP, USR and PI for low and high-SES groups

	LOW-SES SUBJECTS		HIGH-SES SUBJECTS		
	MEAN	SD	MEAN	SD	t
UOS	3.25	0.84	3.21	0.98	0.158
UP	9.50	1.86	8.33	2.55	1.81 *
USR	5.50	1.96	6.25	2.07	1.29
PI	18.25	3.57	17.79	3.43	0.45

* significant t value at p = 0.05 with df = 46

Although the t tests for the other measures of social analysis scores did not indicate significant results, the low-SES group had slightly higher means than the high-SES group on two of the other social analysis scores; on understanding of oneself and personal intelligence. The high-SES group was found to have a higher mean than the low-SES group only on the understanding of the social roles scores.

3.3.2 Analyses with respect to age

Among the difference of means tests carried out to compare the two age groups on the four types of social analysis scores, only two yielded significant results;

understanding of oneself and understanding of social roles. The related mean values indicated that five year olds were better than four year olds in self understanding as well as in their understanding of social roles. The mean UOS for five year olds was 3.5, while it was 2.96 for four year olds. The mean USR for five year olds was 6.62, while it was 5.12 for four year olds. Table 8 shows the means, the standard deviations and the t test results of the four types of scores for the two age groups:

TABLE 8

The means, the standard deviations and the t test results of UOS, UP, USR and PI for 4 year olds and 5 year olds

	4 YEAR OLDS		5 YEAR OLDS		
	MEAN	SD	MEAN	SD	t
UOS	2.96	0.91	3.50	0.83	2.152 **
UP	9.21	1.96	8.62	2.58	0.882
USR	5.12	1.98	6.62	1.81	2.73 ***
PI	17.29	3.30	18.75	3.54	1.475

** significant t value at p = 0.025 with df = 46
*** significant t value at p = 0.005 with df = 46

3.3.3 Analyses with respect to sex

Four difference of means tests which were carried out to compare boys and girls on the four types of social analysis scores yielded nonsignificant results. This indicated no sex difference on these measures of social

analysis. Table 9 shows the means, the standard deviations and the t test results of the four types of social analysis scores for the two sex groups:

TABLE 9

The means, the standard deviations and the t test results of UOS, UP, USR and PI for boys and girls

	BOYS		GIRLS		
	MEAN	SD	MEAN	SD	t
UOS	3.29	0.86	3.17	0.96	0.474
UP	8.87	1.82	8.96	2.71	0.126
USR	5.71	2.05	6.04	2.03	0.56
PI	17.87	2.86	18.17	4.04	0.228

3.3.4 Additional analyses with respect to center

In order to compare the four different centers' preschoolers on the four types of social analysis scores, four one-way analysis of variances were done. Two of these analyses yielded significant results. The differences among the four centers on understanding of peers and on personal intelligence scores were found to be significant. On both of these measures of social analysis it was Center 2 that received the lowest mean scores.

Center 3 and Center 4 had the highest mean scores on understanding of peers (both had a mean of 9.5). Center 1 followed them obtaining a mean score of 9.21 on understanding

of peers. The lowest mean score on understanding of peers was obtained by Center 2 and it was 7.1 with a standard deviation of 3.31. Center 1 had the highest mean score on personal intelligence and it was 19.43. Center 4 and Center 3 followed with mean scores of 18.58 and 17.92 respectively. Center 2 had the lowest mean score on personal intelligence and it was 15.5. Table 10 shows the means, the standard deviations and the results of the one-way anovas of variances of the four types of social analysis scores for the four centers:

TABLE 10

The means, the standard deviations and the results of one-way anovas of UOS, UP, USR and PI for Center 1, Center 2, Center 3, and Center 4

	CENTER 1		CENTER 2		CENTER 3		CENTER 4		
	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	F
UOS	3.36	0.84	3.00	1.15	3.00	0.85	3.50	0.80	0.917
UP	9.21	1.37	7.10	3.31	9.50	1.24	9.50	2.39	3.06 *
USR	6.86	1.70	5.40	2.32	5.42	1.93	5.58	2.06	1.628
PI	19.43	2.38	15.5	3.44	17.92	2.68	18.58	4.38.	2.973*

* significant F value at p = 0.05 with df = 3,47

3.4 Measure of Social Roles

As it was explained in the method section, for each child the researcher completed an individual summary sheet

where the behaviors with the highest frequencies were selected as the most descriptive behaviors of a child's mode of interacting with peers (See Appendix IV). Then for all children the selected most descriptive behaviors were examined in order to find out the children who fit into a role. Children who displayed at least four out of six characteristic behaviors of a role, were assigned to the related social roles.

In order to compare SES, age and sex groups on the frequencies of role assignments, three chi square values were obtained. Table 11 illustrates the frequencies of children who fit and who do not fit into a role in the SES, age and sex groups and the chi square values referring to the related differences.

TABLE 11

The frequencies of role fit and the chi square values for the related differences in the SES, age and sex groups

	SES			AGE			SEX		
	LOW	HIGH	T	4	5	T	GIRLS	BOYS	T
NUMBER OF ROLE FIT	12	11	23	11	12	23	15	8	23
NUMBER OF NO FIT	12	13	25	13	12	25	9	16	25
TOTAL	24	24	48	24	24	48	24	24	48
CHI SQUARE	0.0835			0.0835			4.0904 *		

* significant chi square value at p = 0.05

Only 23 out of 48 subjects fit into a role. Among the three chi square analyses done to compare different SES, age and sex groups on the frequencies of role assignments only the difference between girls and boys was found to be significant. This indicated that the number of the girls (15 out of 24) was significantly higher than the number of the boys (8 out of 24) in fitting into one of the five social roles. On the other hand, low-SES and high-SES children did not differ from each other with respect to their frequencies of role assignments. Furthermore, there was also no difference between four and five year old preschoolers on the concerned frequencies.

Table 12 shows the distribution of children who fit into a role in the two SES groups :

TABLE 12

Distribution of children who fit into a role in the two SES groups

	LEADER	FACILITATOR	INDEPENDENT PLAYER	TEAM PLAYER	TRANSITIONAL CHILD	TOTAL
W	3	0	8	1	0	12
GH	5	1	4	0	1	11
TAL	8	1	12	1	1	23

When the cells of the cross tabulation presented in Table 12 are examined, one can see that out of 24 low-SES subjects 12 fit into a role and 12 did not. Among those who fit into a role, there were three leaders, eight independent players and one team player. Out of 24 high-SES subjects 11 fitted a role and 13 did not. Among those who fitted a role, there were five leaders, one facilitator, four independent players and one transitional child.

Table 13 shows the distribution of children who fit into a role with respect to their SES by age :

TABLE 13

Distribution of children who fit into a role with respect to their SES by age

	LOW-SES SUBJECTS		HIGH-SES SUBJECTS		TOTAL
AGE	4 YEAR OLDS	5 YEAR OLDS	4 YEAR OLDS	5 YEAR OLDS	
LEADER	2	1	3	2	8
FACILITATOR	0	0	0	1	1
TEAM PLAYER	0	1	0	0	1
NDEPENDENT PLAYER	2	6	3	1	12
RANSITIONAL CHILD	0	0	1	0	1
TOTAL	4	8	7	4	23

As seen from Table 13, among the four years old low-SES subjects there were two leaders and two independent players, while among the four years old high-SES subjects

there were three leaders three independent players and one transitional child. Among the five years old low-SES subjects there were one leader, one team player and six independent players. On the other hand, four of the five years old high-SES subjects fit into a role; two leaders, one facilitator and one independent player. This meant that a total of 11 out of 24 four year olds in the whole sample fit into a role (four from low-SES + seven from high-SES). On the other hand, a total of 12 out of 24 five year olds in the whole sample fit into a role (eight from low-SES + four from high-SES).

