

**ACHIEVEMENT AND ACHIEVEMENT MOTIVATION**

**- AN EXPLANATORY MODEL -**

by

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## ABSTRACT

The purpose of the study is to determine parental factors related to achievement motivation and achievement of children in order to; 1) explain how parental factors act so that they influence academic achievement of children, 2) identify parental factors which are influential over achievement of children to provide guidelines for parent education programmes intending to increase academic achievement. A total of 1420 fifth grade students (498 during academic year 1988-89 and 922 during academic year 1989-90) attending to a private preparatory institute and their parents participated in the study. The sample was preferably chosen among samples attending a private preparatory institute due to the existence of a severe achievement situation facing these students. The measuring instruments used to assess parental variables were; 1) Home Educational Environment Questionnaire, 2) Parent Socialization Questionnaires, and 3) Parental Attitudes Research Instrument. The measuring instruments used to assess achievement and achievement motivation of children were; 1) Achievement Motivation Scale, and 2) Achievement tests administered to the students as part of the private preparatory course. Home Educational Environment Questionnaire, Parent Socialization Questionnaires and Achievement Motivation Scale were developed and analyzed in terms of their validity and reliability by the researcher. The data was analyzed using; 1) Pearson Product Moment Correlations, 2) Analysis of Variance Technique, 3) Regression Analysis, and 4) Analysis by t-test.

The results of the study indicate the existence of significant positive relationships between achievement motivation and overprotection and restrictions & punishments dimensions. On the other hand achievement was found to be negatively related to overprotection and strict discipline dimensions, and positively related to mother education, father education, democracy, demands & age, and home educational environment where home

educational environment, mother education, and strict discipline were observed to be the three parental variables explaining the greater percent of variance in achievement of children. No significant relationship was observed between achievement motivation and achievement. The nonexistence of a relationship between achievement motivation and achievement as well as the low number of contradictory correlations between achievement motivation and other parental process variables are discussed in terms of 1) the homogeneity of the sample population, 2) the dominant effect of ability over achievement motivation, 3) problems concerning the content-validity of Achievement Motivation Scale, and 4) the relative position of achievement motivation within the sample population. Although the results indicate the existence of global and specific parental behaviors/attitudes related to different achievement levels, they lack the explanation concerning the function of achievement motivation in causing differences in the achievement level. Therefore implications of the results were mainly directed towards parental factors related to higher academic achievement. Characteristics of parents whose children achieve higher compared to other children were outlined resulting in a list of "favorable" parental attitudes and behaviors related to high academic achievement. These "favorable" parental characteristics were differentiated in terms of their instructability level and parent education programmes which could provide a change from "unfavorable" to "favorable" parental characteristics were discussed.

## ÖZET

Bu çalışmanın amacı anne-baba tutum ve davranışlarının çocukların başarı ve başarı motivasyonları ile ilişkisini belirlemeye yöneliktir. Böylece; 1) ana-baba özelliklerinin çocuğun başarı motivasyonu ve dolayısıyla başarısını nasıl etkilediklerini açıklamak, 2) akademik başarı üzerindeki en etkili ana-baba özelliklerini belirleyerek, çocuğun başarısını arttırmaya yönelik ana-baba eğitim programlarına ışık tutmak amaçlanmaktadır. Çalışmaya özel bir dersaneye devam eden toplam 1420 beşinci sınıf öğrencisi (498 öğrenci 1988-89 öğretim yılında, 922 öğrenci 1989-90 öğretim yılında) ve aileleri katılmıştır. Örneklemenin oluşmasında dersaneye devam eden öğrenci ve ailelerinin tercih edilmesi, bu öğrencilerin önemli bir başarı deneyimi ile karşı karşıya olmalarına dayanmaktadır. Çalışmada ebeveynlere uygulanan ölçekler; 1) Ev Eğitim Ortamı Ölçeği, 2) Ebeveyn Sosyalleştirme Ölçekleri, 3) Çocuk Yetiştirme Tutum Ölçeği'dir. Öğrencilere uygulanan ölçekler ise; 1) Başarı Motivasyonu Testi, 2) Dersanede uygulanan tüm başarı testleri'dir. Ev Eğitim Ortamı Ölçeği, Ebeveyn Sosyalleştirme Ölçekleri ve Başarı Motivasyonu Testi'nin geliştirilmesi ve güvenilirlik, geçerlik çalışmaları araştırmacı tarafından gerçekleştirilmiştir. Verilerin analizinde 1) Pearson Korelasyon Tekniği, 2) Varyans Analizi, 3) Regresyon Analizi, ve 4) t-testi kullanılmıştır.

Çalışmanın sonuçları başarı motivasyonu ile aşırı koruyuculuk ve kısıtlamalar ve cezalar boyutları arasında olumlu, akademik başarı ile aşırı koruyuculuk ve sıkı disiplin arasında olumsuz ilişki olduğunu göstermektedir. Akademik başarı ile anne eğitimi, baba eğitimi, demokrasi, beklentiler ve yaş, ve ev eğitim ortamı boyutları arasında ise anlamlı ve olumlu ilişki bulunmuştur. Ev eğitim ortamı, anne eğitimi, ve sıkı disiplin boyutlarının sırasıyla, çocuğun başarı dağılımını en iyi açıklayan aile değişkenleri oldukları görülmüştür. Ancak başarı motivasyonu ile başarı arasında hiçbir ilişki bulunmamıştır. Başarı motivasyonu ile başarı arasında

hiçbir ilişki bulunmaması ve başarı motivasyonu ile aile değişkenleri arasında çelişkili ilişkiler bulunmasının sebepleri; 1) örneklemin homojen oluşu, 2) yeteneğin etkisinin başarı motivasyonuna oranla daha baskın oluşu, 3) Başarı Motivasyonu Testi'nin yapı-geçerliliğine ilişkin sorunlar, ve 4) örneklem içinde başarı motivasyonunun göreceli konumu dikkate alınarak tartışılmıştır. Sonuçlar, çocukların farklı başarı seviyelerine ilişkin ana-baba davranış ve görüşlerinin varlığı konusunda bilgi vermekle beraber, başarıdaki bu farklılıkların oluşmasında başarı motivasyonunun rolünü açıklayamamaktadır. Bu nedenle sonuçların değerlendirilmesinde esas olarak akademik başarıya yönelik ebeveyn tutum ve davranışları ele alınmıştır. Akademik başarısı yüksek öğrencilerin ebeveynlerine ait tutum ve davranışlar "olumlu" ana-baba özellikleri olarak değerlendirilmiş, ve bu özelliklerin ana-babalara kazandırılması için kullanılabilecek eğitim programları tartışılmıştır.

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## INTRODUCTION

A common belief held by social scientists is that parental characteristics play a strong role in shaping the children's access to educational experiences the consequences of which are observed in their achievement. Research on determinants of achievement performance indicates that both ability and motivational variables are useful and necessary predictors of achievement. However in general, the nature, and development of intelligence and ability were assumed to be the key factors in understanding, and explaining achievement performance. On the other hand it is clear that independent of ability motivational factors exert a profound influence on children's achievement. Motivational factors determine such critical things as whether children master skills that they are capable of mastering, whether they successfully perform the skills we know they have or whether they succeed in acquiring new skills we know they can. In other words motivational factors raise performance to the level of competence.

Present study concentrates on the motivational factors that influence achievement. Motivation in general and achievement motivation in particular is crucial in increasing achievement and performance in children. Both for theoretical and empirical reasons, research on the determination of achievement motivation concentrates on the family. Therefore the study focuses on parental factors responsible for the development of achievement motivation. It attempts to identify most powerful parental factors influencing the development of achievement motivation in children and corresponding interrelations among these powerful parental factors and other less influential ones.

The most researched parental factors that have been linked to the cognitive and affective development of students have been static measures of the home environment, such as family size, socioeconomic status, and birthorder (Marjoribanks, 1979). However, these static variables provide little about how homes are effective in supporting the child. These variables mainly focus on what parents are, rather than what parents do. Identifying specific attitude and process behaviors, on the other hand, like what families do or provide for their children can yield more meaningful information. Through the use of more specific parental process behaviors, one can obtain more adequate description concerning children's individual characteristics that affect their capacity to learn. Therefore family process variables as well as static family variables are included in describing parental characteristics.

Differences in home environments and specific or global parental characteristics may have significant predictive power over both achievement motivation and achievement of children. Some of these aspects related to home environment are alterable and open to intervention. Specific alterable behaviors of parents related to high academic achievement may prove to be an important source for parent educators. Usually in the cases where the child is seen to be of adequate intelligence, but is doing poorly in school, parents may find themselves to be in need of professional help. For these parents who are willing to get professional help, techniques to provide greater support for their children in school can be developed.

So the ultimate purpose of the study is the identification of alterable and nonalterable parental variables in order to provide a guide for future implementation of parent education programs, geared towards increasing achievement of children.

Therefore the purpose of the study is two-fold:

- 1) Theoretical purpose is to explain how parental factors act so that they influence academic achievement of children;
- 2) Practical purpose is to identify parental factors which are influential over achievement of children in order to provide guidelines for parent education programs intending to increase academic achievement of children.

## STATEMENT OF THE PROBLEM

Identification of major parental variables influencing achievement motivation and achievement of children has theoretical and practical importance. Theoretically it attempts to provide an explanation of how parents can be effective on children's achievement related activities, and outcomes. Practically it attempts to provide guidelines concerning what parents can do in order to get the child to achieve up to his capacity.

Past research on the effects of parental behaviour on achievement motivation and consequently on the achievement of children have shown that most influential parental practices are:

- 1) Parental demands and restrictions and corresponding nature of rewards and punishments identified as "Parent Socialization"
- 2) Child Rearing Attitudes of Parents
- 3) Home Educational Environment

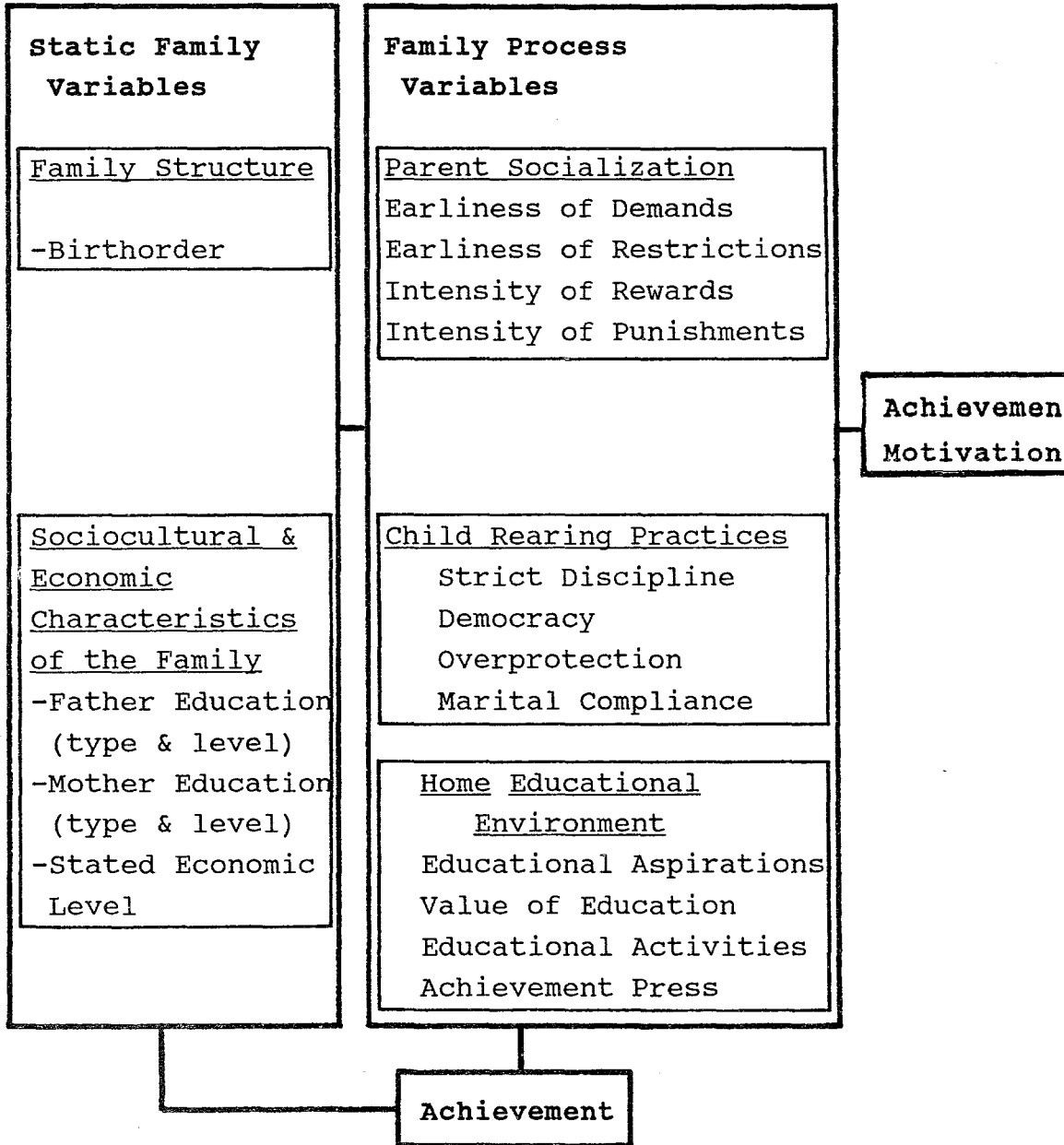
These parental process factors are influenced by more static parental factors:

- 1) Sociocultural and Economic Status of Parents
- 2) Family Structure

A detailed picture integrating all these parental variables (with their components) to show the parental correlates of achievement and achievement motivation of children is shown as:

Figure 1

Parental Correlates of Achievement and Achievement Motivation of Children



Therefore the model is investigated in terms of the relationships between the stated variables. In the light of the past research results (discussed in the "Theoretical Background and Literature Survey"), the expected directions of the relations between the variables in the model, are as follows:

The correlations between family process variables and static family variables is expected to be such that; positive correlations will be observed between father and mother education level; stated economic status and ;

- 1- earliness of demands
- 2- earliness of restrictions
- 3- intensity of rewards
- 4- parental score on "democracy" factor of PARI
- 5- marital compliance
- 6- home educational environment

Similarly father education level; mother education level; and stated economic level is expected to show negative correlations with ;

- 1- intensity of punishments
- 2- parental score on "strict discipline" factor of PARI
- 3- parental score on "overprotection" factor of PARI

Positive relationship will be observed between achievement motivation and;

- 1- birthorder
- 2- educational level of father
- 3- educational level of mother
- 4- stated economic level of parents
- 5- earliness of demands put by the parents
- 6- earliness of restrictions put by the parents
- 7- intensity of rewards given by the parents
- 8- parental score on "democracy" factor of PARI
- 9- marital compliance
- 10- home educational environment
- 11- achievement

Negative relationships will be observed between achievement motivation and;

- 1- intensity of punishments
- 2- parental score on "strict discipline" factor of PARI
- 3- parental score on "overprotection" factor of PARI

Similarly positive correlations will be observed between achievement and

- 1- birthorder
- 2- educational level of father
- 3- educational level of mother
- 4- stated economic level of parents
- 5- earliness of demands put by the parents
- 6- earliness of restrictions put by the parents
- 7- intensity of rewards given by the parents
- 8- parental score on "democracy" factor of PARI
- 9- marital compliance
- 10- home educational environment
- 11- achievement motivation

Negative correlations will be observed between achievement and;

- 1- intensity of punishments
- 2- parental score on "strict discipline" factor of PARI
- 3- parental score on "overprotection" factor of PARI

The aim of the study is stated as the identification of alterable and nonalterable parental variables that affect student achievement through their effect on the development of achievement motivation. As static parental variables are quite stable and nonalterable, the extent to which they affect the process variables is important. The degree to which the variance of family process variables are explained through static family variables is an important cue in the estimation of the degree to which those process variables can be altered. A high dependency of a process variable on static family variables indicates that this particular process variable cannot be easily altered. Therefore the study also questions the correlations between static family variables and family process variables. The expected direction of correlations between static family variables and process variables will also be the same as those stated for correlations between static family variables and achievement motivation.