Role fit distribution of the children with respect to their SES by sex is presented in Table 14:

TABLE 14

Distribution of children who fit into a role with respect to their SES by sex

	LOW-SES SUBJECTS		HIGH-SES SUBJECTS		TOTAL
SEX	GIRLS	BOYS	GIRLS	BOYS	
LEADER	1	2	3	2	8
FACILITATOR	0	0	1	0	1
TEAM PLAYER	1	0	0	0	1
DEPENDENT PLAYER	6	2	3	1	12
ANSITIONAL CHILD	0	0	0	1	1
TOTAL	8	4	7	4	23

Table 14 shows that, eight of the low-SES girls fit into a role; one leader, one team player and six independent players. Whereas seven of the high-SES girls fit into a role; three leaders, one facilitator and three independent players. On the other hand, the number of the boys who fit into a role was the same for the two SES groups, both being four. However, among the low-SES boys there were two leaders and two independent players, while among the high-SES boys there were two leaders, one independent player and one transitional child. In other words out of 24 girls in the whole sample 15 fitted a role (eight low-SES + seven high-SES). Whereas out of 24 boys in the whole sample a total of eight boys fitted a role (four low-SES + four high-SES).

Finally, the cumulative frequencies for each of the 29 behaviors were examined. Table 15 and 16 present the cumulative frequencies received by all 48 subjects on the 29 behaviors. These two tables also indicate the distribution of these frequencies for the two SES groups.

TABLE 15

Distribution of the cumulative frequencies on the behaviors 1 to 16 for the whole sample and the two SES groups.

	B	E	H	A	V	I	O	R	S					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
359	5	97	76	91	8	30	49	11	212	1	44	46	6	54	13
351	3	81	118	61	15	31	47	26	274	5	31	19	36	138	7
710	8	178	194	152	23	61	96	37	486	6	75	65	42	192	20

L = LOW-SES SUBJECTS H = HIGH-SES SUBJECTS T = TOTAL

TABLE 16

Distribution of the cumulative frequencies on the behaviors 17 to 29 for the whole sample and the two SES groups.

	B	E	H	A	V	I	O	R	S			
17	18	19	20	21	22	23	24	25	26	27	28	29
118	27	37	48	14	37	85	41	149	39	48	36	88
135	33	29	44	27	35	143	37	209	32	51	27	48
253	60	66	92	41	72	228	78	358	71	99	63	136

L = LOW-SES SUBJECTS H = HIGH-SES SUBJECTS T = TOTAL

As seen from Tables 15 and 16, when the whole sample is considered, the behavior number 1 (Makes connections to the activities of other children through imitation or verbal checking) occurred with highest frequency (710), while the behavior number 11 (Tends to continue a play activity as long as others remain involved) occurred with lowest frequency (6). Similar results were obtained for the low-SES group,

where the behavior number 1 occurred with highest frequency (359), while the behavior number 11 occurred with lowest frequency (1). In the high-SES group, the behavior number 1 was observed most frequently (351), but it was the behavior number 2 (Mediates when conflicts occur in a play) that occurred with lowest frequency (3).

Relatively, the 29 behaviors were ordered from highest to lowest frequencies as follows:

For the whole sample: 1, 10, 25, 17, 23, 4, 15, 3, 5, 29, 27, 8, 20, 24, 12, 22, 26, 19, 13, 28, 7, 18, 14, 21, 9, 6, 16, 2, 11.
For the low-SES group: 1, 10, 25, 17, 3, 5, 29, 23, 4, 15, 8, 20 and 27, 13, 12, 24, 26, 19 and 22, 28, 7, 18, 21, 16, 9, 6, 14, 2, 11.
For the high-SES group: 1, 10, 25, 23, 15, 17, 4, 3, 5, 27, 29, 8, 20, 24, 14, 22, 18, 26, 12 and 7, 19, 21 and 28, 9, 13, 6, 16, 11, 2.

To summarize, both for the whole sample and the two different SES groups the following behaviors stand at the highest end in the order of frequency:

1. Makes connections to the activities of other children through imitation or verbal checking (BEHAVIOR NUMBER 1)
2. Tends to direct action of other children (BEHAVIOR NUMBER 10)

3. Shares information and skills with other children (BEHAVIOR NUMBER 25) (See Appendix III)

Furthermore, both for the whole sample and the two SES groups, the following behaviors stand at the lowest end in the order of frequency:

1. Spends a lot of time observing the play of other children. (BEHAVIOR NUMBER 6)

2. Follows other children when they move to different play areas, entering into interactions smoothly. (BEHAVIOR NUMBER 16)

3. Mediates when conflicts occur in a play. (BEHAVIOR NUMBER 2)

4. Tends to continue a play activity as long as others remain involved. (BEHAVIOR NUMBER 11)

IV. DISCUSSION

In this section the results of the present study will be discussed. First, the results related with the measurements of social analysis will be examined with respect to SES, sex, age and center. Then the results related with the measurement of social roles will be discussed with respect to SES, sex and age.

The main motivation for this study comes from the belief that social application of human intelligence remains untouched by existent standard measures of intelligence. Thus, the study tried to replicate a small part of Project Spectrum (1988) which provided an intensive look into the domain of social intelligence. The main aim of this study was to compare a group of low-and high-SES Turkish preschoolers on Gardner's Personal Intelligences as measured in the Project Spectrum.

The sample contained 48 subjects, 24 low- and 24 high-SES, four and five year old preschoolers all attending centers with educational aim.

4.1 Measurement of Social Analysis

4.1.1 Social Class Differences

Previous examinations indicated that low-SES parents display such child rearing practices that have a negative effect on the development of their children's social competence (Fogel & Melson, 1988; Golden & Birns, 1983; Hart & Edelstein, 1992). They are found to be more power assertive in their parenting behavior. They also value more control over their children's behavior. However, these kind of behaviors are proposed to lead to an insecure attachment of the child. It is the secure attachment that promotes the positive development social competence in children (Rubin & Rose-Krasnor, 1992). Lower-SES parents are also found less able to promote the communicative competence in their children than middle and high-SES parents (Hart & Edelstein, 1992; Shachter, 1979). However, many researchers proposed the importance of a well developed communicative competence in the development of children's self understanding and social competence (Golden & Birns, 1983; Hart & Edelstein, 1992; Luria, 1973; Piche, Rubin & Michlin, 1978; Taylor, 1990). Some studies in Turkey also showed that lower class parents display behaviors that lack the positive influences needed to promote the positive development of social competence in their children (Lecompte,1978;Ulugtekin,1977). All these reviewed information led to the expectation in the present study that high-SES children would score significantly higher

on all measures of social analysis compared to their low-SES counterparts. However, the results related to SES differences on the measurement of social analysis did not support previous expectations as it was stated in hypothesis 1(a). The high-SES children did not obtain significantly better scores on any of the measures of social analysis. On the contrary, the only significant difference obtained favored the low-SES children who scored significantly higher than the high-SES children on understanding of peers. The significant difference on understanding of peers indicated that low-SES children were more successful than high-SES children in distributing the figures of their classmates to the play area according to where they liked to play most; naming the special friends of children who stand at the center of different friendship clusters; showing someone in the class who watched what other children were doing a lot of the time; and showing someone in the class who plays alone most of the time. Moreover, these children are found to score slightly higher than the high-SES children on two of the other measures of social analysis (See Table 7). These were understanding of one's self and personal intelligence.

It is believed that these results might reflect the effect of the aim of the centers. All four centers included in the study were educational in their aim. Bekman (1982) compared the behavior of five-year old preschoolers and the behavior of staff in Turkish centers including children with different SES and displaying different aims. She examined

staff and child behavior in detail in working class/ educational, working class/custodial, middle class/ educational and middle class/custodial centers. Her research demonstrated that the differences among these four types of centers in staff and child behavior can be more related to the aim of the center than the SES variable. The general findings of her study showed that among the four types of centers, the quality of both staff behavior and children's social and cognitive behaviors were best in working class/ educational type of centers. Middle class/ educational, middle class/custodial and working class/custodial type of centers respectively followed the working class/educational type of centers, in the path of complexity and development of behaviors in social and cognitive domains.

The finding of the present study that low-SES children obtained higher means on two measures of social analysis and scored significantly better than the high-SES children on understanding of peers, might reflect the general belief that education can help low-SES children to overcome the disadvantages of their home environments. In other words, the expected SES differences were washed out by the positive environment provided in the educational aim centers. Hence, the importance of the aim of the center in influencing children's behavior should be included as another independent variable in studies such as the present one. Future research comparing low-and high-SES preschoolers on their social competence should involve centers with different aims (i.e.,

custodial vs educational) in their investigations.

4.1.2 Age Differences

The results related to age met the earlier expectations of the study. Hypothesis 2(a) was partly supported. In two of the measures of social analysis--i.e., in understanding of one's self and understanding of social roles--five year old preschoolers scored significantly better than four year olds. In other words, five year old preschoolers were significantly better than four year olds in showing where they spent most of the time and explaining the reason for their selection of that activity as favorite; and in reporting the activities they were best at and which has been hardest for them. They were also significantly better than four year olds on the following characteristics as related to the variable of understanding of social roles: reporting own special friend and the related reason; providing reasons for why they would still be (or not be) friends even if after one fights with a special friend about a toy; detecting a classmate (if there are some) who is a caretaker and a classmate who seems to be bossy; and to pick up a classmate as a leader, describing his/her leadership qualities. Furthermore, although nonsignificant, five year olds also obtained a higher mean score on personal intelligence which referred to the sum of the scores on understanding of one's self, understanding of peers and

understanding of social roles (See Table 8).

These results are in line with the information provided by the review of literature in self development, interpersonal relationships and problem solving, and moral reasoning. Erikson's psychosocial stages mirroring the emergence of self in relation to parental behavior proposed that self development progress in relation with age. Piaget's and Kohlberg's propositions on the development of moral reasoning, as well as the examinations of some investigators on age related differences in the development of self and social understanding (Bee, 1975; Clarke-Stewart et al., 1988; Harter, 1983), all suggested an increase in this domain of development with maturation. The different models of perspective taking (Selman's model of social perspective taking, Flavell's model of perspective taking) proposed age related phases for the development of this ability. Furthermore, the models of interpersonal problem solving skills (Dodge's model of social information processing, Rubin and Rose-Krasnor's social information processing model of social competence), assumed that the concerned features of social intelligence develop with age.

The importance of the communicative competence in the development of children's self understanding and social competence is another important issue to be stated here. The positive development of language with age can be related to the differences found between four and five year olds. Five

year olds were naturally a year ahead of four year olds in the development of verbal ability.

4.1.3 Sex differences

As stated in hypothesis 3(a), it was expected that girls and boys will differ in their scores on the measures of social analysis, while no direction was predicted. Although there are some studies in Turkey that proposed the existence of differential sex role socialization (Başaran, 1974; Kağıtçıbaşı, 1978), the present study was not able to find any significant differences between boys and girls on the measures of social analysis (See Table 9). In other words, the possible effects of the differential sex role socialization on children's scores on the measures of social analysis did not show up in this study. When one considers Bee's (1975) summary of the extant data of observed sex differences on personality and social interaction, a possible explanation comes to mind. According to Bee, sex differences on personality and social interaction are very few until about the age of six or seven, with the exception of aggressive behavior that reflects consistent sex differences from the earliest years. If the Classroom Model Questions Sheet used in the measure of social analysis is examined one can see that it does not contain any component touching the domain of aggression. Hence, it is possible that the present study supported part of Bee's conclusion that in the early years of development there are no known sex differences on

personality and social interaction. Further research perhaps with greater number of subjects is needed to reexamine the component of social competence in preschoolers with different sexes.

4.1.4 Additional Findings

The results of the measurement of the social analysis done with respect to center variable, demonstrated two significant differences among the four centers in the measures of understanding of peers and personal intelligence. Center 2 which was a high-SES center was found to score significantly lower than the other three centers on these two measures of social analysis. Besides when the mean scores of all four centers on the remaining two measures of social analysis--i.e., understanding of one's self and understanding of social roles are examined one can see that it was again Center 2 that obtained the lowest scores (See Table 10). The fact that all four centers were educational in their aims eliminates the possibility of the effect of the "aim of the center" on the results.

A possible explanation can be the effects of teachers on children's behavior. One of the important factors influencing the quality of education in preschools is the teacher (Bekman, 1982; Fagot, 1973; Tizard, Philips & Plewis, 1976). Bekman (1982) believes that the importance of the teacher's role on preschoolers' behavior deserves more

attention than it has been given. According to her, children's social skills development might be effected by the sensitivity of the teacher to social situations and interpersonal relationships. Although no formal information about teachers are documented in this study, due to her personal observation, it is the belief of the present researcher that the teachers in Center 2 did not show any encouraging or challenging behavior towards the children. These behaviors of teachers are described by Bekman (1982) when she explained the behaviors of the staff in middle class centers with educational aim. She attributes this trend of the staff to their probable belief that these children did not need any more attention and encouragement than provided at home, because they all come from enriched environments. As the owners of Center 2 explained, the teacher of the four years old group was a newcomer and yet inexperienced in the field of practice. The present researcher also believes that this inexperienced teacher was not a good observer of children in her class. Considering that the children's answers to classroom model questions were scored according to the social map which was filled out by the teacher of the class, the insufficient observation skills of the teacher might have been interfering with the results. In order to be able to decide on the role of the teacher on children's personal intelligence measure, future research should involve some kind of formal assessment of the teacher behavior.

There might be yet the effect of some ecological factors such as the physical arrangement in the classroom, child/staff ratio and curriculum interfering with these results. Although all four centers were educational in aim, they could not be assumed as complying a uniformity in every feature of the related ecological factors. According to the personal observations of the present researcher, there was a striking difference in the environment of Center 2 than those of the other three centers. This was the fact that children in this center did not have a stable classroom, but they were rather rotating through the rooms in the center due to the availability of the rooms determined by the daily program schedule of three age groups included in the center. A second important difference was in the placement of the main activity areas-i.e. block, art, house and quite areas. These areas were not placed in every room, but block and house areas were in two separate rooms on their own, while quite and art areas were placed together in a bigger classroom. Thirdly, the child/staff ratio for four year olds in this center was around 20/1, which is quite a lot for a program to ensure its quality. In the other centers this ratio did not exceed 12/1 mostly. It is suggested that all these ecological factors should be taken into account in the designs of the future attempts.

4.2 Measurement of the Social Roles

4.2.1 Social class differences

The nonsignificant chi square value obtained to compare the two SES groups on their frequencies of role assignments indicated that the number of high-SES children fitting into a role was not different than the relative number of low-SES children (See Table 11). This result did not support the expectation presented in hypothesis 1(b) of the study, stating that the frequency of the high-SES children fitting into one of the social roles would be significantly higher than the relative frequency of the low-SES children. However, it is parallel to the results related to the SES differences in the measurement of social analysis in the present study, where no significant SES difference was found in three of the four measures involved.

When the distribution of children who fit into a role in the two SES groups is examined one can see that the greatest difference between the two SES groups was observed for the independent player role for which 4 high-SES and 8 low-SES children fit (See Table 12). The child who displays this role is assumed typically to focus on the use of the materials rather than interaction with peers. Although the numbers were too small, the frequency of the low-SES children who fit into the independent player role was twice as the related frequency of the high-SES children. In other words,

more low-SES than high-SES children displayed at least four out of the six characteristic behaviors of this role. These characteristic behaviors include rejecting to respond to other children's requests; persistency in carrying out own ideas; focusing primarily on materials and own activity; and playing independently in an area chosen for the purposes of the activity rather than the presence of preferred peers.

4.2.2 Age differences

The nonsignificant results indicated by the chi square value for the difference between four-year old and five-year old preschoolers on their frequencies of role assignments did not support the expectations given in hypothesis 2(b) of the study (See Table 11). The five year olds were expected to reveal higher frequency of role assignment than four year olds. However, the role fit frequencies of the two age groups were almost the same. Eleven out of 24 four year olds and 12 out of 24 five year olds in the study fit into a role. On the other hand, it is interesting that when the SES variable is also considered, among the four year olds the number of the high-SES children who fit into a role was almost doubled compared to that of low-SES children (four low-SES and seven high-SES children fit into a role). This difference between the two SES groups in the number of children who fit into a role reversed its direction among the five year old subjects. In this group the ratio of low-SES to high-SES children in fitting into a role

was 2:1. Eight low-SES and four high-SES children fit into a role (See Table 13).