## THEORETICAL BACKGROUND AND LITERATURE SURVEY

### Motivation

Motivation in a general sense is defined as a force that energizes a person and directs his/her activity. More specifically motivation is the process of arousing action, keeping the activity in progress, and regulating the pattern of activity. Motivation is a force which acts on or within an organism causing action in a particular direction. It initiates or directs behavior.

Theorists differ in their explanations of mechanisms that activate or direct behavior. Some propose that motivation is the result of physical needs. When these needs reach certain levels genetic programming is activated in the form of instinctive behaviors, as put forward by, W. James (1890), and F. A. Beach (1955), W. McDougal (1970) (cited in Bolles, 1975). Other theorists while regarding physical needs as the basis for motivation, argue that behaviors triggered by these needs are primarily learned. For this second group of theorists; R. S. Woodworth (1918), C. Hull (1943), K. Spence (1956), and R. Bolles (1967), one important aspect of these behaviors lies in learning the characteristics of different goals and directing the behavior appropriately (cited in Bolles, 1975). These **incentive approaches** suggest that the goals towards which we strive can themselves be motivating .

A second major approach to understand activation and direction of motivation points out that our thoughts, feelings and attitudes can motivate us. If we believe that we can be successful at a task we may strive with continuous effort. A belief in our lack of ability, on the other hand often has a debilitating effect on our behavior.

The cognitive theories, by K. Lewin (1936), E. C. Tolman (1959) attempt to provide insight into the cognitive processes we use when we interpret information in order to understand the motivation of behavior (cited in Bolles, 1975).

Some theorists also point out that we are socially motivated. Our interactions with others generates and directs behavior. We often find it difficult to deviate from the wishes of our peer group and this motive to conform can become very strong. These **social approaches** point out to the motivating properties of the presence of others.

Some theorists have emphasized the idea that the basic motive of all humans is to become as personally fulfilled as possible. These **actualization approaches** stress the positive nature of behavior and argue for understanding motivation from the view that we strive to control or affect our environment.

On the whole motivation is an explanatory concept that is used to make sense out of the behaviors we observe and it is considered as consisting of two components: an energizing component, and a directing component.

### **Achievement Motivation**

Achievement motivation is described as the behavior directed towards the attainment of approval or the avoidance of disapproval from oneself or from others. It takes place in situations where "standards of excellence" are applicable. Since motivation is defined as directing one's energy towards a particular goal, achievement motivation involves acting towards "standards of excellence" or towards "perfection of a skill". It is the motivation that takes the form of wanting to do one's best at anything one tries. It is a striving towards increasing one's capability and keeping it as high as possible, in all activities where a standard of excellence can be

applied. Therefore the actualization of such activities may result with failure as well as success.

### Theoretical Approaches to Achievement Motivation

Four major theoretical approaches are considered to be influential over the last three decades. These basic approaches are:

- 1- Need Achievement Theory
- 2- Test Anxiety Theory
- 3- Social Learning Theory
- 4- Attribution / Learned Helplessness Theory

Need Achievement Theory is developed by David McClelland and John Atkinson. It's a pioneering theory in terms of a general conception of achievement motivation. The central constructs of the theory are "motives" : the motive to achieve success and the motive to avoid failure. These motives represent the degree to which an individual anticipates the possibilities of success and failure as an outcome. The theory is based on an Expectancy-Value model of motivation. Expectancy-Value approach regards motivation as a product of the expectation that one can obtain particular goals and the value of incentive provided by that goal. The basic idea underlying Expectancy-Value approach is that motivated behavior results from the combination of the individual needs and the value of goals available in the environment with the person's expectancy of obtaining the goal. "Motivation" is defined as a function of the expectancy of success and the incentive value of success or failure (i.e. the shame or embarrassment one might feel at failing in a particular achievement situation). Thus people are oriented towards achievement related activity as a result of their belief that it will lead to particular valued goals. The theory assumes that for all individuals achievement situations arise both positive and negative anticipatory goal responses. Positive anticipatory goal responses result in

approach tendencies whereas negative anticipatory responses result in avoidance tendencies. Thus every achievement situation provokes an approach-avoidance conflict. The resolution of this conflict depends on the relative strengths of the two tendencies. People who have relatively stronger motive to achieve success will tend to approach; whereas people with relatively stronger motive to avoid failure will tend to avoid achievement situations. In brief, achievement cues elicit anticipatory goal responses in the form of affective states which energize and direct achievement-oriented activity.

Test Anxiety Theory is based on the notion that acquired motives can either energize or interfere with productive achievement activity (by Mandler & Sarason, 1952; Davidson, Lighthall, Waite & Ruebush, 1960 ; cited in Mussen 1983). The central construct of the theory is "test anxiety" which is an acquired drive. This drive is elicited by evaluative cues, and it elicits task-relevant or task-irrelevant responses. Task relevant and task-irrelevant responses either enhance or inhibit achievement performance. Task relevant responses lead to task completion. Therefore they reduce anxiety; whereas task irrelevant responses are incompatible or interfering. The theory predicts that increasing the anxiety drive will result in poorer performance for individuals who have task-irrelevant responses in their repertoire. On the other hand it will lead to improved performance for those with task-relevant responses.

Social Learning Theory put forward by V.J.Crandall; W. Katkovsky and A. Preston (1962, ), views achievement as consisting of many skill areas ( like intellectual, physical or artistic). A child may have different values or expectations for each of these areas. Social Learning Theory follows an Expectancy-Value model, in which the expectancies and values are precisely defined.

Attributional Approach put forward by B. Weiner and A. Kukla (1970) ; and Learned Helplessness Approach (Dweck, 1975; Seligman, Maier & Solomon, 1971) (cited in Mussen, 1983); to achievement motivation are based on the

assumption that individuals' beliefs about the outcomes they experience direct their subsequent behavior. The focus is on specific cognitions about success and failure. These cognitions mediate persistence on achievement tasks. The emphasis is on the expectancy part of the Expectancy-Value model. Special focus is given to the changes in expectancy as a consequence of success and failure outcomes.

The theories on achievement motivation have a common theme. The choice of achievement goals and goal directed activity is guided by the cognitions about and affective reactions to likely or valued events. The positive or negative affect derived from the activity then works to facilitate or interfere with task performance. At some point of the process, the product is evaluated. Depending on the conclusion the goals and goal directed activity is either maintained or altered. So the theories on achievement motivation integrate various affects and various cognitions describing how they interact over time, determining the nature and quality of achievement activity. Available information is processed in a selective, and subjective, manner, giving rise to expectancies, values and goal tendencies which are impressionistic blends of cognition and affect.

For this particular study, Need Achievement Theory is taken as a framework in explaining achievement motivated behavior, because it "provides a general conception of achievement motivation and proves to be the only theory which covers the critical question of what incites or energizes achievement oriented activity" (Mussen, 1983).

# Origins and Development of Achievement Motivation

## General Course of Development

Although children engage in competence increasing activities as soon as they are born, it takes time for them to engage in expectancy-value thinking. Rather their actions depend on reflexes, habits and drives. Infants display mastery motivation, but this is simply an urge to understand and manage the environment. They do things that are good for them, things that promote their own learning. They are engaged in activities that increase their competence.

These modes of behavior are basic rather than acquired. The child works on the task with concentration, persistence and satisfaction, and does not need any external reinforcement. In mastery motivation, there is a moderate degree of discrepancy between some external stimulus and the child's representation. This provokes a state of internal disequilibrium which initiates action. The child tries to regain equilibrium. Once the activity is started, the child takes pleasure merely from engaging in the activity (Heckhausen 1967, Hunt, 1965), and when mastery is attained the child experiences satisfaction and joy (Izard 1979). Both pleasure inherent in the activity and the pleasure following the outcome promotes repetition of such activities in the future. This system requires little cognitive apparatus. The child is cognitively immature and lacks the distinction between self and the environment. With mastery motivation system the child does not have to plan intent or evaluate on the outcome in order to initiate action. During the early years of life persistence in sensory-motor activities is the most impressive type of achievement behavior. Research shows that the duration of being occupied with something in early childhood has no predictive value for later achievement behavior (Kagan, 1972) whereas more intellectual activities such as talking and counting (Piaget, 1936) have predictive value. It is therefore improbable that there is continuity in the development of achievement motivation before the age of three.

According to Heckhausen and his collaborators (1967) the phenomena of "function pleasure" of wanting to do it alone, and persistence in sensori-motor activities can be regarded as the precursors (but not the beginnings) of achievement motivation. Achievement motivation requires the structuring of the situation within an achievement related person environment frame of reference. The child is capable of such a structuring between the age of three and three and a half. Until that age success or failure of one's activity directs the pleasure or disappointment at the outcome of the activity . But after the emergence of self the affective and cognitive evaluations are directed at the self, rather than the activity. Therefore with success the child experiences pleasure about his competence and with failure experiences shame about his incompetence . In other words emergence of self and achievement motivation takes place at the same time and both are in full force by three years of age. By that age children can cognitively represent and react to self related goals and can act in order to bring them about. They can evaluate the outcome of their actions against standards of competence, and experience consequent positive and negative self related affect (shame or pride), (Heckhausen 1967, Kagan 1971).

The capacity for conflict between the desire for achievement and the fear of failure is seen after the establishment of achievement motivation. Individual differences in terms of the expectancy of success emerge after four and a half years of age. Children up to four and a half years of age are completely confident in their expectation of success, even when success and failure are equally probable. Equal probabilities are evaluated realistically after the age of four and a half years (Heckhausen ,1967). Before four and a half years of age , instead of admitting and trying to overcome failure, the child denies it or avoids a renewed effort at achievement or minimizes the possibility of failure by taking elaborate precautions. Therefore the origin of level of aspiration (in the sense of calculated goal setting to maximize gains) comes about one year after the origin of

achievement motivation. Thus within one year from the age of four and a half years on, individual levels of achievement motivation can be clearly recognized. Concentration and persistence in achievement activities increase with age from four and a half years on. There is greater tolerance for failures and more frequent attempts are made to overcome them. Striving for achievement related recognition and fear of failure were noted from the age of 6. In a study by Parsons & Ruble (1977), older children (school-age) were observed to report lower expectations compared to preschool children, indicating a decrease in the estimation of success which may be interpreted as the emergence of more realistic estimations with growing age. Between the ages of 8-11 and 14-25 achievement motivation was found to show moderate but significant stability (Kagan, 1972).

On the whole achievement motivation is observed to remain stable between early childhood and adulthood. This is a surprisingly distinctive characteristic in comparison to other personality traits (such as aggression, passivity, dependency). The future achievement behavior of an adult is more or less determined already at ten years of age.

Achievement motivation is seen as a universal fact of life. The origin of the motive is cognitive maturation. Cognitive maturation causes the outcome of performance to be referred back to the self. Thus it is experienced as an affect related to one's own competence. Usually however the approval of a relevant person involved is an important measure of success which is in service of achievement motivation. Therefore within the course of development special conditions related to relevant people influence the development of achievement motivation in an individual, giving rise to individual differences. These special conditions are mainly a product of parental attitudes and behaviors.

**Individual Differences:  
Factors Influencing the General Course  
of Development of Achievement Motivation**

All motives are learned. According to Crandal, Katkovsky and Preston (1962) , the real motivational goal is obtaining approval and avoiding disapproval. This implies that motivation is a product of social learning and that achievement behavior is generated by reinforcement through social sanctions. All motives develop out of repeated affective experiences connected with certain types of situations and types of behavior. In the case of achievement motivation, the situation involves "standards of excellence" which are imposed on the child by the culture or more particularly by the parents as representatives of the culture. The behavior involves either competition with those standards of excellence or attempts to meet them. If these attempts are successful, they produce positive affect and if they are unsuccessful they produce negative affect. Thus it is possible to say that a family must set high standards of excellence, and permit the child to compete or strive to meet them on his own, so that the child will have the affective experiences connected with meeting or failing to meet achievement standards which cumulatively produce an achievement motive. Then individuals with high achievement motivation will have been forced to master problems more often and earlier than individuals with low achievement motivation. Nearly all children face a variety of common learning situations. But parents vary in the amount of pressure they place on achievement. The infantile images of the parents and their competitive strivings carry their effects into adulthood mostly unchanged, and shape conscious beliefs and attitudes causing individual differences. Meaningful individual differences are detected as early as the age of 5 (McClelland 1958, Winterbotton 1958). Something apparently happens in the family in childhood, beginning as early as the fourth or fifth year, which produces differences in the level of achievement motivation. McClelland further specifies that experiences in early life are more decisive due to greater

generalization of the learning and higher intensity of emotional responses.

These theoretical approaches are further supported by empirical reasons, so the research concerned with the origins of achievement motivation mainly focuses on the family.