Perhaps, at this point it is possible once again to mention the important effect of the teacher's behavior on children's social competence, because out of four, five year old high-SES preschoolers fitting into a role, three were students of Center 1 and one was the student of Center 2. The lack of encouraging and challenging teacher behavior in Center 2 was mentioned when discussing the center differences on the measures of social analysis. This kind of attitude towards the children by these teachers might have prevented the development of the role assignment in children. Another possible explanation can be related to the fact that children coming from disadvantaged environments and attending a center with educational aim are found to be better developed in their social and cognitive behaviors than children coming from advantaged homes and attending a center with educational aim (Bekman, 1982). In the present study when the frequencies of four and five year old preschoolers fitting into a role were examined, it was demonstrated that the low-SES children showed an age related increase from four to eight role fit. The five year old low-SES children were at their second year of attending a center with educational aim. The employment of an educational program might have promoted the positive development of the low-SES children's social behavior greater than that of the high-SES children. The reason might be that coming from disadvantaged environments the low-SES children

start to progress from a point behind the high-SES children on the path of development. Therefore, it is possible that they benefit more on their development than their high-SES counterparts. This possibility leads to the suggestion that future investigations on the issue should include pre/post-test designs to examine the difference in the rates of progress that the distinct SES groups obtain.

4.2.3 Sex differences

Only one third (eight) of 24 boys in the study fit into a role whereas more than half (15) of 24 girls in the study did so. The expected significant sex difference in the study showed itself in the frequency of role assignment (See Table 11). This result supported hypothesis 3(b) of the study. Although the literature outside Turkey suggested no sex differences on personality and social interaction until the age of six or seven, in the present study in both age groups the role fit frequency of girls was almost twice as the relative frequency of boys. Among the four year old preschoolers seven girls fit into a role, while only four boys did so. Among the five year old preschoolers eight girls fit into a role, while only four boys did so. This result can be interpreted as such that in our country the sex role socialization is effective as early as four years of age. However, the measurement of social analysis in this study did not reveal any significant sex differences. These conflicting results of sex differences found in the

measurement of social analysis and social roles, might be related with the small sample size in this study.

In both sex groups, among children who fit into a role, the number of children coming from two SES groups were almost the same (four low-SES and four high-SES for the boys, and eight low-SES and seven high-SES for the girls). In other words, there are no observable salient SES differences when the frequencies of children fitting a role is examined in relation to SES by sex.

The frequencies of boys and girls fitting the independent player role deserve to be mentioned here. It is interesting to see that among 12 children who fit into the independent player role the ratio of girls to boys came out to be 3:1, in that nine out of 24 girls in the study fit into that role, while only three out of 24 boys did so. The ratio of girls to boys in fitting into the independent player role was exactly the same (3:1) when the related frequencies were examined with respect to SES by sex. In the low SES groups six girls fit into that role, while only two boys did so; and in the high-SES group three girls fit into the role, while only one boy did so (See Table 14).

Considering the general belief that parents nurture their daughters to be more dependent than sons, it is interesting to see that more girls are observed to fit the independent player role in this study. According to Bee

(1975), some studies in England by Newsons indicated that parents do not show any sign of differential treatment for their infant daughters and sons in areas like independence training. However, when children become school aged, daughters were more likely to be accompanied by their mothers on the way to school than sons. This leads one to think that girls are trained to be dependent. Bee further indicates that girls at six or seven years of age were not provided with the same freedom to roam as they had in the early years. Hence, the reason for more girls displaying the independent player role in the present study could possibly be related to the fact that in these early years the influence of sex role differentiation in parents' treatment of their children is not fully existent yet. This issue deserves a more indepth investigation which is beyond the scope of the present study.

There is a final discussion related to the measurement of social roles. This refers to the meaning of fitting into one of the social roles. Is it better or not for a child to fit into a role? As stated in the method section, the purpose of the peer interaction checklist was three-fold:

1. To provide a tool that can be used to analyze peer interactions;
2. To describe a range of children's behavioral tendencies during peer interactions;
3. To identify children who show strength in this area by consistently assuming a social role.

Five roles provided by the Project Spectrum (1988) are derived in line with the values of the American culture. These roles might not be valued in our culture. It is suggested in the Project Spectrum that for those children who are not successful in their roles or who are struggling to find a role, it will be helpful to arrange situations which will increase their chances to participate in successful interactions. This suggestion implies that for the collaborators of the project, fitting into a role is something desirable. However, one may never know if fitting into one of these five roles is desirable also in the Turkish culture. Even if fitting into a role is valued by our culture one has to investigate which of these five roles are more valued? There is also a need to see if there is any other role valued in this culture but not included in the role categories of the Project Spectrum, and any role category among the suggested five that is not suitable for Turkish children. When the characteristic behaviors of independent player role-under which most of the role fit children (12 out of 23) stand- is considered, do we prefer for a child to focus on the use of the materials rather than interacting with peers? Do we want children who do not respond to other children; who are persistent in carrying out own ideas; or frequently playing independently? Are these behaviors valued in our culture? If not, how can we assume children consistently displaying the independent player role as "successful in peer interaction" ? If we intend to use the information on the peer interaction list to help children

become successful in their peer relations, it is definitely obvious that the role categories should be reexamined to see if they are suitable to the values of this culture. Such revision might change the unexpected results obtained on sex and age differences in the measurement of social roles that were in conflict with the expected results obtained on sex and age differences in the measurement of social analysis.

4.3 Limitations of the Study

The need for extensive time to collect the observational data forced this study to limit the number of its subjects to 48. A greater number of subjects would provide better information on the interest area of the study. For instance, the conflicting results obtained for age and sex groups in the measurements of social analysis and social roles could be changed with a sample of greater number of subjects.

Another shortcoming of the study is in the broadness of its operational definitions provided for the two SES groups. As Fogel and Melson (1988) indicates, there are no consistent definitions of social classes in the extant literature. According to them, in the body of research on SES differences in parenting, the number of social class divisions involved in a study also shows variations. They state that the range of income, education and occupational status incorporated in

a definition of social class is determined by different cut-off points for social classes in different studies. In the present study three criteria were employed to decide on low- and high-SES groups: (a) the geographical location of the center, (b) children's fathers' educational level, (c) children's fathers' occupational level. Education-wise the cut-off point separating the two SES groups was between high school graduation and university education. In other words, low-SES group included children with fathers up to high school graduation and high-SES group included children with fathers who had a university or higher level of education. Hence, the range of fathers' education set for the low-SES group was quite broad including a continuum of education from elementary to high school graduation. With a narrower range designated for the low-SES group the obtained results of the study would possibly be subject to change. However, the lack of low-SES educational centers available to carry out this study necessitated such a broad definition of the low-SES group.

4.4 Contribution of the Study into the Area

In line with its intentions the present study serves only as a preliminary step towards the establishment of a useful assessment of social intelligence that can be employed in our country. Providing indepth information on children's development on the social cognitive domain, this kind of an

instrument can be useful in formulating individual social goals for preschoolers rather than labeling children on the basis of a test score such as the one provided by standard IQ tests. The measurement of social intelligence incorporated in this study mostly relies on observational procedure as employed in the measurement of social roles. It has an additional assessment of children as displayed in the classroom model activity which measures children's related abilities in a way that they do not seem to be aware of being assessed. With such an approach to assessment that takes into account one's behaviors in the daily experiences, the chance for children to be detected as being successful will increase. The dominant stress on the academic domain by the standard measures of intelligence has been questioned by many theoriticians and researchers who tried to examine the social domain of intelligence. The new approaches to the assessment of children's abilities will hopefully cover both domains of intelligence. In this way, the measurement of children's abilities will tap their success not solely in academic life but in daily life experiences as well.

V. REFERENCES

Anastasi, A. 1988. Psychological Testing. New York: MacMillan Publishing.

Asher, R. S., Renshaw, P. D. & Hymel, S. 1982. Peer relations and the development of social skills. In S. G. Moore & K. R. Cooper, (Eds.) Young child. Washington: National Association for Education of Young Children.

Başaran, F. 1974. Psychosocial development (In Turkish). A. U. Dil ve Coğrafya Fakültesi Yayınları, 54.

Bee, H. 1975. The developing child. New York: Harper & Row, publishers, inc.

Bekman, S. 1982. Preschool education in Turkey: A study of the relations between children's behavior, the aims of the programme, and the sex and the social class of the child. Unpublihed PhD thesis, University of London.