### Dynamic Family Factors

Pioneering efforts to identify the origins of achievement motivation were carried out by McClelland et al. (1953). McClelland based his studies on the argument that, achievement motivation involves performance in the context of standards of excellence" and is a desire to have the performance stand well in evaluation against such standards. Therefore *"the history of someone who has high achievement motivation must be one with competition with performance standards or one in which the individual expects himself to do things well"*(Cofer & Appley, 1964).

Following this argument, McClelland has derived a list of variables to be related to achievement motivation. His discussion is directed to the number of experiences in independent mastery, the age at which the training is given and the emotional accomplishments of the training as important for the development of an achievement motive in the child. This has led to a number of studies in which the family or parent variable looked for was independence training ie. pressure on the child to master various skills early so that he can do them by himself independent of his parents.

In line with McClelland's arguments, Winterbottom in her pioneering work, asked mothers of 8 to 10 year old boys with low and high achievement motivation, at what age they expected their sons to be independent, competent in various areas and observant of certain rules. Mothers of boys who had high achievement motivation were expected, 1) to make greater number of demands for independence and mastery; 2) reward the child more frequently and more intensely; and 3) give this training at an earlier age

than mothers of boys who had low achievement motivation. Mothers of highly motivated boys, in comparison with mothers of less motivated boys, insisted more on independence during the first 8 years of age, they rewarded self reliant mastery with more recognition and tender affection, and also insisted on earlier obedience of rules, which however were not as numerous as they were for the boys with low motivation.

The results of Winterbottom's study have lead to the conclusion that early training in independence and mastery contributes to the development of strong achievement motivation. Early training in independence and mastery was considered in terms of the age at which certain demands and restrictions are imposed on the child by the parents as well as the type of rewards and punishments provided to the child following actualization of parental demands or violation of parental restrictions. In most of the following studies investigating parental factors related to achievement motivated behavior , these parental variables (considered for early training in independence and mastery), were taken as a focus.

Feld (1960), (cited in Heckhausen, 1967) reexamined Winterbottom's subjects 6 years later. The achievement motivation of these children who were then 14-16 years old, correlated negatively with the value the mothers placed on independence in their sons at this age level. The attitude of mothers had reversed itself for the older school age level.

Crosscultural replications of Winterbottom's study also gave inconsistent results. Rosen (1959) replicated Winterbottom's study in six different ethnic backgrounds and varying SES. He found a slight overall tendency for the mothers of sons with high achievement motivation, to put down earlier ages for expecting achievement in their sons, but it was not very large and reliable. Winterbottom's and Rosen's study were replicated in Japan, Germany and Brazil. In Japan Hayashi and Yamaushi (1964), (cited in Heckhausen, 1967) reported that mothers of low motivated preschool children (3-6 years) made more

demands than did the mothers of highly motivated children by the age of 6. The relation reversed itself after the age of 7. That is after the age of 7, mothers of lows began to make less demands than was found for the mothers of highs. But the age levels of independence demands reported by Japanese mothers were considerably lower than the age levels found in the United States. Therefore it was concluded that Japanese mothers were too premature in their independence demands and thus they missed the critical period for optimal training in independence. In Brazil, using a sample of boys 5-6 years older, (Rosen, 1959) later achievement and mastery training was found to correlated with high achievement motivation. Heckhausen and Kemmler (1957), (cited in Heckhausen, 1967) used teacher's ratings of performance during the first weeks of school as a measure of motivation. Mothers of beginners who were mentally and socially ready for school expected and desired independence and freedom of choice earlier in their sons than did mothers whose sons were not yet mentally and socially ready for school.

Although the results from the crosscultural studies were inconsistent, when the mean ages were considered, they lead to the conclusion that low achievement (need for achievement) could result from too early or too late achievement pressure. The relationship can be considered to be curvilinear with the optimum average expected age for self reliant mastery (so long as achievement motivation is concerned) around 8 years of age.

The intention behind the push was also considered to be important. Parents may expect the child to make decisions for himself just because they want their child to be independent and self-reliant. On the other hand they may demand mastery at an early age for their own sake, in order to spare the trouble of looking after the child. If parental pressure for achievement is too intense and premature then it may indicate a cold rejection of the child's needs rather than a genuine interest for self reliance. Therefore there is an optimum degree in producing achievement motivation in children. The stress on meeting certain achievement standards should be neither

too early for the child's abilities nor too late for him to internalize those standards as his own. Moss and Kagan (1960) report some independent evidence that an optimum age exists for producing need for achievement (nAchievement) by maternal achievement pressure. In their study of middle class white American families, ratings of achievement pressure during age 0-3 correlated 0.11 with nAchievement scores, while similar ratings during ages 3-6 and 6-10 correlated 0.51 and 0.67 ( $p=0.01$ ) respectively with adolescent nAchievement scores. Acceleration pressure (achievement pressure) was found to be more effective in producing high adolescent nAchievement if applied to boys between the ages of 6-10 than if applied earlier.

In these and many other studies achievement motivation was assessed through the use of Thematic Apperception Test (Murray, 1936), and was expressed as nAchievement (need for achievement). An alternative approach to the assessment of the level of achievement motivation is the use of overachievement or underachievement as a criterion for the determination of achievement motivation level.

Lindgren (1971) using underachievement as an indicator of low achievement motivation, questioned the effects of independence training on achievement motivation on a sample of underachieving students. In his study intellectually capable students who constantly fail were examined in terms of parental expectations for independent behaviors. Parents of underachievers were found to be expecting mastery much later than parents of achievers. Lindgren also showed that underachievers score lower on autonomy dimensions when compared to achievers ( $p=0.001$ ).

Two similar studies by Tessler et al and James et al. support Lindgren's findings. Tessler et al. (1987) found that overachievement was positively correlated with the independence measures of the students. Results of a study by James et al. (1988) comparing 26 normal ability underachievers with a matched group of achievers also showed that among the families of underachievers there was less emphasis on acting autonomously.

These studies point to the fact that high achievement motivation does not develop unless the parents give their children a good deal of autonomy, so that they can test themselves freely and gain confidence on their competence at their own pace.

Research on the effect of independence training on achievement motivation has also shown that early mastery training promotes achievement motivation provided it does not reflect generalized restrictiveness, generalized authoritarianism or rejection by the parents (McClelland, 1961, Rosen and D'Andrale 1958). From his studies on people from different ethnic backgrounds, McClelland (1961) concludes that authoritarian and restrictive socialization practices result in low achievement motivation no matter how early the independence training is. Similarly Child, Storm and Veroff (1958) in their study on folk tales indicate that the more restrictive and the more intent on obedience the child rearing is, the lower the amount of achievement content.

These results indicate the existence of a negative significant relation between achievement and the initial indulgence of the child in the culture.

These empirical findings based on McClelland's theoretical assumptions on achievement motivation were further supported by following studies on the relation of child rearing practices on achievement motivation. Taking underachievement as a criterion for low achievement motivation Konrich (1965) showed that parents of overachievers had lower scores than underachievers on authoritarian control factor of Parental Attitudes Research Instrument (PARI). Similarly in a study by Savaid M. et al. (1987) investigating the relationship between parental attitudes and achievement motivation using PARI, restrictive and protective attitudes by the parents were inversely related to children's achievement motivation.

As a result of these studies two main parental factors can be identified as being responsible for the

development of achievement motivation in children. These are; 1) insistence on early mastery in terms of demands and restrictions imposed on the child and the intensity of rewards and punishments, 2) parental child rearing attitudes in terms of the extend of authority, democracy, or strict discipline imposed on the child.

These two variables are especially important in explaining the development of achievement motivation through the development of the achievement motive. The achievement motive is regarded as a stable personality characteristic , probably learned early in life through association with parental rewards and where achievement related cues were present at the time the reward was received. It will be strong for those individuals for whom achievement cues have been paired with positive emotions in the past. Therefore it will vary in strength from one individual to another, but will remain relatively permanent within an individual across different situations. However the arousal of motivation to perform some act is not solely a function of the achievement motive. The arousal of achievement motivation is attributed to an interaction between the achievement motive of the individual and factors in the situation which confront him. The situation is conceived in terms of the particular cognitive expectancies it elicits regarding the consequences of alternative acts and the specific goals and incentives it presents. Particular cognitive expectancies and the relative value of incentives are also learned. But it is assumed that they are learned later in life under conditions which make them more situation bound and more modifiable than motives.

Cognitive expectancies and relative value of incentives are mainly acquired through parents. Therefore in explaining the achievement motivation of the child, parental practices relevant to the particular situation must also be considered.

For the present study this particular achievement situation takes place within the context of school. Therefore parental practices relevant to the situation

refer to those geared especially towards school and school related activities. Parental involvement geared towards the school related activities often include components such as actual or perceived expectations for school performance , verbal encouragements or interactions regarding school work , direct reinforcement of improved academic performance or general academic guidance and support ( Seginer 1983, Marjoribanks 1983, Entwisle, Alexander, Cadigan & Pallas 1986) . These variables which are indicators of home educational environment are also included among the parental factors which effect the development of achievement motivation. Home educational environment through shaping the cognitive expectancies and relative value of incentives concerning achievement related activities in the school, determines how a particular situation is conceived by the child (Rogers 1977, Stinson 1989). As the arousal of achievement motivation due to an interaction between the motives in the individuals and factors in the situation, how the child conceives the situation determines his action.

A study by Rosen and D'Andrale (1959), (cited in Heckhausen 1967) integrates all parental characteristics with independence and achievement competence as the centre of gravity in upbringing. The study examines parental influence on achievement behavior through direct observation of parents. Results of the study show that strong achievement motivation in boys is promoted in families characterized by high achievement oriented levels of aspiration, harmonious personal relationships and in families in which especially the mother stimulates achievement competence directly by positive or negative sanctions, and there is a respect for son's autonomy.

Marjoribanks, (1987) adopting Rosen's framework also integrates all three parental variables into one scale to define achievement orientation of the families and its effect on achievement related outcomes of the children. Achievement orientation of the families is defined in terms of achievement training independence training and achievement value orientations and aspirations. Families which stressed achievement training, encouraged

independence and had higher aspirations for their children were defined as having "getting ahead orientation". In contrast families which stressed relatively low achievement training, encouraged dependence and had lower aspirations were defined as having "getting by" orientation. Marjoribanks study utilizes the same variables as those used to predict the achievement motivation of children, to define the achievement orientation of the family. His study aims to show that children from different family groups differ in their individual characteristics and school related outcomes. The findings of the study suggest that when families are defined in terms of their social status and achievement orientations, moderate family group differences are observed in terms of children's school related outcomes.

Ross W. (1987) used Marjoribank's framework to describe the characteristics of home environments for underachievers and overachievers. The results showed that parents of achievers were more involved in educational activities and held higher educational aspirations.

These studies point out to three main parental factors important in the development of achievement motivation in children:

- 1) Parent Socialization
- 2) Child Rearing Practices
- 3) Home Educational Environment

#### **Static Family Factors:**

The family as a small group structure contains influences which further or hinder the development of strong achievement motivation. Birth order of siblings, size of the family and intactness of home have been shown to be important. American first born children were found to be more highly motivated (Atkinson and Miller 1956, Sampson 1962) (cited in Heckhausen 1967). The higher motivation of the first born children was explained by the fact that they were given more responsibility probably at an earlier period. The influence of family size on

achievement motivation of boys was found to vary with social class (Rosen, 1961). In the upper classes medium size families were found to produce boys with highest scores, whereas in the middle class, the smaller the family the larger the score.

Broken families or weak ties between the parents were found to hinder the development of high achievement motivation. However separation from the father before adolescence was found to favour high achievement motivation in an authoritarian society such as Turkey (Bradburn, 1963).

Social class and the educational level of the parents also determine the achievement related climate of the home, thus influencing achievement motivation. Research on the effect of social class on achievement motivation shows that potential (or so called "interiorized") achievement motivation increases with socioeconomic status (Rosen 1956, Atkinson, 1958). On other studies upward mobile middle class was found to favour the development of future oriented achievement motivation (Rosen, 1958).

Achievement motivation generally increases from lower to higher social classes and middle class males were generally found to have the highest scores (Rosen, 1958).

The effect of parent education, on achievement motivation is easy to understand. The parent's level of education is expressed in the achievement related content of everyday life in its sociocultural context, and from this the child picks up, takes over and develops his value attitudes. By their own behavior parents can put high imagery that makes a strong suggestive impression on the child at an early age.

It's possible to explain the effect of static family characteristics on the development of achievement motivation through their effect on family process variables (Kohn 1973, Stevenson 1987, Campbell & Mandel 1990).

Static family characteristics which effect achievement motivation either directly or indirectly through their influence on dynamic family characteristics can be summarized as:

- 1) Family structure (birthorder)
- 2) Sociocultural and economic characteristics of the family (education of parents, and stated economic status).

### **Achievement and Achievement Motivation**

Achievement motivation is a product of static and dynamic family characteristics. The product of achievement motivation in turn, is achievement. In fact all static and dynamic characteristics of the family which are observed to correlate with high achievement motivation are also found to correlate with achievement. Therefore achievement may be regarded to emerge as a result of the direct effect of achievement motivation or through the indirect effect of static and dynamic parental variables.

When considering the direct effect of achievement motivation on achievement, it is observed that in general subjects with high achievement motivation do well on sorts of tasks. But the most outstanding product of achievement motivation during school years is observed in school related activities primarily academic achievement.

Research results indicate the existence of a positive relationship between motivational variables and achievement (Hansfort and Hattie 1982, Shavelson and Bollis 1982, Stanson 1976). Most studies show that highly motivated people do better at school (Bridgeman & Shipman 1978, Butkovsky & Dale 1980, Haynes and Comer 1988, Boyle, Start & Hall 1989). In some studies the relationship between motivation and achievement was found to be conditional. Based on their study Ruthland, Gold & Feld (1978) claim that a positive correlation between motivation and achievement exists under conditions of low

role conflict and higher peer acceptance. In another study by Boyle & Start (1989), motivational dynamic traits were observed to contribute positively to academic achievement to the extent that they are integrated and expressed in the individual's daily life. However some studies show no relation between achievement motivation and achievement (Mehta and Kumar 1985). The nonexistence of a relationship between achievement motivation and achievement in those studies is explained through the widely divergent nature of sample groups. In fact the relationship between achievement motivation and achievement is found to be most pronounced in more homogeneous groups who are above a certain level of ability. Usually the correlations between achievement motivation and achievement are found to be moderate (around .40). But when controlled for intelligence the correlations are observed to rise up to .60. This is explained by the fact that " from a certain high degree of native ability on up, improvements in intelligence performances can be promoted more by increases in the strength of motivation, than by increases in the native capacity which is already high. Therefore "confining the subjects to the upper end of the intelligence distribution uncovers closer connections of achievement with motivation" (Heckhausen, 1967).

When the variables effecting the development of achievement motivation are considered altogether, we get a complete picture shown in Figure 2.

Figure 2

Parental Variables related to the Development of Achievement Motivation

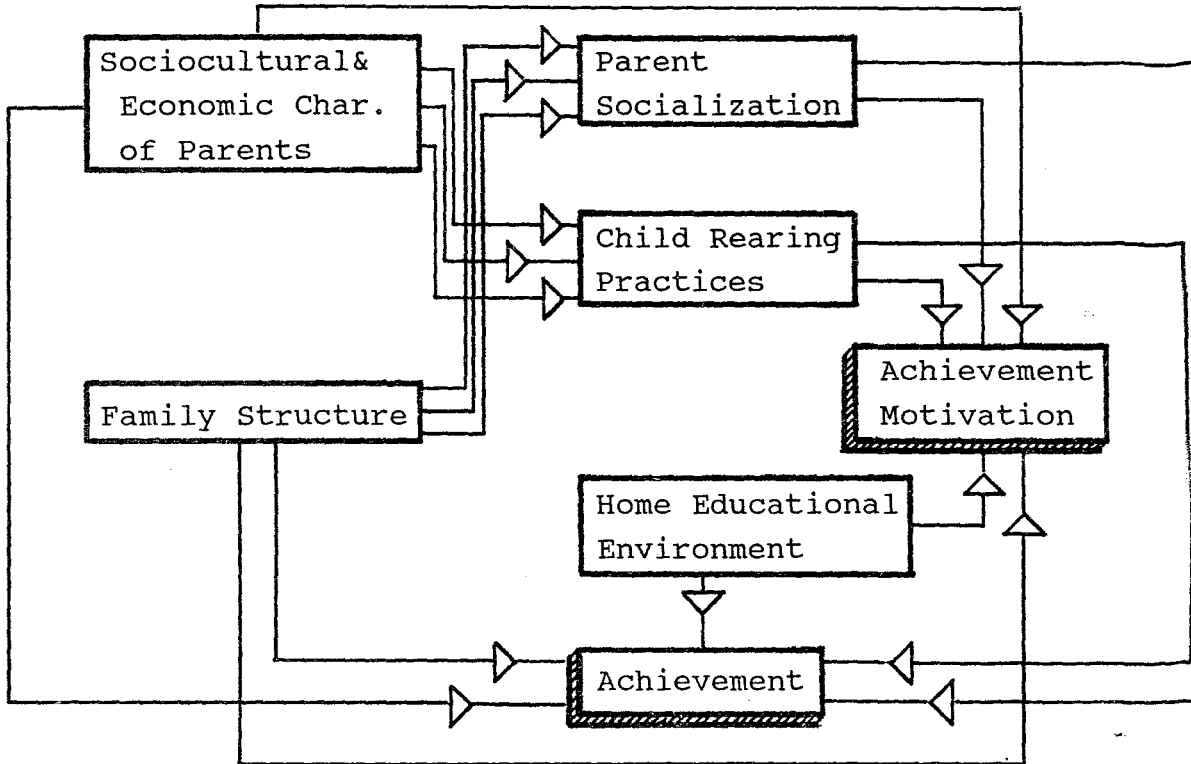


Figure 2 includes the direct relationship of static and dynamic family characteristics on achievement. The relationship between static and dynamic family characteristics and achievement has been shown in many studies. Positive correlations were obtained between sociocultural characteristics of parents and achievement (Donbush et.al 1987, Öner 1984 , McCartin & Meyer 1988) as well as family process variables and achievement (Walberg & Marjoribanks 1976, Marjoribanks 1981, Fowler 1982, Alwin & Thornton 1984, Nelson 1984, Entwisle et.al 1986, Keith et. al 1986, Mortkowitz, Elliot & Ginsburg 1988).

## **Importance of Primary School years in the Development of Achievement Motivation**

The effect of parental school related activities on achievement motivation is most pronounced during the primary school years because, achievement motivation is rather stable after the age of 10. Additionally the influence of the family is also observed to be greatest during primary school ( Keith et al. 1986). The family exerts less of an influence on the child's development as the influence of school settings and peer groups increase. Thus during adolescence, the social composition of the school and peer group have a more powerful impact on some aspects of development than the child's family or at least family influences become more subtle.

Primary school years are not only important due to their susceptibility to parental influences but also due to the fluctuations in achievement motivation caused by the very nature of the schooling process.

With school at least two major factors come into play:

- 1) Children learn new entity definition of ability that may lead them to seek normative or comparative competence judgements.
- 2) They confront new tasks that differ in fundamental and critical ways and that orient them more towards adults' judgements.

The developmental changes in the concept of competence in early school years appear to involve a growing ability or tendency to view intellectual competence as a more global, stable personal characteristic.

This new additional look gives them power to choose, plan evaluate and sustain in long term competence increasing activities. But it may also generate greater

self consciousness, caution and vulnerability in the realm of achievement.

Second factor is a shift from physical to intellectual tasks. Physical tasks are fundamentally different from intellectual tasks. Most physical tasks are valued by children, whereas intellectual skills are valued by adults. Also physical skills are more easily controlled and judged because they have observable outcomes. An advance plan is not necessary. In intellectual domain problem solving requires a planned covert sequence of skills and correctness of results is not self evident as in the physical skills. In short in intellectual skills the aim is not clear and the reason is more vague.

Along with these changes appear to come changes in perceived ability and in confidence of success as well as an increased vulnerability to the effects of failure. While success in school related subjects have a positive effect on children's self concept, educational aspirations and future expectations concerning education, failure is related to negative academic self concept, decrease in educational aspirations and negative attitude towards future expectations concerning education (Calsyn & Kenny 1977, Stipek & Hoffman 1980, Schunk 1981). Because achievement tendencies are malleable and subject to influence, fluctuations on self evaluations related to academic competence result in changes in achievement motivation during the primary school years. Therefore achievement motivation is more steadily established towards the end of primary school years.

## METHOD

### Sample

The sample of the study consists of 498 and 922 fifth grade students attending to a private preparatory institute, during the academic year 1988-89 and 1989-90 respectively and parents of these students.

Private preparatory institutes are nonformal educational institutions which function with the purpose of increasing children's cognitive and intellectual functions as well as extending their knowledge on primary school subjects in order to prepare them for the very competitive and selective secondary school entrance exam for further education.

A major criterion for the choice of the sample lies in its high availability. The children in the sample were easily reachable, and in the light of the past surveys carried out in this particular educational institute, the questionnaires sent to the parents had a promisingly high return rate. This assumption was later validated since nearly 100% of the questionnaires sent to the parents were returned.

Apart from its high availability; the choice of the particular sample used in the study rests on several theoretical reasons mentioned earlier:

- 1) The subjects who attended primary school were preferred due to argument put forward concerning "the importance of primary school years in the development of achievement motivation", as discussed in the previous section.

- 2) The subjects who were on the fifth grade were preferred due to the fact that they were faced with a crucial achievement situation . As the existence of an achievement situation is essential for the arousal of achievement motivation, this was considered to be favorable in highlighting and magnifying achievement oriented behavior so as to make it more easily detectable.
  
- 3) The subject participating in the study were considered to be rather homogeneous in terms of their cognitive ability level. The particular private preparatory institute participating in the study is located in Istanbul and proves to be one of the best of its type. Therefore even the entrance to the courses provided by this institute is through selection. So the students attending to these courses have somewhat similar cognitive abilities, and they can be considered as being above a certain level of cognitive ability. The homogeneous nature of the sample in terms of cognitive ability is a desired fact. As was mentioned earlier " there is an upper limit of intelligence from which point on accomplishments depend on differences in motivation. There is also a lower limit at which point motivation becomes irrelevant"(McClelland et al., 1958). Thus in order to be able to tap the differences in achievement motivation on achievement, similarity in terms of cognitive abilities is desired.

The families in the sample were also assumed to be rather homogeneous in terms of their socioeconomic status, consisting mostly of middle and upper middle socioeconomic level. This assumption is based on the fact that; 1) the fees for attending these courses is quite high and; 2) preparation for the particular oncoming exam is characteristic of families which are from middle and upper middle class. In fact the data gathered from the families verify this assumption. The stated economic status of the families and the educational level of parents converge at the middle and upper middle class levels (Table 18).

The homogeneity of the sample in terms of SES has both positive and negative consequences. On the negative side lies the fact that, similar social class families are also similar in terms of their parental attributes which in turn causes a decrease in variance and also in the correlations observed. On the other hand, when more divergent groups in terms of SES, are used the correlations between family variables, achievement motivation and achievement are magnified. Thus the relations due to differences in parental process variables within a single group is overlooked.

## Measurement and Instruments

### Measurement and Operational Definitions of Variables in the Study

#### Static Family Variables

Sociocultural Characteristics of the Parents includes five components:

- 1- Stated Economic level
- 2- Mother Education Level
- 3- Father Education Level
- 4- Father Education Type
- 5- Mother Education Type

These five variables are analyzed separately in the study. The information concerning these variables was already present in the data bank of the institute as assessed by the former tests administered to the parent population. The information thus obtained from the data bank was in such a form that each variable was assessed through the use of one multiple choice item (Appendix A).

Stated Economic Level is defined as parents' own statement of their economic level. It is assessed through an item containing four choices indicating different economic conditions the parents consider themselves to be in.

Mother Education Level is defined as mother's education at graduation level (ie the last educational institute graduated). It is assessed through an item containing choices at four educational levels.

Father Education Level is also defined as father's education at graduation level. It is assessed through an item containing choices at four educational levels.

Mother Education Type is defined and assessed through identification of one of the four educational fields

classified as; science-technical, administrative-trade, education, communication-literature-arts.

Father Education Type is also defined assessed through the identification of one of the four educational fields classified as; science-technical, administrative-trade, education, communication-literature-arts.

**Family Structure** includes only one component, which is the birth order. Birthorder is defined as the number of children born prior to the subject. It is assessed through a multiple choice item, which is taken from the formerly administered tests contained in the data bank of the institute ( Appendix A)

### Family Process Variables

**Parent Socialization** is defined in terms of four variables

- 1- Earliness of Demands
- 2- Earliness of Restrictions
- 3- Intensity of Rewards
- 4- Intensity of Punishments

Parent Socialization is operationalized through the scores obtained on these four variables separately. No cumulative score for Parent Socialization is calculated. Four separate questionnaires; "Demands & Age", "Demands & Rewards", "Restrictions & Age" and " Restrictions & Punishments" are used in order to assess Parent Socialization variables (Appendix C).

Earliness of Demands attempts to assess how early the parents expect their children to actualize certain behaviors. "Earliness of Demands" is operationalized in terms of the total score obtained from 15 item questionnaire called "Demands and Age" .

Earliness of Restrictions attempts to assess how early the parents forbid their children from doing certain behaviors.. "Earliness of Restrictions" is operationalized

in terms of the total score obtained from 15-item questionnaire called "Restrictions and Age".

Intensity of Rewards attempts to assess the nature of rewards provided to the child when their demands are actualized. "Intensity of Rewards" is operationalized in terms of the total score obtained from a 15-item questionnaire called "Demands and Rewards".

Intensity of Punishments attempts to assess the nature of punishments given to the child by the parents when their restrictions are violated. "Intensity of Punishments" is operationalized in terms of the total score obtained from a 15-item questionnaire called "Restrictions and Punishments".

**Child Rearing Practices** is assessed using the Parental Attitudes Research Instrument (PARI). Four subscales of PARI are used in order to assess parental attitudes on democratic, overprotection, strict discipline, and marital compliance (Appendix D).

Overprotection is defined as the mother's approval of being possessive and intervening into the child's life, the approval of activity for activities" sake, and expecting the child to be dependent on the parents.

Democratic attitude is defined as the parents approval of equalitarianism and sharing with the child.

Marital Compliance is defined as the degree of tension between the parents assessed indirectly through obtaining the respondents' judgements about how much quarreling might be expected in marriages in general" (Küçük, 1987)

Strict Discipline is defined in terms of" the common parental attitudes toward punishment, strict discipline and suppression of the child's responses" (Küçük, 1987)

**Home Educational Environment** is defined in terms of

- 1- Educational Aspirations of Parents
- 2- Parental Values on Education
- 3- Educational Activities of Parents
- 4- Academic Achievement Press

Home Educational Environment is assessed through the total score obtained from the reduced form of the Home Educational Environment Questionnaire on these four variables (Appendix F).

Educational Aspirations of Parents is defined as the extend to which children are expected to do well in school.

Parental Values on Education is defined as the time and money parents are willing to spare for education of their children.

Educational Activities of Parents is defined as the degree to which children observe their parents involved in educational activities at home compared to other home activities.

Academic Achievement Press is defined as the degree of parental control on school work.

### **Achievement Motivation of Children**

Achievement Motivation of children is defined as the degree to which children direct their behavior towards "standards of excellence" in academic work. Standards of excellence for this particular study is defined in terms of children's academic work, and an excellent standard stands for success in the entrance exam. Therefore achievement motivation is defined as directing behavior specifically towards success in the entrance exam, and is assessed through an Achievement Motivation Scale (Appendix H).

## Achievement of Children

Achievement of children is defined and assessed in terms of the scores they get from a total of 46 achievement tests administered as part of the preparatory courses.

## Measuring Instruments in the Study

The measuring instruments used in the study are:

- 1- Home Educational Environment Questionnaire
- 2- Parental Attitudes Research Instrument
- 3- Parent Socialization Questionnaires:
  - Demands and Age Questionnaire
  - Demands and Rewards Questionnaire
  - Restrictions and Age Questionnaire
  - Restrictions and Punishments Questionnaire
- 4- Achievement Motivation Test
- 5- Achievement Tests administered to the children

The instruments administered to the parents are based on three separate dimensions of parental process variables.

- 1- Parent Socialization
- 2- Child Rearing Practices
- 3- Home Educational Environment

## Parent Socialization Questionnaires

### Development of Parent Socialization Questionnaires

Parent Socialization Questionnaire is based on the questionnaire developed by Marian R. Winterbottom (1953). The original questionnaire has two parts. The first part of the questionnaire includes 20 kinds of independence and mastery behaviors that mothers might consider as goals for their training (Appendix B). Mothers are asked to indicate the age by which they expect their children to have learned the behaviors indicated in the questionnaire. The emotional consequences of the training are also assessed by a list of parental reactions concerned with what the mother does when the child fulfills her expectations. The list of alternative reactions to good performance in the child is made up of three rewarding and three neutral parental reactions. The three rewarding reactions are identified as physical, verbal and rewards involving objects and privileges (Appendix B). The items in each scale are randomized and mothers are asked to make three choices among six possibilities.