Brim, O. G. 1975. Macro-structural influences on child development and the need for childhood social indicators. American Journal of Orthopsychiatry, 45, 516-524. Cited in Olmsted, P. P., Rubin, R. I., True, J. H: & REvicki, D. A. 1980. Parent Education. Washington: Association for Childhood Education International.

Bronfenbrenner, U. 1976. The experimental ecology of education. Educational Researcher, 5, 5-15. Cited in Olmsted, P. P., Rubin, R. I., True, J. H. & Revicki, D. A. 1980. Parent Education. Washington: Association for Childhood Education International.

Broughton, J. 1978. Development of concepts of self, mind, reality and knowledge. New Directions for Child Development, 1, 75-100. Cited in Fogel, A. & Melson, G. F. 1988. Child development: Individual, family, society. St. Paul, MN: West publishing company.

Clarke-Stewart, A., Perlmutter, M. & Friedman, S. 1988. Lifelong human development. New York: John Wiley & Sons, inc.

Cowan, G. & Avants, S. K. 1988. Children's influence strategies: Structure, sex differences, and bilateral mother-child influence. Child development, 59, 1303-1313.

Fagot, B. I. 1973. Influence of teacher behavior in preschool. Developmental Psychology, 9, No.2, 198-206.

Fogel, A. & Melson, G. F. 1988. Child development: Individual, family, society. St. Paul, MN: West publishing company.

Ford, M. E. & Tisak, M. S. 1983. A further search for social intelligence. Journal of Educational Psychology, 75, No.2, 196-206.

Gardner, H. 1983. Frames of Mind. New York: Basic Books.

Golden, M. & Birns, B. 1983. Social class and infant intelligence. In M. Lewis (Ed.) Origins of intelligence: Infancy and early childhood. New York: Plennum Press.

Guilford, J. P. 1985. Infant intelligence and its assessment. In B. B. Wolman, (Ed.) Handbook of intelligence. New York: John Wiley & Sons, Inc.

Hart, D. & Edelstein, W. 1992. The relationship of self-understanding in childhood to social class, community type, and teacher-rated intellectual and social competence. Journal of Cross-Cultural Psychology, 23, No.3, 353-365.

Harter, S. 1983. The development of the self and the self esteem. In M. Hetherington, (Ed.) Handbook of child psychology, Vol.4, (4th ed.). New York: John Wiley.

Hartup, W. W. 1992. Peer relations in early and middle childhood. In V. B. Van Hasselt, & V. Hersen, (Eds.) Handbook of social development: A lifespan perspective. New York: Plennum Press.

Hatch, T., & Gardner, H. 1986. From testing intelligence to assessing competences: A pluralistic view of intellect. Roeper Review, 8, 147-150.

Hatch, T., & Gardner, H. 1989. Multiple intelligences go to school: Educational implications of the theory of multiple intelligences. Educational Researcher, Vol 18, No 8, 4-10.

Hendrick, J. 1988. The whole child (4th ed.). Columbus, Ohio: Merrill publishing company.

Horn, J. 1985. Remodeling old models of intelligence. In B. B. Wolman, (Ed.) Handbook of intelligence. New York: John Wiley & Sons, Inc.

Keating, D. 1978. A search for social intelligence. Journal of Educational Psychology, 70, No.2, 218-223.

Keller, A., Ford, L. H. & Meacham, J. A. 1974. Dimensions of self-concept in preschool children. Developmental Psychology, 14, 483-489. Cited in Fogel, A. & Melson, G. F. 1988. Child development: Individual, family, society. St. Paul, MN: West publishing company.

Krech, D., Crutchfield, R., Livson, N., Wilson, W. A. Jr., Parducci, A. 1982. Elements of psychology (4th ed.). New York: Alfred A. Knopf Inc.

Lecompte, G., Lecompte, A. & Ozer, S. 1978. Child rearing practices in three different social classes (In Turkish). Psikoloji Dergisi, 1, No.1.

Lewis, M., & Sullivan, M. V. 1985. Infant intelligence and its assessment. In B. B. Wolman, (Ed.) Handbook of intelligence. New York: John Wiley & Sons, Inc.

Malkus, V., Feldman, D. H., & Gardner, H. 1988. Dimensions of mind in early childhood. In A. D. Pellegrini, (Ed.) Psychological bases of early education, 25-38. New York: Wiley.

Messick, S. 1992. Multiple intelligences or multilevel intelligence? Selective emphasis on distinctive properties of hierarchy: On Gardner's Frames of Mind and Sternbergs's Beyond IQ in the context of theory and research on the structure of human abilities [Review of Frames of Mind and Beyond IQ]. Psychological Inquiry, Vol.3, No.4,365-384

Pellegrini, D. S. 1985. Social cognition and competence in middle childhood. Child Development, 56, 253-264.

Petit, G. S., Dodge, K. A. & Brown, M. M. 1988. Earl family experience, social problem solving patterns, and children's social competence. Child Development, 59, 107-120

Piché, G., Rubin, D. & Michlin, M. 1978. Age and social class in children's use of persuasive communicatve appeals. Child Development, 49, 773-780.

Project Spectrum. 1988. In Krechevsky, M. 1991. Project Spectrum: An innovative assessment alternative. Educational Leadership, 48, 5, 43-49.

Rice, B. 1979, September. Brave new world of intelligence testing. Psychology Today.

Rubin, K. H., Everett, B. 1982. Social perspective-taking in young children. In S. G. Moore & K. R. Cooper, (Eds.) Young child. Washington: National Association for Education of Young Children.

Rubin, K. H. & Rose-Krasnor, L. 1992. Interpersonal problem solving and social competence in children. In V. B. Van Hasselt, & V. Hersen, (Eds.) Handbook of social development: A lifespan perspective. New York: Plennum Press.

Santrock, J. W. 1990. Children. IA: Wm.C. Brown Publishers.

Secord, P. & Peevers, B. H. 1974. The development and attribution of person concepts. In T. Mischel, (Ed.), Understanding other persons. Totowa, NJ: Rowman & Littlefield. Cited in Fogel, A. & Melson, G. F. 1988. Child development: Individual, family, society. St. Paul, MN: West publishing company.

Selman, R. L., Schorin, M. Z., Stone, C. R. & Phelps, E. 1983. A naturalistic study of children's social understanding. Developmental Psychology, 19, No.1, 82-102.

Shachter, F. F. & Strage, A. A. 1982. Adults' talk and children's language development. In S. G. Moore & K. R. Cooper, (Eds.) Young child. Washington: National Association for Education of Young Children.

Shantz, C. V. 1983. Social cognition. In H. J. Flavell, & E. Markman, (Eds.) Handbook of child psychology, Vol.3, Cognitive development. New York: Wiley.

Smith, P. K. & Cowie, H. 1988. Understanding children's development. Oxford: Basic Blackwell ltd.

Sprintall, R. C. & Sprinthall, N. A. 1981. Educational psychology (3rd ed.). USA: Addison-Wesley publishing.

Taylor, E. H. 1990. The assessment of social intelligence. Psychotherapy, 27, 445-457.

Tizard, B., Philips, J. & Plewis, I. 1976. Staff behavior in preshool centers. Journal of Child Psychology & Psychiatry, 17, 265-274.

Tyler, L. E. 1965. The psychology of human differences (3rd ed.). New York: Meredith publishing company.

Ulugtekin, S. 1977. Parent child interaction in child rearing practices (In Turkish). Unpublished PhD thesis.

Wexler-Sherman, C., Feldman, D., & Gardner, H. 1988. A pluralistic view of intellect: The Project Spectrum approach. Theory into Practice, 28, 77-83.

Wilkinson, L. C. 1983. Social intelligence and the development of communicative competence. In M. Lewis (Ed.) Origins of intelligence: Infancy and early childhood. New York: Plennum Press.

VI. APPENDICES

APPENDIX I

CLASSROOM MODEL QUESTIONS (*)

Child _____ Observer _____

Age _____ Date _____

1. Please show me where you spend most of your time playing in the classroom.

   Is that your favorite activity? Why?

   What if that place were already full of children - show me where you would go.

2. Here are some pictures of the different games that you played with _____. Which one do you think you were best at?

   Why?