The second part of the questionnaire involves a list of 20 behaviors that a mother might want to discourage (Appendix B). As with demands, the mother is asked to indicate the age by which she expects each restriction to be learned. As in the case of demands, the restrictions are also followed by a list of parental reactions concerned with what the mother does when these reactions are violated. This list of reactions are also made up of three punitive and three neutral reactions. Similar to demands, punitive reactions consist of physical, verbal punishments in the form of deprivation of an object or privilege (Appendix B)

Fifteen items from the list of 20 demands, and 14 items from the list of 20 restrictions were used to develop Parent Socialization Questionnaire. The demands and restrictions which were considered to be irrelevant for the sample group were omitted. One of the items taken

from the list of restrictions was used as two separate items. As a result two lists, one consisting of 15 demands, and the other 15 restrictions were translated into Turkish. Using these two lists, four multiple choice questionnaires were developed.

The list of 15 demands was used repeatedly in two questionnaires:

- 1) Demands and Age
- 2) Demands and Rewards

The list of 15 restrictions was also used repeatedly in two questionnaires:

- 1) Restrictions and Age
- 2) Restrictions and Punishments

**Demands and Age Questionnaire** contains 15 behaviors indicating the age until which this particular behavior is demanded. Each choice has a weighed score changing between 1-4. The lower the age of demand indicated in the choice, the higher is the weighed score given for that choice. The total score obtained from the questionnaire indicates "Earliness of Demands".

**Demands and Rewards Questionnaire** contains 15 behaviors with choices indicating the nature of rewards provided to the child when this particular behavior is actualized. The choices indicating the nature of reward were also derived from Winterbottom's study. Winterbottom's questionnaire contains three rewarding and three neutral reactions. For this particular questionnaire all three rewarding and one neutral reaction is included to make up for four choices. Each choice has a weighed score changing between 1-4. The weight given for each choice is based on the theoretical argument put forward by Winterbottom on the affective intensity of rewards. The intensity of rewards is assumed to be highest for physical rewards. Verbal phrase is assumed to be second in affective intensity and the rewards which involve objects are assumed to be the third and the neutral reactions are

the least intense. The total score obtained from the questionnaire indicates the "Intensity of Rewards".

**Restrictions and Age Questionnaire** contains 15 behaviors with choices indicating the age until which this particular behavior is restricted. Each choice has a weighed score changing between 1-4. The lower is the age of restriction indicated in the choice the higher is the weighed score given for that choice. The total score obtained from the questionnaire indicates the "Earliness of Restrictions".

**Restrictions and Punishments Questionnaire** contains 15 behaviors with choices indicating the nature of punishment given to the child when this particular restriction is violated. The choices are derived from Winterbottom's study. All three punitive reactions and only one neutral reaction is taken from Winterbottom's questionnaire which includes three punitive and three neutral reactions. The affective intensity of punitive reactions, similar to that of rewards, is also assumed to decrease in the order from physical to verbal to punishments in the form of deprivation of an object or privilege. Neutral reactions are assumed to have the least affective intensity. The weighed score given for each choice changes from 1 to 4 according to this order of affective intensity. Therefore the total score obtained from the questionnaire indicates the "Intensity of Punishments".

### Item Analysis

Preliminary evaluation of the test items was done by determination of the discrimination power of each item. This was done in order to determine the degree to which the behavior specified in each item showed variance across the sample population. A discrimination power above 0.500 was regarded to be satisfactory for considering the particular behavior specified in the item as showing variance across the sample population.

Table 1 shows item discrimination powers for Demands & Age Questionnaire.

Table 1

Item Discrimination Powers  
for Demands & Age Questionnaire

Item no.	Discrimination. Power	Item no.	Discrimination Power
1	0.603	9	0.861
2	0.761	10	0.855
3	0.901	11	0.686
4	0.961	12	0.819
5	0.968	13	0.802
6	0.586	14	0.621
7	0.530	15	0.775
8	0.668		

Item discrimination powers for Demands & Rewards Questionnaire are presented in Table 2.

Table 2

Item Discrimination Powers  
for Demands & Rewards Questionnaire

Item no.	Discrimination. Power	Item no.	Discrimination Power
1	0.731	9	0.867
2	0.822	10	0.907
3	0.869	11	0.929
4	0.860	12	0.912
5	0.885	13	0.809
6	0.826	14	0.876
7	0.900	15	0.409
8	0.889		

Item discrimination powers for Restrictions & Age and Restrictions & Punishments Questionnaires are presented in Table 3 and Table 4 respectively.

Table 3

Item Discrimination Powers  
for Restrictions & Age Questionnaire

Item no.	Discrimination. Power	Item no.	Discrimination Power
1	0.887	9	0.825
2	0.872	10	0.778
3	0.893	11	0.957
4	0.740	12	0.939
5	0.880	13	0.959
6	0.880	14	0.971
7	0.801	15	0.846
8	0.875		

Table 4

Item Discrimination Powers  
for Restrictions & Punishments Questionnaire

Item no.	Discrimination. Power	Item no.	Discrimination Power
1	0.594	9	0.733
2	0.867	10	0.751
3	0.775	11	0.772
4	0.870	12	0.670
5	0.688	13	0.665
6	0.573	14	0.550
7	0.565	15	0.494
8	0.838		

The discrimination powers of all items in;

- 1) Demands & Age Questionnaire;
- 2) Demands & Rewards Questionnaire;
- 3) Restrictions & Age Questionnaire;
- 4) Restrictions & Punishments Questionnaire

were found to be above 0.500 except the last items of "Restrictions and Punishments" Questionnaire and "Demands & Rewards" Questionnaire.

### The Validity and Reliability of Parent Socialization Questionnaires

The Validity of Parent Socialization Questionnaire was assessed through;

- 1) Factor Analysis; and
- 2) Identifying the percentage of parents who consider the particular demand or restriction as important for themselves.

1) Factor Analysis : Factor analysis for Parent Socialization questionnaire was carried out together with the items of Home Educational Environment Questionnaire. In fact the instruments administered to the parents was subjected to factor analysis as a whole , excluding the items concerning child rearing practices of parents (PARI subscales) since factor analytic results concerned with the PARI instrument were already available.

Thus the instruments administered to the parents were analyzed, for determination of the factorial structure of five questionnaires; four questionnaires of Parent Socialization (Demands & Age, Demands & Rewards, Restrictions & Age, Restrictions & Punishments), and the Home Educational Environment Questionnaire (Table 5). SPSS-X principal factors method with the varimax rotation was used to investigate the factorial structures of these five questionnaires. The number of factors to be rotated was estimated as five. The eigenvalues for the first through fifth factors were 6.09590, 4.10861, 2.81997, 2.26017, and 1.54376 respectively.

Table 5

Factor Loadings for the Instruments administered  
to the Parents (excluding the PARI items)

Item no.	FactorI	FactorII	FactorIII	FactorIV	FactorV
<u>Demands &amp; Age (DA)</u>					
DA1			0.40494		
DA2			0.48795		
DA3			0.45684		
DA4			0.54862		
DA5			0.51558		
DA6			0.47735		
DA7			0.58942		
DA8	0.20366				
DA9			0.44437		
DA10			0.57853		
DA11			0.44937		
DA12			0.55393		
DA13			0.57469		
DA14			0.43325		
DA15			0.41056		
<u>Demands &amp; Rewards (DR)</u>					
DR1				0.47980	
DR2				0.53180	
DR3				0.44733	
DR4				0.55705	
DR5				0.29612	
DR6				0.64401	
DR7				0.51584	
DR8				0.25427	
DR9				0.51256	
DR10				0.44811	
DR11				0.54423	
DR12				0.38813	
DR13				0.54766	
DR14					0.30018
DR15					0.42018

Table 5 (cont.)

Item no.	FactorI	FactorII	FactorIII	FactorIV	FactorV
<u>Restrictions &amp; Age (RA)</u>					
RA1	0.45974				
RA2	0.63691				
RA3	0.61683				
RA4	0.65973				
RA5	0.61632				
RA6	0.44315				
RA7	0.58049				
RA8	0.50461				
RA9	0.59855				
RA10	0.43461				
RA11	0.35628				
RA12					0.47256
RA13					0.39125
RA14	0.32333				
RA15	0.43259				
<u>Restrictions &amp; Punishments (RP)</u>					
RP1			0.32799		
RP2			0.49369		
RP3			0.47347		
RP4			0.52080		
RP5			0.52504		
RP6			0.58636		
RP7			0.44336		
RP8			0.43982		
RP9			0.48336		
RP10			0.52093		
RP11			0.49320		
RP12			0.50328		
RP13			0.47441		
RP14					0.30838
RP15					0.40186

Table 5 (cont.)

Item no.	FactorI	FactorII	FactorIII	FactorIV	FactorV
<u>Home Educational Environment (HE)</u> (reduced form)					
HE1					0.22770
HE2					0.19556
HE3			0.11064		
HE4					0.19729
HE5				0.17173	
HE6					0.18359
HE7					0.23679
HE8			0.13390		
HE9					0.16976
HE10					0.16101

Results obtained from Factor Analysis shows that; Factor I consists of 13 items with factor loadings more than 0.35 and one item with factor loading less than 0.35; Factor II consists of 14 items with factor loadings more than 0.35 ; Factor III consists of 12 items with factor loadings more than 0.35 and 3 items with factor loadings less than 0.35; Factor IV consists of 11 items with factor loadings more than 0.35 and 3 items with factor loadings less than 0.35; Factor V consists of 4 items with factor loadings more than 0.35 , and Factor V consists of 6 items with factor loadings more than 0.35 and 7 items with factor loadings less than 0.35.

These items were tabulated in terms of their frequency falling in each category , in order to observe the congruence between the five factors obtained from Factor Analysis and five questionnaires administered to the parents (four Parent Socialization questionnaires, and Home Educational Environment Questionnaire). Table 6 shows the number of items falling in each category.

Table 6

Items of the Instruments administered to the Parents (excluding PARI items) tabulated according to the Factor and Questionnaire in which they belong

Questionnaires	Factor I	Factor II	Factor III	Factor IV	Factor V
<u>Demands &amp; Age</u>					
	DA8	DA1 DA2			
		DA3 DA4			
		DA5 DA6			
		DA7 DA9			
		DA10 DA11			
		DA12 DA13			
		DA14			
<u>Demands &amp; Rewards</u>					
				DR1 DR2	DR14
				DR3 DR4	DR15
				DR5 DR6	
				DR7 DR8	
				DR9 DR10	
				DR11 DR12	
				DR13	
<u>Restrictions &amp; Age</u>					
	RA1 RA2				RA12
	RA3 RA4				RA13
	RA5 RA6				
	RA7 RA8				
	RA9 RA10				
	RA11 RA14				
	RA15				

Table 6 (cont.)

Questionnaires	Factor I	Factor II	Factor III	Factor IV	Factor V
<u>Restrictions &amp; Punishments</u>					
			RP1 RP2		RP14
			RP3 RP4		RP15
			RP5 RP6		
			RP7 RP8		
			RP9 RP10		
			RP11 RP12		
			RP13		
<u>Home Educational Environment</u>					
			HE3	HE5	HE1
			HE8		HE2 HE4
					HE6 HE7
					HE9
					HE10

Table 6 shows that 14 items out of 15 of Demands & Age Questionnaire fall under Factor II; 13 items out of 15 of Demands & Rewards Questionnaire fall under Factor IV ; 13 items out of 15 of Restrictions & Age Questionnaire fall under Factor I ; and 13 items out of 15 of Restrictions & Punishments Questionnaire fall under Factor III. Therefore it's possible to conclude that Demands & Age corresponds closely to Factor II; Demands & Rewards corresponds closely to Factor IV; Restrictions & Age corresponds closely to Factor I; and Restrictions & Punishments corresponds closely to Factor III. The clustering of Parent Socialization items under the five factors is observed to show high correspondence with the expected categories of Parent Socialization questionnaires. When the items of Home Educational Environment are considered, 7 items out of 10 are observed to fall under Factor V, 2 items are observed to fall under Factor III, and 1 item is observed to fall under Factor

IV. Though none of the factor loadings are observed to be more than 0.35, it's possible to say that Home Educational Environment corresponds to Factor V. However this correspondence is not as strong as the congruence observed between the Parent Socialization questionnaires and corresponding factor structure.

2) The second analysis for the determination of the content validity of Parent Socialization questionnaires was done through identification of the percentage of parents who consider the particular demand or restriction as important for themselves. This was done in order to determine the degree to which the listed demands and restrictions were valid for the group of parents in the study. Both questionnaires on demands ; Demands and Age (DA), and Demands and Rewards (DR) contain the same list of behaviors. In both questionnaires the parents were asked to omit the items which they considered to be unimportant. A demand was considered valid for the particular population if less than 30% of the parents omitted the item.

The same procedure was carried out in the case of restrictions. A restriction was regarded to be an important restriction for the parent population under question if an age limit or punishment type was identified for that restriction by more than 70% of the group. Table 7 shows items of the questionnaires on demands, and percentage of parents who regard the behavior specified in these items as important or unimportant for demanding; and Table 8 shows items of the questionnaires on restrictions, and the percentage of parents who regard the behavior specified in these items as important or unimportant for restricting in Restrictions & Age (RA), and Restrictions & Punishments (RP) questionnaires.

Table 7

Demand Items and Percentage of Parents  
who regard the Item as Important or Unimportant

Item no.	% of Parents (Important)		% of Parents (Unimportant)	
	(DA)	(DR)	(DA)	(DR)
1	98.6	86.5	1.4	13.5
2	97.9	82.4	2.1	17.6
3	97.5	90.3	2.5	9.7
4	97.7	76.3	2.3	23.7
5	97.5	92.1	2.5	7.9
6	98.6	80.5	1.4	19.5
7	98.6	89.2	1.4	10.8
8	93.0	81.2	7.0	18.8
9	97.9	89.4	2.1	10.6
10	98.6	90.5	1.4	9.5
11	98.8	79.1	1.2	20.9
12	97.7	88.8	2.3	11.4
13	98.6	82.0	1.4	18.0
14	99.2	55.9	0.8	44.1
15	98.3	22.8	1.7	77.2

The results presented in the tables 7 and 8 show that two items in the demands list (14 & 15) and two items in the restrictions list (14 & 15) are omitted by more than 30% of parents in the "Demands and Rewards" and "Restrictions & Punishments" questionnaires. However the proportion of parents who omit these same items is quite low in the questionnaires concerned with age (Demands & Age and Restrictions & Age). This can be explained by the fact that these items were not considered to be a cause for punishment or reward, but still they were expected (in the case of demands) or undesired (in the case of restrictions) by the parents. It may be argued that these demands and restrictions were not valid for the particular

age range under study and thus they were not considered worth rewarding or punishing.

Table 8

Restriction Items and Percentage of Parents who regard the Item as Important or Unimportant

Item no.	% of Parents (Important)		% of Parents (Unimportant)	
	(RA)	(RP)	(RA)	(RP)
1	88.8	95.4	11.2	4.6
2	96.7	98.3	3.3	1.7
3	87.6	94.8	12.4	5.2
4	96.9	97.5	3.1	2.5
5	90.7	91.9	9.3	8.1
6	92.8	89.9	7.2	10.1
7	94.2	95.0	5.8	5.0
8	92.3	93.0	7.7	7.0
9	92.8	96.1	7.2	3.9
10	94.4	93.0	5.6	7.0
11	75.8	79.3	24.4	20.7
12	80.1	79.7	19.9	20.3
13	82.6	77.6	17.4	22.4
14	70.2	37.5	29.8	62.5
15	90.3	35.4	9.7	64.6

When the results obtained from both analysis (factor analysis and identification of the percentage of parents considering the particular behavior as important) carried out in order to determine the validity of the Parent Socialization questionnaires; were considered together, the last two items of "Demands & Age" and "Restrictions & Punishments" questionnaires were found to be questionable in terms of their validity.

Therefore these items were eliminated and not taken into consideration in the scoring of these questionnaires. However the three items of "Restrictions & Age" questionnaire (items 11,12, and 13) , which did not fit into the expected factorial structure, were not eliminated, because majority of parents (75%, 80%, 82% for item 11, 12, and 13 respectively) were observed to regard these particular behaviors worth restricting up to a certain age.

**The Reliability** of Parent Socialization Questionnaires were found by calculating the item total correlations and alpha correlation coefficients separately for all four questionnaires.

Reliability for Demands and Rewards Questionnaire

Item-total Statistics: Table 9 shows the item-total correlations obtained in reliability analysis.

Table 9

Item Total Correlations  
for Demands & Rewards Questionnaire

Item no.	Item-total correlation	Item no.	Item-total correlation
1	0.4130	9	0.4799
2	0.4622	10	0.4052
3	0.4162	11	0.4553
4	0.4601	12	0.3715
5	0.2789	13	0.5068
6	0.5464	14	0.1074
7	0.4493	15	0.1258
8	0.2207		

Table 9 shows that except for items 14 & 15 all item-total correlations are above the acceptable level of 0.15

Reliability Coefficients (alpha) for Demands and Rewards Questionnaire is 0.7736. With the exclusion of item 14 alpha increases to 0.7898 and with the exclusion of item 15 alpha coefficient increases to 0.7786.

Reliability of Demands & Age Questionnaire

Table 10 shows the item-total statistics for Demands & Age Questionnaire

Table 10

Item-Total Correlations for Demands & Age Questionnaire

Item no.	Item-total correlation	Item no.	Item-total correlation
1	0.3364	9	0.4023
2	0.4515	10	0.5437
3	0.4356	11	0.4361
4	0.4881	12	0.4797
5	0.4944	13	0.4890
6	0.4072	14	0.3702
7	0.5070	15	0.3748
8	0.0687		

Table 10 shows that except for item 8, all item total correlations are above the acceptable level of 0.15 (The low correlation for item 8 may be due to the very homogeneous distribution of results which converge at choice D).

Reliability Coefficient (alpha) for "Demands and Age" Questionnaire is = 0.8064 and when item 8 is excluded alpha rises to 0.8203.

Reliability of "Restrictions & Punishments Questionnaire"

Item total statistics of "Restrictions and Punishments" Questionnaire is shown in Table 11.

Table 11

Item-Total Correlations  
for Restrictions & Punishments Questionnaire

Item no.	Item-total correlation	Item no.	Item-total correlation
1	0.3023	9	0.4575
2	0.4308	10	0.4606
3	0.4408	11	0.4466
4	0.4618	12	0.4546
5	0.4673	13	0.4386
6	0.5234	14	0.1575
7	0.4282	15	-0.0367
8	0.4023		

Table 11 shows that, except for item 15, all item-total correlations are above the acceptable level of 0.15.

Reliability coefficient, alpha for Restrictions & Punishments Questionnaire is 0.7841. When item 15 is excluded alpha coefficient rises to 0.8015. Exclusion of item 14 also increases alpha coefficient to 0.7892.

## Reliability of Restrictions & Age Questionnaire

Item-total statistics of Restrictions & Age Questionnaire is shown in Table 12.

Table 12

### Item-Total Correlations for Restrictions & Age Questionnaire

Item no.	Item-total correlation	Item no.	Item-total correlation
1	0.4015	9	0.5490
2	0.4837	10	0.3979
3	0.5445	11	0.4819
4	0.4761	12	0.4468
5	0.4989	13	0.4315
6	0.4228	14	0.4537
7	0.5003	15	0.4505
8	0.5149		

Table 12 shows that all of the item-total correlations are above the acceptable level 0.15.

Reliability coefficient, alpha for Restrictions & Age Questionnaire is 0.8395.

When reliability and validity analysis results are considered for all four questionnaires items 14 and 15 are eliminated from both questionnaires: Demands & Rewards and Restrictions & Punishments.

Item 8 in Demands & Age Questionnaire also has a very low item-total correlation, the elimination of which gives rise to an increase in alpha coefficient from 0.8064 to 0.8203. Therefore this item is also excluded from the Demands & Age Questionnaire.

## Parental Attitudes Research Instrument

Parental Attitude Research Instrument (PARI), is used to measure child rearing practices of parents.

### Development of Parental Attitudes Research Instrument

The Parental Attitude Research Instrument was developed by Schaefer and Bell (1958) and adopted into Turkish by LeCompte et al (1978). The Turkish adaptation is a shortened form of the original instrument and contains five subscales. These subscales are; Overprotection (factor I), Democracy (factor II), Rejection of Homemaking Role of the Mother (factor III), Marital Conflict (factor IV), and Strict Discipline (factor V).

### Validity and Reliability of Parental Attitudes Research Instrument

The Conceptual Validation of the instrument was established through factor analysis results which revealed four factors and a residual dimension which was later identified as factor V by the Turkish authors (LeCompte et al., 1978).

The Construct Validity of these factors were evidenced in many studies due to their frequent use, as well as deliberate attempts to validate the PARI subscales (Küçük, 1987).

Results of several studies sufficiently indicate the construct validity of subscale I (Korkmazlar 1980, Kozacıoğlu 1982, LeCompte & LeCompte 1983, Erbaş 1983, Erer 1983, Kulaksızıoğlu 1985, Peker 1985); subscale II (Kulaksızıoğlu, 1985, Odabaş 1985, Küçük 1987); subscale IV (Kalaycıoğlu, 1978, Küçük 1987), subscale V (Kozacıoğlu 1982, LeCompte & LeCompte 1983, Kulaksızıoğlu 1985) (cited in Küçük, 1987).

**The Reliability** coefficient of the five subscales ranges between 0.59 (factor II) and 0.90 (factor V) with a median coefficient of 0.81.

Four subscales of PARI will be used in this study (factor I, factor II, factor IV, and factor V). PARI factor I (Overprotection) was found to explain 37% of the total variance and contains 16 items, PARI factor II (Democratic) explains 10% of the total variance and consists of 9 items. PARI factor IV (Marital Conflict) explains 5% of the total variance and contains 6 items. PARI factor V (Strict Discipline) consists of 16 items.

### Home Educational Environment Questionnaire

#### Development of the Home Educational Environment Questionnaire

Home Educational Environment Questionnaire was developed using the past research findings investigating parental behaviors geared towards children's school activities or parents' own educational activities at home, and the impact of these behaviors on children's achievement or achievement motivation.

The most frequently investigated home variables which were found to be significantly related to achievement or achievement motivation of children (Walberg & Marjoribanks 1976, Marjoribanks 1981, Fowler 1982, Nelson 1984, Alwin & Thorton 1984, Entwisle et.al 1986, Keith et al 1986, Dornbush et.al 1987, Mordkovitz et. al 1988, Grolnick & Ryan 1989) were listed and grouped according to their similarity. Four main groups of parental activities were identified.

- 1) Educational activities of parents
- 2) Parental values on education
- 3) Educational aspirations of parents
- 4) Academic achievement press

These four dimensions identified as major educational dimensions in the home were used in the development of the questionnaire items. Fourteen items on these major educational dimensions of the home were prepared by the researcher, and six additional items which were observed to be related to these educational dimensions were taken from the already administered tests of the institute. The data concerning the items taken from the already administered tests, were obtained from the data bank of the institute, and combined with the data obtained from the newly developed items which were administered to the same parent population. The resulting 20-items (Appendix E) were subjected to analysis for determination of validity and reliability of the test as a whole. Items concerning these dimensions and what they attempt to assess are as follows:

Educational Aspirations of Parents attempts to assess the extend to which children are expected to do well in school (items 11,12,13,14).

Parental Value on Education attempts to assess the time and money the parents are willing to spare for their children's education ( items 1,2,3,4,5,10,15).

Educational activities of Parents is assessed by two items questioning the dominant home activities of the parents as observed by the child ( items 6,7).

Achievement Press attempts to assess the extend of parental control over school work and the extend to which noneducational activities are restricted by the parents (items 8,9,16,17,18,19,20).

However in the light of the results obtained from reliability studies (item-total correlations) and expert judgements, the number of items making up the Home Educational Environment questionnaire was reduced to 10, after eliminating the items which were low in terms of reliability and validity (as determined by the expert judgements).

The reduced form of the Home Educational Environment questionnaire was taken as a single variable indicating the general educational climate of the home (in terms of the educational aspirations of parents, parental value put on education , educational activities of parents and parental pressure for academic achievement).

Item Analysis

Preliminary evaluation of the test items was done by determination of discrimination power of each item. This was done in order to check for the degree to which each item showed variance across the sample population. The items which showed similarity across the sample population were identified because each item was expected to point out to a differentiating characteristic within the sample.

Table 13

Item Discrimination Powers  
for Home Educational Environment Questionnaire

Item no.	Discrimination. Power	Item no.	Discrimination Power
1	0.925	11	0.803
2	0.807	12	0.796
3	0.850	13	0.735
4	0.901	14	0.895
5	0.983	15	0.672
6	0.584	16	0.528
7	0.841	17	0.610
8	0.394	18	0.278
9	0.862	19	0.663
10	0.862	20	0.248

Two items (8,20) were observed to show a variance below 0.500. These items were considered to be questionable in terms of the information they reveal on

the nature of the home educational environment, as they do not prove to be a differentiating characteristic across the sample population.

**The Validity and Reliability**  
**of The Home Educational Environment Questionnaire**

**The Validity** of Home Educational Environment Questionnaire was assessed through;

- 1) Expert judgements ;
- 2) Factor analysis

Expert judgements: The content validity of the Home Educational Environment Questionnaire was assessed by identification of the degree to which the parental behaviors assessed in each item fitted in the defined category of parental activities, through using expert judgements. Eleven judges were used for the evaluation of the test items, all of whom had masters degree on "Guidance & Counseling" and ten of them were actually working as guidance counselors or in related fields of education.

The judges determined which of the specified four "Home Educational Environment" each item belonged; and the degree to which each fitted within this particular dimension. Each item was evaluated for the degree of fit in terms of the statements: possible, convenient, very convenient (Appendix G). These statements were scored as 1, 2 and, 3 respectively, if the dimension identified by the judge fitted the dimension intended it the test. If it was identified as belonging to another dimension (than that intended), then the score was zero. To calculate the degree to which each item fitted in the described category, the scores obtained from each judge for each item were added to get a mean score. A mean score equal to, or greater than 2, meant that the item was judged to be convenient or very convenient, that is it assessed the parental behavior intended. Therefore the items with a mean score of 2 or greater were judged to be valid in terms of their content.

Table 14

Mean Scores Obtained From Judge Evaluations  
of Home Educational Environment Questionnaire

Item no.	Mean Score	Item no.	Mean Score
1	2	11	2.33
2	2	12	3
3	2.67	13	3
4	3	14	2
5	2	15	3
6	2	16	1
7	2	17	1
8	0	18	1
9	3	19	1
10	2	20	1

Table 14 on judge evaluations indicates that items 8, 16, 17, 18, 19, 20 which have mean scores below 2 , were not considered to be assessing the parental behavior intended, as determined by the judges. Therefore these items were considered to be inadequate in terms of content validity.

2) Factor Analysis: Factor analysis of Home Educational Environment Questionnaire was carried out together with the of Parent Socialization Questionnaires (discussed in the section on "Validity of Parent Socialization Questionnaires"), because factor analysis was applied to the instrument administered to the parents as a whole (excluding the PARI items). Together with four Parent Socialization Questionnaires, the number of factors to be rotated was estimated as five, using the SPSS-X principal factors method with the varimax rotation. Factor loadings for Home Educational Environment Questionnaire are shown on Table 5.

In Factor Analysis only the items in the reduced form of the Home Educational Environment Questionnaire are used (Appendix F). The results show that 7 items out of 10 (items of the reduced form) cluster under the same factor (Factor V), where all of the factor loadings are below 0.35.

The Reliability of Home Educational Environment Questionnaire was assessed through determination of item total correlations and alpha reliability coefficient. The items for which item-total correlations remained below 0.15 were regarded to be questionable in terms of their reliability. Table 15 shows item-total correlations for Home Educational Environment Questionnaire.

Table 15

Item Total Correlations  
for Home Educational Environment Questionnaire

Item no.	Item-total correlation	Item no.	Item-total correlation
1	0.1650	11	0.3394
2	0.1218	10	0.1713
3	0.2252	13	0.2350
4	0.1167	14	0.0885
5	-0.023	15	0.2714
6	0.1622	16	-0.1090
7	0.2259	17	-0.0361
8	0.1143	18	0.1135
9	0.1526	19	0.0445
10	0.1864	20	0.0049

Item-total correlation of Home Educational Environment Questionnaire were generally quite low. Only 10 items (1,3,6,7,9,10,11,12,13,15) were found to be above the acceptable level (0.15).

The alpha reliability coefficient of Home Educational Environment Questionnaire was found to be 0.4551. When the items with reliability coefficients below 0.15 were eliminated alpha reliability coefficient rose to 0.5030.