   Which one was hardest for you to do?

   Why?

   Which one of the games was your favorite?

3. Let's put other children where they like to play ... show me someone in your class who always plays at:

   Blocks _____

   Dramatic Play _____

   Art _____

   Water Table _____

   [If the child only volunteers one or two people, ask: "Is there anyone else?"]

(*) Provided originally from Project Spectrum (1988)

At this point, ask child to help you return children to magnet board before asking next question.

4. Let's see if some other children in your class also have a special friend...

   a) **Does** _____ have a special friend(s)?
   Who is that? _____ [Show me where they like to play together]

   b) What about _____ ? Does he have a special friend? Who is that?

   [And where do they play?]

   c) Does _____ have a special friend?
   Who is that? _____ [Where do they like to play?]

   d) I wonder if _____ has a special friend?
   Who is that? _____ [Where do they like to play?]

   e) Are there any other children who also have a special friend? Show me who they are.

Again ask child to help you return children to magnet board before asking next question.

5. Show me someone in your class who watches what other children are doing a lot of the time.

6. Please show me someone in your class who likes to play alone most of all.

7. Tell me, who is your very special friend? _____

   What makes _____ (see above) a special friend of yours?

8. Suppose you and _____ (see above) were fighting about a toy. Would you still be friends?

   Why not?

9. Show me the child in your class who helps children when they need it.

   Why did you choose that child?

10. Is there a child in your class that you think is bossy? What makes him/her so bossy?

11. What if the teachers said one day that it is a child's turn to be the teacher at meeting time. Which child would you want to be teacher for the day? _____. Can you put him/her where your teacher sits at meeting? Why did you pick _____ ?

(TURKISH FORM)

SINIF MODELİ İLE İLGİLİ SORULAR

Çocuk _____ Gözlemci _____

Yaş _____ Tarih _____

1. Lütfen bana sınıfta oyun oynarken en çok vakit geçirdiğin yeri göster.

   Bu senin en sevdiğin faaliyet mi? Neden?

   Eğer bu yer çoktan çocuklarla dolmuş olsaydı, nereye giderdin; bana göster.

2. Burada _____ ile oynadığın değişik oyunların bazı resimleri var. Sence hangisinde sen en iyiydin?

   Neden?

   Senin için en zor olanı hangisiydi?

   Neden?

   Oyunlardan senin en beğendiğin hangisiydi?

3. Haydi diğer çocukları oynamaktan hoşlandıkları yerlere koyalım.

   Bana senin sınıfında her zaman _____ köşesinde oynayan birini göster.

   Blok köşesi _____

   Sessiz köşe _____

   Evcilik köşesi _____

   Sanat köşesi _____

   Eğer çocuk sadece bir veya iki kişi gösterirse şöyle sorun: Başka kimse var mı?

   (Burada diğer soruyu sormadan evvel çocukları mıknatıs tahtasına geri yerleştirmek için çocuktan size yardım etmesini isteyin.)

4. Bakalım sınıfında başka çocukların da en sevdiği, en çok oynadığı bir arkadaşı var mı? **(özel arkadaş)**

   a) _____ 'ın en sevdiği, en çok oynadığı arkadaşı (ları) var mı?

      Bu kimdir? _____ (Bana onların birlikte nerede oynamaktan hoşlandıklarını göster.)

   b) Peki ya _____ ? Onun en sevdiği, en çok oynadığı bir arkadaşı var mı? Bu kimdir? Peki onlar nerede oynarlar?

   c) _____ 'ın en sevdiği, en çok oynadığı arkadaşı var mı? Bu kimdir? (Onlar nerede oynamaktan hoşlanıyorlar?)

   d) _____ 'ın en sevdiği, en çok oynadığı bir arkadaşı olup olmadığını merak ediyorum. Bu kimdir? (Onlar nerede oynamaktan hoşlanıyorlar?)

   e) En sevdiği, en çok oynadığı bir arkadaşı olan başka çocuklar da var mı? Bana kim olduklarını göster.

   (Çocukları mıknatıs tahtasına geri yerleştirmek için yine çocuktan size yardım etmesini isteyin.)

5. Bana sınıfında çoğunlukla diğer çocukların ne yaptığını seyreden birini göster.

6. Lütfen bana sınıfında en çok yalnız oynamaktan hoşlanan birini göster.

7. Bana senin en sevdiğin, en çok oynadığın arkadaşının kim olduğunu söyle.

   _____ 'ı senin en sevdiğin, en çok oynadığın arkadaşın yapan nedir?

8. Senin ve _____ 'nin bir oyuncak için kavga ettiğinizi düşünelim. Hâlâ arkadaş olur muydunuz.?

   Neden (olmasın) ?

9. Bana sınıfında ihtiyaç olduğu zaman çocuklara yardım eden çocuğu göster.

   Neden bu çocuğu seçtin?

10. Sınıfında patronluk yaptığını düşündüğün bir çocuk var mı? (Gerekiyorsa şöyle sorun: Sınıfında diğer çocukları idare ettiğini düşündüğün bir çocuk var mı?)

    Onu böyle patron gibi yapan nedir?

11. Ya öğretmen bir gün bir çocuğun beraber saatte öğretmen olma sırası olduğunu söylerse. Hangi çocuğun o gün için öğretmen olmasını isterdin? _____

Onu öğretmenin beraber saatte oturduğu yere koyabilir misin?

Neden _____ 'i seçtin?

APPENDIX II

SOCIAL MAP (*)

Teacher/Class _____ Date _____

CHILD	(**) SPECIAL FRIEND	(***) ACTIVITY AREA
	1.	
	2.	
	3.	
	1.	
	2.	
	3.	
	1.	
	2.	
	3.	
	1.	
	2.	
	3.	
	1.	
	2.	
	3.	

** children in class with whom child plays most often, in order of frequency

*** areas in classroom where child plays most often, in order of frequency.

* Provided originally from Project Spectrum (1988)

Question 3: Children (child) who always play(s) at:

Blocks _____

Dramatic Play _____

Art _____

Water Table _____

Writing Table _____

Question 4: Most salient friendships:

1)

2)

3)

4)

Others:

Question 5: Children who spend a lot of time watching what other children are doing:

1)

2)

3)

Question 6: Children who prefer to play alone most of the time:

1)

2)

3)

Question 9: Children who help other children (caretakers):

1)

2)

3)

Question 10: Children who often tell other children what to do (bosses):

1)

2)

3)

Question 11: Children who effectively organize activities (leaders):

1)

2)

3)

(TURKISH FORM)

SOSYAL HARiTA

öğretmen/Sınıf _____ Tarih _____

ÇOCUK	öZEL ARKADAŞ (*)	FAALiYET KöŞESi (**)
	1.	
	2.	
	3.	
	1.	
	2.	
	3.	
	1.	
	2.	
	3.	
	1.	
	2.	
	3.	
	1.	
	2.	
	3.	

* sıklık sırasıyla, çocuğun sınıfta en sık oynadığı çocuklar.

** sıklık sırasıyla, çocuğun sınıfta en sık oynadığı köşeler.

Soru 3: Her zaman bu köşede oynayan çocuk(lar):

Blok köşesi _____

Evcilik köşesi _____

Sanat köşesi _____

Sessiz köşe _____

Soru 4: En göze çarpan arkadaşlıklar:

1)

2)

3)

4)

Diğerleri:

Soru 5: Çoğu zamanı başka çocukların ne yaptığını seyretmekle geçinen çocuklar:

1)

2)

3)

Soru 6: Çoğu zaman tek başına oynamayı tercih eden çocuklar:

1)

2)

3)

Soru 9: Diğer çocuklara yardım eden çocuklar (yardımcılar):

1)

2)

3)

Soru 10: Sık sık diğer çocuklara ne yapacaklarını söyleyen çocuklar (patronlar):

1)

2)

3)

Soru 11: Etkili bir şekilde faaliyetleri düzenleyen çocuklar (liderler)

1)

2)

3)

APPENDIX III

Instructions for Use of the Peer Interaction Checklist (*)

Complete a checklist for each child in your classroom. After you review the items in the list, check those that best characterize each child's behavior during peer interaction in your classroom. In most cases checking 7-9 behaviors will accurately capture a child's mode of relating to peers. All children display many of the behaviors identified at this checklist at some time. Remember to check only those that are most distinctive about a particular child. If use of the checklist prompts thoughts about the child's relation with peers, record them in the comments section at the end.

PEER INTERACTION CHECKLIST

TEACHER'S NAME _____ DATE _____

CHILD'S NAME _____ AGE _____

1. _____ makes connection to the activities of other children through imitation or verbal checking (e.g., "What are you doing,? I'm doing..." "Let's do this O.K.?")
2. _____ mediates when conflicts occur during play
3. _____ initiates activities in which other children then participate
4. _____ takes initiative to lead but is not usually successful
5. _____ usually responds to other children's leads rather than initiating activities
6. _____ spends a lot of time observing the play of other children
7. _____ willing to accept compromises or leaves area when conflicts occur during play
8. _____ is more interested in own activity than in what other children are doing
9. _____ often invites other children to join in play
10. _____ tends to direct action of other children
11. _____ tends to continue a play activity as long as others remain involved

(*) Provided originally from Project Spectrum (1988)

12. _____ usually does not respond to other children's requests when doing so interferes with own activity

13. _____ often extends and elaborates other children's ideas

14. _____ often assigns roles to children

15. _____ makes some effort to control what other children do

16. _____ follows other children when they move to different play areas, entering into interactions smoothly

17. _____ is persistent in carrying out own ideas

18. _____ directly requests and receives assistance from other children

19. _____ is often sought out by other children

20. _____ when playing, focuses primarily on materials

21. _____ expresses concern about whether or not s/he is being accepted by other children

22. _____ cooperates with other children

23. _____ often gives feedback to children about what they are doing (e.g., "Not like that....let me show you.")

24. _____ frequently plays independently

25. _____ shares information and skills with other children (e.g., shows another child how to play a game)

26. _____ usually talks more than other children during play

27. _____ provides nurturance or assistance when other children need help or attention

28. _____ choice of play area reflects interest in activity rather than presence of preferred peers

29. _____ often has difficulty complying with other children's requests

COMMENTS:

(TURKISH FORM)

Yaşıt Etkileşim Listesinin kullanımı için talimatlar:

Sınıfınızdaki her çocuk için bu listeden doldurun. Listedeki maddeleri gözden geçirdikten sonra, sınıfınızda yaşıtları ile etkileşim sırasında her çocuğun davranışını en iyi şekilde gösterenleri işaretleyin. Çoğu zaman, 7-9 davranışı işaretlemek, bir çocuğun yaşıtlarıyla ilişki kurma tarzını doğru olarak yakalayacaktır. Bütün çocuklar bu listede belirtilen davranışların çoğunu bir vakit gösterirler. Sadece o çocuk için en belirgin olanları işaretlemeyi hatırlayın. Eğer listenin kullanımı çocuğun arkadaşlarıyla olan ilişkisi hakkında düşünceler uyandırırsa, onları en sondaki yorumlar kısmına kaydedin.

YAŞIT ETKİLEŞİM LİSTESİ

öğretmenin adı _____ **Tarih** _____

Çocuğun adı _____ **Yaşı** _____

1. _____ Diğer çocukların faaliyetleriyle taklit etme veya sözlü iletişim yollarıyla bağlantı kurar. (örn: "Ne yapıyorsunuz? Ben ..... yapıyorum." "Haydi, bunu yapalım, tamam mı?")
2. _____ Oyun sırasında çatışma meydana gelirse araya girer.
3. _____ Diğer çocukların sonradan katıldığı faaliyetler başlatır.
4. _____ Yönetmek için başlangıç yapar, ama genellikle başarılı değildir.
5. _____ Genellikle faaliyetleri başlatmaktansa, diğer çocukların başlattıklarına uyar.
6. _____ Diğer çocukların oyununu gözleyerek çok zaman harcar.
7. _____ Oyun sırasında çatışma meydana gelirse uzlaşmayı kabul etmeye isteklidir veya oyunu terkeder.
8. _____ Başka çocukların ne yaptığından daha çok kendi faaliyeti ile ilgilidir.
9. _____ Sık sık başka çocukları oyuna katılmaya çağırır.
10. _____ Diğer çocukların hareketlerini yönlendirmeye isteklidir.
11. _____ Başkaları da bulunduğu müddetçe oyun faaliyetini devam ettirmeye çalışır.

12. _____ Genellikle başka çocukların istekleri kendi faaliyetini engelliyorsa bunları yerine getirmez.
13. _____ Sık sık diğer çocukların fikirlerini açıklar ve genişletir.
14. _____ Sık sık çocuklara rol verir.
15. _____ Diğer çocukların yaptıklarını kontrol etmek için biraz çaba gösterir.
16. _____ Diğer çocuklar değişik oyun köşelerine geçince onları takip eder, etkileşime kolayca katılır.
17. _____ Kendi fikirlerini gerçekleştirmede ısrarcıdır.
18. _____ Diğer çocuklardan doğrudan yardım ister ve alır.
19. _____ Sık sık diğer çocuklar tarafından aranır.
20. _____ Oynarken öncelikle materyallere odaklanır.
21. _____ Diğer çocuklar tarafından kabul edilip edilmemeye ilgi gösterir.
22. _____ Diğer çocuklarla işbirliği yapar.
23. _____ Sık sık çocuklara onların yaptıklarıyla ilgili dönütler verir. (örn: "Böyle değil....dur, göstereyim.")
24. _____ Sıkça bağımsız oynar.
25. _____ Bilgi ve becerileri diğer çocuklarla paylaşır. (örn: başka bir çocuğa bir oyunun nasıl oynandığını gösterir.)
26. _____ Genellikle oyun sırasında diğer çocuklardan daha çok konuşur.
27. _____ Diğer çocukların yardıma veya dikkate ihtiyaçları olduğu zaman bakım ve yardım sağlar.
28. _____ Oyun köşesi seçimi tercih ettiği arkadaşların varlığından çok faaliyete ilgiyi yansıtır.
29. _____ Sık sık diğer çocukların isteklerini kabul etmekte zorluk çeker.

YORUMLAR:

GÖZLEM FORMU (FORM OF OBSERVATION)

lemcinin adı _____

ığun adı _____

ığun cinsiyeti _____ Yaşı _____

ih _____ Saat _____

iyet tipi _____ / __.10 dak.

1. ____ Faaliyete taklit ve-ya sözle bağlantı kurar.
2. ____ Çatışmada araya girer.
3. ____ Çocukların katıldığı faaliyetler başlatır.
4. ____ Yön. için başlangıç yapar ama başarısızdır.
5. ____ Diğer çocukların başlattıklarına uyar.
6. ____ Gözleyerek çok zaman harcar.
7. ____ Çatışmada uzlaşmaya isteklidir veya terkeder.
8. ____ Daha çok kendi faaliyeti ile ilgilidir.
9. ____ Çocukları oyuna katılmaya çağırır.
10. ____ Hareketleri yönlendirmeye isteklidir.
11. ____ Başkaları bulunduğu müddetçe devama çalışır.
12. ____ Çocukların istekleri faaliyetini engelliyorsa yerine getirmez.
13. ____ Fikirleri açıklar ve genişletir.
14. ____ Çocuklara rol verir.
15. ____ Kontrol etmek için biraz çaba gösterir.
16. ____ Çocuklar değişik köşeye geçince takip eder ve kolayca katılır.
17. ____ Fikirlerini gerç.de ısrarcıdır.
18. ____ Doğrudan yardım ister ve alır.
19. ____ Diğer çocuklar tarafından aranır.
20. ____ Oynarken öncelikle materyallere odaklanır.
21. ____ Kabul edilip edilmemeye ilgi gösterir.
22. ____ işbirliği yapar.
23. ____ Çocuklara dönütler verir.
24. ____ Bağımsız oynar.
25. ____ Bilgi ve becerileri çocuklarla paylaşır.
26. ____ Oyunda diğerlerinden daha çok konuşur.
27. ____ Bakım-yardım sağlar.
28. ____ Köşe seçimi arkadaş-tan çok faaliyete ilgiyi yansıtır.
29. ____ istekleri kabul etmekte zorluk çeker.