The items which had item-total correlations below 0.15 level (items 2,4,5,8,14,16,17,18,19,20) were considered together with the items which showed low validity (items 8,16,17,18,19,20) and low item discrimination powers (items 8,18,20) as a result of expert judgements and item analysis. All the items which showed low reliability, low validity and low item discrimination power (items 2,4,5,8, 14,16,17, 18, 19, 20) were eliminated and not used for further analysis purposes (including Factor Analysis). The resulting test on Home Educational Environment, reduced form of the Home Educational Environment questionnaire consisted of only 10 items (Appendix F). So instead of analyzing Home Educational Environment in terms of four separate dimensions, it was analyzed as a single dimension, revealing information on the general climate of the home.

### Achievement Motivation Scale

#### Development of Achievement Motivation Scale

Two main sources are used in the development of Achievement Motivation Scale items.

- 1) Achievement Orientation Subscale of Eysenk Personality Inventory: In Eysenk Personality Inventory "Achievement Orientation" is covered under the personality dimension "Toughmindedness vs. Tendermindedness". A high score on achievement orientation dimension indicates, ambitious, hardworking, competitive personality characteristics. The test is used for adult population. Therefore the items basically aim to assess achievement oriented behavior in business life. The items which were considered to be

appropriate for lower age groups and assessment of achievement oriented behavior in school work were modified and used in The Achievement Motivation Scale. The items were modified in such a way as to assess the behavior directed towards competence and excellence in school work and particularly in the entrance exam.

- 2) A second major source used in the development of Achievement Motivation Scale items is the theoretical and empirical findings on achievement oriented behavior. Achievement behavior is defined and assessed in terms of the observed or expected behavior of a person with high achievement motivation.

### Validity and Reliability of Achievement Motivation Scale

Validity of Achievement Motivation Scale was assessed by calculating the Pearson Product Moment Correlations of the scale with nAchievement scores obtained from Edward's Personal Preference Schedule (EPPS).

EPPS developed by Allen Edward's (1959) assesses the degree to which 15 needs identified by Murray (1963), in his Need Theory of Personality , are present in an individual.

The validity and reliability studies of the Turkish form of EPPS has been completed by Yıldız Kuzgun (1985). The scores obtained from the items directed towards the assessment of the need for achievement were used in determining the achievement motivation level of the students.

Both EPPS items measuring nAchievement level and the Achievement Motivation scale were administered to 73 fifth grade students, who were going to take the entrance exam (37 students were from Hasan Ali Yücel Primary School and 36 students were from a private preparatory course). Five

students from Hasan Ali Yücel Primary School were eliminated because they were not going to take the entrance exam. Thus the validity study was based on the data obtained from a total of 68 students.

The Pearson Product Moment correlation coefficient was found to be 0.5411.

Reliability of the Achievement Motivation Scale was assessed through calculating the alpha reliability coefficient and item total correlations which are presented in Table 16.

Table 16

Item Total Correlations  
of the Achievement Motivation Scale Items

Item no.	Item-total correlation	Item no.	Item-total correlation
1	0.0925	16	0.1401
2	0.2971	17	0.1739
3	0.4455	18	0.2321
4	0.2196	19	0.3251
5	0.1778	20	0.2342
6	0.3702	21	0.2462
7	0.4665	22	0.5227
8	0.3773	23	0.3762
9	0.4150	24	0.6352
10	0.5622	25	0.1642
11	0.2318	26	0.6538
12	0.4528	27	0.4598
13	0.4754	28	0.5993
14	0.2572	29	0.1355
15	0.1443	30	0.2553

Four items of Achievement Motivation Scale (items 1, 15, 16, 29) were observed to have item- total correlations below the acceptable level. However these items were

decided to be kept in the scale because of their closeness to the acceptable level except for item 1 which showed a very low correlation (0.0925). The alpha reliability coefficient of the scale was determined to be 0.6047.

### Achievement Tests

Achievement was measured using the following tests:

12 tests on Mathematics - 30 items

12 tests on Turkish - 30 items

8 tests on Social Sciences - 30 items

8 tests on General Science - 30 items

6 General tests - 100 items:

50 items on Maths & General Science

50 items on Turkish & Social Sciences

The correlations between the scores obtained in those achievement tests are presented in Table 17

Table 17

### Correlations Between Achievement Tests

	Turkish	Social	Maths.	Science	General
Turkish					
Social	0.77				
Maths.	0.83	0.79			
Science	0.77	0.81	0.79		
General	0.89	0.83	0.89	0.83	
Total	0.92	0.88	0.96	0.88	0.95

The high correlations observed between the achievement tests administered to the students is considered to be a strong evidence for their high reliability.

## Analysis of Results

The data was analyzed using Pearson Product Moment Correlations, Analysis of Variance, Regression Analysis, and t-test techniques. Global parental factors related to achievement motivation and achievement of children were investigated through the use of Pearson Product Moment Correlations, analysis of Variance, and Regression Analysis. Specific parental or student behaviors / attitudes related to high achievement were investigated using t-test.

- 1) Pearson Product Moment Correlations were used to test the existence of a linear relationship between the variables in the model and the extend of significance of that relationship. In order to conclude for the existence of a linear relationship, the correlations were expected to have a significance of 0.005 or more.
- 2) Analysis of Variance Technique was used for two purposes: (i) to test the existence of a curvilinear relationship between the variables in the model. In order to conclude for the possibility of a curvilinear relationship between variables , the differences between the groups were expected to be in such a way that they did not follow a steady trend of increase or decrease in one direction; (ii) to test the extend to which differences in one specific family variable resulted in differences in other family dimensions.
- 3) Regression Analysis was used in order to determine parental factors which explain greater proportion of variance in achievement motivation and achievement of children.
- 4) Analysis by t-test (using the data obtained from parents): was used to determine specific parental factors which may be responsible for high academic achievement of children. The information thus

obtained is considered to be a valuable source in explaining parental behaviors responsible for high academic achievement. For this analysis instead of global parental dimensions, specific parental behaviors or attitudes were considered. The items in the test were not taken as parts of a whole adding up to a specific parental dimension, but rather they were taken separately, each indicating a specific parental behavior or attitude. For each item parents were grouped in terms of the alternative they had selected. Thus four (or five) groups of parents were formed each differing in terms of the mode of behavior or attitude they showed under specified conditions. In other words children were grouped in terms of the behavior or attitude their parents showed, and the differences in their academic achievement were tested using t-test.

## RESULTS

Results of the study are presented in the order:

### I) Pearson Product Moment Correlations

- i) Correlations between static family variables and family process variables
- ii) Correlations between static family variables and achievement motivation
- iii) Correlations between family process variables and achievement
- iv) Intercorrelations between static family variables
- v) Intercorrelations between family process variables
- vi) Correlations between family process variables and achievement motivation
- vii) Correlations between family process variables and achievement
- viii) The correlation between achievement motivation and achievement

### II) Analysis of Variance

- i) Differences in the family process variables of parents with different family process variables
- ii) Differences in the achievement motivation of children with different static family variables

- iii) Differences in the achievement of children with different static family variables
- iv) Differences in the achievement motivation of children with different family process variables
- v) Differences in the achievement of children with different family process variables
- vi) Differences in the achievement of children with different achievement motivation

### III) Regression Analysis

IV) Analysis by t-test (using data obtained from parents)

The results of the study are calculated using the data obtained from 483 fifth grade students during the academic year 1988-89 and 922 fifth grade students during the academic year 1989-90. Data obtained from the 1988-89 sample is used in investigating the relationships between the variables in the model and the data obtained from the 1989-90 sample is used in determining the specific parental behaviours related to high academic achievement.

### **Static and Dynamic Family Characteristics**

Static characteristics of the parent sample as defined by the data obtained from 1988-89 sample is shown in Table 18.

Table 18

Frequency and Percentage of Parents  
with Different Static Family Characteristics

Static Family Characteristic	Parental Group	Frequency of Parents	Percentage of Parents
Stated Economic Level	Very High	5	1
	High	164	34
	Middle	280	58
	Low	25	5
	Omitted	9	2
Mother Education Level	Primary School	57	12
	Secondary School	67	14
	Lycee	182	38
	University	170	35
	Omitted	7	1
Father Education Level	Primary School	27	6
	Secondary School	49	10
	Lycee	106	22
	University	295	61
	Omitted	6	1
Mother Education Type	Scientific-Tech.	61	13
	Adm.- Trade Education	73	15
	Education	228	47
	Arts	58	12
	Omitted	63	13
Father Education Type	Scientific-Tech.	179	37
	Adm. - Trade Education	150	31
	Education	94	20
	Arts	25	5
	Omitted	35	7

Table 18 shows that when static family variables are considered, majority of the parents are observed to be in high (34%) or middle (58%), economic level, with a lycee (37% for mothers and 21% for fathers) or a university (35% for mothers and 61% for fathers) degree, where mothers are mainly from the field of education (47%) and fathers are mainly from scientific and technical fields (37%).

Dynamic characteristics of the parent sample as determined by the data obtained from the 1988-89 sample is presented in Table 19 in terms of the frequency and percentage of parents falling below or above the group mean for that particular parental dimension.

Table 19 shows that when percentage of parents falling above or below the mean, in terms of dynamic family variables are considered; majority of the parents are observed to be above the mean in Democracy (56%), Overprotection (86%); Home Educational Environment (79%), and Demands & Age (87%) dimensions, and majority of parents were observed to be below the mean in Strict Discipline (70%), Marital Compliance (54%), Restrictions & Age (64%), and Restrictions & Punishments (54%) dimensions. Therefore majority of the sample population under question may be described as showing democratic, overprotective, and low disciplinarian child rearing attitudes. Majority of the parents have favorable educational environments at home. In terms of socialization practices of the child they are early in their restrictions whereas late in their demands ; and they possess more intense rewarding modes relative to their modes of punishment.

Table 19

Frequency and Percentage of Parents  
with Different Dynamic Family Characteristics

Dynamic Family Characteristic	Parental Group	Frequency of Parents	Percentage of Parents
Democracy	Below Mean	212	44
	Above Mean	271	56
Overprotection	Below Mean	65	13
	Above Mean	418	87
Strict Discipline	Below Mean	338	70
	Above Mean	143	30
Marital Compliance	Below Mean	261	54
	Above Mean	222	46
Demands & Age	Below Mean	12	3
	Above Mean	471	97
Restrictions & Age	Below Mean	307	64
	Above Mean	176	36
Demands & Rewards	Below Mean	209	43
	Above Mean	273	57
Restrictions & Punishments	Below Mean	259	54
	Above Mean	224	46
Home Educational Environment	Below Mean	101	21
	Above Mean	382	79

## Pearson Product Moment Correlations

### Correlations between Static Family Variables and Family Process Variables

#### Mother Education Level

Table 20

#### Pearson Product Moment Correlations between Mother Education Level Family Process Variables

Family Process Variable	Correlation ( p-value )*
Democracy	0.1550 ( 0.001 )
Overprotection	-0.2071 ( 0.001 )
Strict Discipline	-0.2170 ( 0.001 )
Marital Compliance	0.0605
Demands & Age	0.1690 ( 0.001 )
Restrictions & Age	-0.0258
Demands & Rewards	-0.0202
Restrictions & Punishments	-0.1178 ( 0.005 )
Home Educational Environment	0.3563 ( 0.001 )

Mother education level shows the highest correlation with home educational environment (0.3563 at 0.001 level) indicating that in families where mother's education level is high parents place more value on education, have higher educational aspirations.

The effect of mother education level on child rearing attitudes of parents is also observed to be in the expected direction. A positive correlation is observed between mother education level and democracy ( 0.1550 at 0.001 level). Negative correlations are observed between mother education level and overprotection ( -0.2071 at 0.001 level) and strict discipline (-0.2170 at 0.001

\* only the p-values at 0.005 level and below are presented

level). The results indicate that in families where mothers have higher education, parents tend to be more democratic, less overprotective and less disciplinarian compared to mothers with less education.

In terms of parent socialization, mother education is observed to correlate positively with " Demands & Age" (0.1690 at 0.001 level) and negatively with "Restrictions & Punishments" ( 0.1178 at 0.005 level ) indicating that higher educated mothers are earlier in demanding certain behaviours from their child and also they tend to give less severe punishments

### **Father Education Level**

Table 21

Pearson Product Moment Correlations between  
Father Education Level and Family Process Variables

Family Process Variable	Correlation (p-value)
Democracy	0.1189 (0.005)
Overprotection	-0.1447 (0.001)
Strict Discipline	-0.1679 (0.001)
Marital Compliance	0.0430
Demands & Age	0.0987
Restrictions & Age	-0.0050
Demands & Rewards	-0.0865
Restrictions & Punishments	-0.0725
Home Educational Environment	0.3974 (0.001)

Similar to mother education level , father education level was observed to be most influential over Home Educational Environment with a correlation of 0.3974 at 0.001 level. As Home Educational Environment Scale mainly consists of items on educational aspirations and value placed on education by the parents. A high correlation indicates that in families where fathers education is high more value is placed on education and parents have higher

educational aspirations compared to those where fathers have less education.

Father education level shows similar results to those observed for mother education level , when child rearing practices are considered. Father education level shows positive correlation with democracy (0.1189 at 0.005 level) and negative correlation with overprotection ( - 0.1447 at 0.001 level ) and strict discipline ( -0.1679 at 0.001 level). This indicates that in families where father's education level is high , child rearing attitudes tend to be more democratic, less overprotective and less disciplinarian.

However unlike mother education level, father education level is observed to show very low and insignificant correlations with " Demands & Age " or " Restrictions & Punishments " or any of the Parent Socialization questionnaires.

### **Stated Economic Level**

Table 22

#### Pearson Product Moment Correlations between Stated Economic Level and Family Process Variables

Family Process Variable	Correlation (p-value)
Democracy	0.0184
Overprotection	-0.0432
Strict Discipline	0.0039
Marital Compliance	0.010
Demands & Age	0.0007
Restrictions & Age	0.1176 (0.005 )
Demands & Rewards	0.0158
Restrictions & Punishments	0.0242
Home Educational Environment	0.1954 (0.001 )

Correlations observed between stated economic status and family process variables are generally very low. Only Home Educational Environment is observed to correlate at 0.001 level but even this correlation is very low ( 0.1954 ). This low but significant correlation indicates that in families where the economic status is stated to be high, educational environment of the home is directed towards higher educational aspirations, higher value placed on education and more achievement press. "Restrictions & Age" is also observed to show low (0.1176) but significant (at 0.05 level) correlation with stated economic status , indicating the existence of a positive relationship between socioeconomic status and the age at which the child is restricted from doing certain behaviours. The results show that families who state their socioeconomic level to be high, tend to restrict certain behaviours at an earlier age.