APPENDIX IV

PEER INTERACTION CHECKLIST: INDIVIDUAL SUMMARY SHEET (*)

Teacher's Name _____ **Date** _____

Child's Name _____ **Age** _____

TEAM PLAYER ROLE: Checklist items 1, 5, 7, 11, 16, 19

FACILITATOR ROLE: Checklist items 2, 9, 13, 22, 25, 27

LEADER ROLE: Checklist items 3, 10, 14, 18, 23, 26

INDEPENDENT PLAYER ROLE: Checklist items 8, 12, 17, 20, 24, 28

TRANSITIONAL CHILD ROLE: Checklist items 4, 6, 15, 21, 29

QUESTIONS:

1. Are the child's interactions generally positive?

2. Is the child usually successful in carrying out this role?

3. How do other children respond to the child's efforts?

(*) Provided originally from Project Spectrum (1988)

(TURKISH FORM)

YAŞIT ETKiLEŞiM LiSTESi: BiREYSEL öZET KAĞIDI

öğretmenin adı _____ Tarih _____

Çocuğun adı _____ Yaşı _____

TAKIM OYUNCUSU ROLü: Liste maddeleri 1, 5, 7, 11, 16, 19

KOLAYLAŞTIRICI ROLü: Liste maddeleri 2, 9, 13, 22, 25, 27

LiDER ROLü: Liste maddeleri 3, 10, 14, 18, 23, 26

BAĞIMSIZ OYUNCU ROLü: Liste maddeleri 8, 12, 17, 20, 24, 28

GEÇiŞKEN ÇOCUK ROLü: Liste maddeleri 4, 6, 15, 21, 29

SORULAR:

1. Çocuğun etkileşimleri genelde olumlu mu?

2. Çocuk bu rolü sürdürürken genellikle başarılı mı?

3. Diğer çocuklar çocuğun çabalarına nasıl karşılık veriyorlar?

APPENDIX V

SOCIAL ROLES: DEFINITIONS AND BEHAVIORAL CHARACTERISTICS (*)

TEAM PLAYER ROLE

Definitions: The primary characteristic identifying this role is the child's willingness to cooperate with others and participate in social activities.

Characteristic Behaviors:

- --makes connection to the activities of other children through imitation or verbal checking (e.g., "What are you doing,? I'm doing..." "Let's do this O.K.?")
- --usually responds to other children's leads rather than initiating activities
- --willing to accept compromises or leaves area when conflicts occur during play
- --tends to continue a play activity as long as others remain involved
- --follows other children when they move to different play areas, entering into interactions smoothly
- --is often sought out by other children

FACILITATOR ROLE

Definition: The child who assumes this role effectively shares ideas, information, and skills with other children.

Characteristic Behaviors:

- --mediates when conflicts occur during play
- --often invites other children to join in play
- --often extends and elaborates other children's ideas
- --cooperates with other children
- --shares information and skills with other children
- --provides nurturance or assistance when other children need help or attention

LEADER ROLE

Definition: A child who plays the role of leader is frequently involved in attempts to organize other children.

Characteristic Behaviors:

- --initiates activities in which other children then participate
- --tends to direct action of other children
- --often assigns roles to children
- --directly requests and receives assistance from other children
- --often gives feedback to children about what they are doing (e.g., "Not like that....let me show you.")
- --usually talks more than other children during play

(*) Provided originally from Project Spectrum (1988)

INDEPENDENT PLAYER ROLE

Definition: The child who displays this role typically chooses to focus on the use of materials rather than interactions with peers

Characteristic Behaviors:

- --is more interested in own activity than in what other children are doing
- --usually does not respond to other children's requests when doing so interferes with own activity
- --is persistent in carrying out own ideas
- --when playing, focuses primarily on materials
- --frequently plays independently
- --choice of play area reflects interest in activity rather than presence of preferred peers

TRANSITIONAL CHILD ROLE

Definition: Recognition of this role can be primarily based on identifying a child's effort to construct a classroom role for him- or herself.

Characteristic Behaviors:

- --takes initiative to lead but is not usually successful
- --spends quite a bit of time observing the play of other children
- --makes some effort to control what other children do
- --expresses concern about whether or not s/he is being accepted by other children
- --often has difficulty complying with other children's requests

(TURKISH FORM)

SOSYAL ROLLER : TANIMLAR VE DAVRANIŞSAL KARAKTERiSTiKLER

TAKIM OYUNCUSU ROLü

Tanımı: Bu rolü belirten başlıca karakteristik çocuğun başkalarıyla işbirliği yapma ve sosyal faaliyetlere katılma istekliliğidir.

Karakteristik Davranışlar:
-- Diğer çocukların faaliyetleriyle taklit etme veya sözlü iletişim yollarıyla bağlantı kurar. (örn: "Ne yapıyorsunuz? Ben ..... yapıyorum." "Haydi, bunu yapalım, tamam mı?")
-- Genellikle faaliyetleri başlatmaktansa, diğer çocukların başlattıklarına uyar.
-- Oyun sırasında çatışma meydana gelirse uzlaşmayı kabul etmeye isteklidir veya oyunu terkeder.
-- Başkaları da bulunduğu müddetçe oyun faaliyetini devam ettirmeye çalışır.
-- Diğer çocuklar değişik oyun köşelerine geçince onları takip eder, etkileşime kolayca katılır.
-- Sık sık diğer çocuklar tarafından aranır.

KOLAYLAŞTIRICI ROLü:

Tanımı: Bu rolü benimseyen çocuk başka çocuklarla etkili bir şekilde fikirleri bilgileri ve becerileri paylaşır.

Karakteristik davranışlar:
-- Oyun sırasında çatışma meydana gelirse araya girer.
-- Sık sık başka çocukları oyuna katılmaya çağırır.
-- Sık sık diğer çocukların fikirlerini açıklar ve genişletir.
-- Diğer çocuklarla işbirliği yapar.
-- Bilgi ve becerileri diğer çocuklarla paylaşır. (örn: başka bir çocuğa bir oyunun nasıl oynandığını gösterir.)
-- Diğer çocukların yardıma veya dikkate ihtiyaçları olduğu zaman bakım ve yardım sağlar.

LiDER ROLü:

Tanımı: Lider rolünü oynayan çocuk sıkça diğer çocukları yönlendirme girişimlerinde bulunur.

Karakteristik Davranışlar:
-- Diğer çocukların sonradan katıldığı faaliyetler başlatır.
-- Diğer çocukların hareketlerini yönlendirmeye isteklidir.
-- Sık sık çocuklara rol verir.
-- Diğer çocuklardan doğrudan yardım ister ve alır.
-- Sık sık çocuklara onların yaptıklarıyla ilgili dönütler verir. (örn: "Böyle değil....dur, göstereyim.")
-- Genellikle oyun sırasında diğer çocuklardan daha çok konuşur.

BAĞIMSIZ OYUNCU ROLÜ

Tanımı: Bu rolü sergileyen çocuk tipik olarak yaşıtlarıyla etkileşimden ziyade materyallerin kullanımına odaklanmayı seçer.

Karakteristik Davranışlar:
-- Başka çocukların ne yaptığından daha çok kendi faaliyeti ile ilgilidir.
-- Genellikle başka çocukların istekleri kendi faaliyetini engelliyorsa bunları yerine getirmez.
-- Kendi fikirlerini gerçekleştirmede ısrarcıdır.
-- Oynarken öncelikle materyallere odaklanır.
-- Sıkça bağımsız oynar.
-- Oyun köşesi seçimi tercih ettiği arkadaşların varlığından çok faaliyete ilgiyi yansıtır.

GEÇİŞKEN ÇOCUK ROLÜ

Tanımı: Bu rolün varlığı özellikle çocuğun kendisi için sınıfta bir rol kurma çabalarının olup olmadığına bağlıdır.

Karakteristik Davranışlar:
-- Yönetmek için başlangıç yapar, ama genellikle başarılı değildir.
-- Diğer çocukların oyununu gözleyerek çok zaman harcar.
-- Diğer çocukların yaptıklarını kontrol etmek için biraz çaba gösterir.
-- Diğer çocuklar tarafından kabul edilip edilmemeye ilgi gösterir.
-- Sık sık diğer çocukların isteklerini kabul etmekte zorluk çeker.