## **Birthorder**

Table 23

### Pearson Product Moment Correlations between Birthorder and Family Process Variables

Family Process Variable	Correlation (p-value)
Democracy	-0.0324
Overprotection	0.0088
Strict Discipline	0.0275
Marital Compliance	-0.0516
Demands & Age	-0.0311
Restrictions & Age	0.0188
Demands & Rewards	0.0475
Restrictions & Punishments	0.0901
Home Educational Environment	-0.0856

Birthorder was not observed to correlate significantly with any of the family process variables.

When sociocultural characteristics of the family are considered altogether, mother education is observed to be the most influential variable on family process variables. Mother education level is correlated with all family process variables except "Demands & Rewards" and "Restrictions & Age". That is mother education level influences Child Rearing Practices, Parent Socialization, and Home Educational Environment. Father education level on the other hand does not influence the variables concerned with Parent Socialization but is influential over Child Rearing Practices, although the correlations are lower compared to mother education level. Stated economic status shows very low correlations with all family process variables, the only correlation worth mentioning being Home Educational Environment.

Home Educational Environment is observed to be the most highly correlated family process variable with sociocultural characteristics of parents. It is possible to say that the variable which is most susceptible to influence by sociocultural characteristics of parents is Home Educational Environment.

**Correlations between Static Family Variables and Achievement Motivation**

Table 24

**Pearson Product Moment Correlations between Static Family Variables and Achievement Motivation**

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Static Family Variable	Correlations (p-value)
Mother Education Level	-0.0838
Father Education Level	0.0223
Stated Economic Status	0.0506
Birthorder	-0.0435

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The correlations obtained between achievement motivation and static family variables are negligibly low. All the p-values are above 0.005. Therefore the correlations between achievement motivation and family process variables cannot be regarded as having any informative value within the limits of this model.

**Correlations between Static Family Variables and Achievement**

Table 25

**Pearson Product Moment Correlations between Family Process Variables and Achievement**

Static Family Variable	Correlations (p-value)
Mother Education Level	0.3518 (0.001)
Father Education Level	0.3317(0.001)
Stated Economic Level	0.0746
Birthorder	-0.1057

When the direct effect of static family variables are considered , education level of parents is observed to show significant correlations with achievement (0.3518 for mother education level and 0.3317 for father education level at 0.000 level of significance).

## Intercorrelations between Static Family Variables

### **Mother Education Level**

Table 26

#### Pearson Product Moment Correlations between Mother Education Level and Static Family Variables

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Static Family Variable	Correlations (p-value)
Father Education	0.5973 (0.001)
Stated Economic Level	0.0658
Birthorder	-0.0664

---

When the correlations between static family variables were considered only significant correlations were observed between father education level and mother education level(0.5973 at 0.001 level).

Correlations between mother education level and stated economic level(0.0658); and birthorder (0.0664) were insignificant.

### **Father Education Level**

Table 27

#### Pearson Product Moment Correlations between Father Education Level and Static Family Variables

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Static Family Variable	Correlations (p-value)
Mother Education Level	0.5973 (0.001)
Stated Economic Level	0.1315
Birthorder	-0.0526

---

Correlations between father education level and other static family variables were similar to those obtained for mother education level. Mother education level and father education level showed the highest and the only significant correlation (0.5973 at 0.001 level).

Correlations between father education and stated economic level (0.1315) or birthorder (-0.0526) were insignificant.

### Stated Economic Level

Table 28

Pearson Product Moment Correlations between  
Stated Economic Status and Family Process Variables

Static Family Variable	Correlations (p-value)
Mother Education	0.0658
Father Education	0.1315 (0.002)
Birthorder	-0.0553

The only significant correlation between stated economic level and static family variables was observed to be father education (0.1315 at 0.002 level).

Mother education level showed a correlation of 0.0658 and birthorder showed a correlation of -0.0553 with stated economic level.

## **Birthorder**

Table 29

### Pearson Product Moment Correlations between Birthorder and Static Family Variables

Static Family Variable	Correlations (p-value)
Mother Education Level	-0.0664
Father Education Level	-0.0526
Stated Economic Level	-0.0553

All the correlations observed between birthorder and other static family variables were observed to be very low and insignificant with mother education level (-0.0664); father education level (-0.0526); and stated economic level (-0.0553).

### Intercorrelations Between Family Process Variables

#### **Overprotection**

Table 30

### Pearson Product Moment Correlations between Overprotection and Family Process Variables

Family Process Variable	Correlations (p-value)
Democracy	0.0809
Strict Discipline	0.6647 (0.001)
Marital Compliance	0.1440 (0.001)
Demands & Age	-0.1248 (0.003)
Demands & Rewards	0.0736
Restrictions & Age	0.1063 (0.010)
Restrictions & Punishments	0.2138 (0.001)
Home Educational Environment	0.0035

Highest correlations between family process variables and Overprotection dimension are observed for "Strict Discipline" (0.6647 at 0.001 level) and "Restrictions & Punishments". (0.2138 at 0.000 level).

Other significant correlations between Overprotection and Family Process variables are observed for Marital Compliance (0.1440 at 0.001 level) Demands & Age (-0.1248 at 0.003 level) and Restrictions & Age (0.1063 at 0.01 level) and Restrictions & Punishments (0.2138 at 0.001 level).

Correlations between Overprotection and Democracy (0.0809); Demands & Rewards (0.0736) and Home Educational Environment (0.0035) were insignificant.

On the whole significant correlations are observed between parental variables concerned with the same parental dimension. That is Overprotection was observed to show highest correlations with parental variables related to child rearing practices. On Parent Socialization dimension Overprotection was observed to be most significantly correlated with the parental dimensions related to restrictive practices of parents.

## Strict Discipline

Table 31

### Pearson Product Moment Correlations between Strict Discipline and Family Process Variables

Family Process Variables	Correlations (p-value)
Overprotection	0.6647 (0.001)
Democracy	-0.1376 (0.001)
Marital Compliance	0.1885 (0.001)
Demands & Age	-0.1703 (0.001)
Demands & Rewards	0.0502
Restrictions & Age	0.1406 (0.001)
Restrictions & Punishments	0.2903 (0.001)
Home Educational Environment	-0.0735

Strict Discipline is observed to be most highly correlated with Overprotection (0.6647 at 0.001 level). It's also observed to show significant positive correlations with Marital Conflict (0.1885 at 0.001 level); Restrictions & Age (0.1406 at 0.001 level); and Restrictions & Punishments (0.2903 at 0.001 level), and significant negative correlations with Democracy (-0.1376 at 0.001 level) and Demands & Age (-0.1703 at 0.001 level).

Correlations between Strict Discipline and Demands & Rewards (0.0502) and Home Educational Environment (-0.0735) were insignificant.

Similar to the results obtained for Overprotection dimension significant correlations were more abundant within the same parental dimension. Strict Discipline was observed to show significant correlations with all of the variables related to Child Rearing Practices of the parents. However Strict Discipline was observed to show significant correlations with most of the Parent Socialization variables (all Parent Socialization

variables except Demands & Rewards). In fact Strict Discipline was observed to be the only parental variable related to Child Rearing Practices which shows significant correlations with three variables of Parent Socialization. Therefore it's possible to say that the most closely related parental child rearing attitude to Parent Socialization dimension is, Strict Discipline.

### Democracy

Table 32

Pearson Product Moment Correlations between  
Democracy and Family Process Variables

Static Process Variables	Correlations (p-value)
Overprotection	0.0809
Strict Discipline	-0.1376 (0.001)
Marital Compliance	0.2380 (0.001)
Demands & Age	0.2053 (0.001)
Demands & Rewards	0.0624
Restrictions & Age	-0.0392
Restrictions & Punishments	-0.1300 (0.002)
Home Educational Environment	0.1214 (0.004)

Democracy dimension was observed to be significantly correlated with Strict Discipline (-0.1376); Marital Compliance (0.2380); Demands & Age (0.2053 ); Restrictions & Punishments (-0.1300); and Home Educational Environment.

## Marital Compliance

Table 33

### Pearson Product Moment Correlations between Marital Compliance and Family Process Variables

---

Family Process Variables	Correlations (p-values)
Overprotection	0.1440 (0.001)
Democracy	0.2380 (0.001)
Strict Discipline	0.1885 (0.001)
Demands & Age	0.1104
Demands & Rewards	0.0065
Restrictions & Age	0.0686
Restrictions & Punishments	0.0335
Home Educational Environment	0.0779

---

Marital Compliance was observed to give significant correlations only with the PARI subscales. Correlations of 0.1440 (at 0.001 level); 0.2380 (at 0.000 level); 0.1885 (at 0.000 level) was obtained for Overprotection, Democracy, and Strict Discipline dimensions respectively. Other correlations with Demands & Age (0.1104), Demands & Rewards (0.0065), Restrictions & Age (0.0696), Restrictions & Punishments (0.0335), and Home Educational Environment (0.0779) were insignificant.

## Demands & Age

Table 34

Pearson Product Moment Correlations between  
"Demands & Age" and Family Process Variables

---

Family Process Variables	Correlations (p-values)
Overprotection	-0.1248 (0.003)
Democracy	0.2053 (0.001)
Strict Discipline	-0.1703 (0.001)
Marital Compliance	0.1104
Demands & Rewards	0.0490
Restrictions & Age	0.0792
Restrictions & Punishments	-0.1349 (0.001)
Home Educational Environment	0.1146

---

Demands & Age was observed to show the highest correlation with Democracy dimension (0.2053 at 0.0010 level). Other significant correlations are between Demands & Age and Overprotection (-0.1248 at 0.003 level), Strict Discipline (-0.1703 at 0.000 level) and Restrictions & Punishments (-0.1349).

Correlations between Demands & Age and Demands & Rewards (0.0490), Restrictions & age (0.0792), and Home Educational Environment (0.1146) were observed to be insignificant.

Demands & Age was observed to be significantly correlated to child rearing practices of parents, forming a connection between Parent Socialization and parental Child Rearing Attitudes.

## Demands & Rewards

Table 35

Pearson Product Moment Correlations between  
Demands & Age and Family Process Variables

Family Process Variables	Correlations (p-values)
Overprotection	0.0736
Democracy	0.0624
Strict Discipline	0.0502
Marital Compliance	0.0065
Demands & Age	0.0490
Restrictions & Age	0.2378 (0.001)
Restrictions & Punishments	0.1813 (0.001)
Home Educational Environment	0.0493

The only significant correlations observed for Demands & Rewards questionnaire are with Restrictions & Age (0.2378) and with Restrictions & Punishments (0.1813).

Other correlations between Demands & Rewards and family process variables were insignificant and negligibly low, with Overprotection 0.0736, democracy 0.0624, Strict Discipline 0.0502, Marital Compliance 0.0065, Demands & Age 0.0490 and Home Educational Environment 0.0493.

## Restrictions & Age

Table 36

### Pearson Product Moment Correlations between Restrictions & Age and Family Process Variables

---

Family Process Variables	Correlations (p-values)
Overprotection	0.1063
Democracy	-0.0392
Strict Discipline	0.1406 (0.001)
Marital Compliance	0.0686
Demands & Age	0.0792
Demands & Rewards	0.2378 (0.001)
Restrictions & Punishments	0.3161 (0.001)
Home Educational Environment	0.0630

---

Restrictions & Age was observed to show significant correlations with Strict Discipline (0.1406 at 0.001 level); Demands & Rewards (0.2378 at 0.001 level); and Restrictions & Punishments (0.3161 at 0.001 level).

Other correlations between Restrictions & Age and family process variables were negligibly low, with Democracy (-0.0392); Marital Compliance (0.0686); Demands & Age (0.0792); and Home Educational Environment (0.0630) except for Overprotection (0.1063 at 0.01 level)

## Restrictions & Punishments

Table 37

### Pearson Product Moment Correlations between Restrictions&Punishments & Family Process Variables

---

Family Process Variables	Correlations (p-values)
Overprotection	0.2138 (0.001)
Democracy	-0.1300 (0.002)
Strict Discipline	0.2903 (0.001)
Marital Compliance	0.0686
Demands & Age	-0.1349 (0.001)
Demands & Rewards	0.1813 (0.001)
Restrictions & Age	0.3161 (0.001)
Home Educational Environment	-0.0203

---

Restrictions & Punishments was observed to show significant correlations with all the PARI subscales except Marital Compliance (0.0686); and all of the Parent Socialization dimensions.

Correlations between Restrictions & Punishments and other family process variables were 0.2138 (at 0.001 level) for Overprotection; -0.1300 (at 0.002 level) for Democracy; 0.2903 (at 0.001 level) for Strict Discipline; -0.1349 (at 0.001 level) for Demands & Age, 0.1813 (at 0.001 level) for Demands & Rewards; and 0.3161 (at 0.001 level) for Restrictions & Age. Home Educational Environment showed a very low correlation with Restrictions & Punishments.

Correlations between Family Process Variables  
and Achievement Motivation

Table 38

Pearson Product Moment Correlations between  
Family Process Variables and Achievement Motivation

---

Family Process Variables	Correlations (p-values)
Democracy	-0.0323
Overprotection	0.1282 (0.002)
Strict Discipline	0.0966
Marital Compliance	0.0521
Demands & Age	-0.0780
Restrictions & Age	0.0680
Demands & Rewards	0.0292
Restrictions & Punishments	0.1236 (0.003)
Home Educational Environment	0.0735

---

The only two correlations which were observed to show significant correlations below 0.005 level were Overprotection (0.1282 at 0.002 level) and Restrictions and Punishments. (0.1236 at 0.003 level).

The correlations observed between achievement motivation and Democracy(-0.0323); Strict Discipline (0.0966); Marital Compliance (0.0521); Demands & Age (-0.0780); Restrictions & Age (0.0680); Demands & Rewards (0.0292); and Home Educational Environment (0.0735) were all insignificant.

Although showing an accepted level of significance these correlations were also quite low to lead to the conclusion that dynamic processes in the family are effective in determining the achievement oriented behaviour of the child. Yet in the light of these results it is possible to say that in families where the parents are observed to show overprotective attitudes in child rearing and in families where the parents punish their

children more severely if their restrictions are violated, children tend to show higher achievement motivation.

Correlations between Family Process Variables  
and Achievement

Table 39

Pearson Product Moment Correlations between  
Family Process Variables and Achievement

Family Process Variables	Correlations (p-values)
Democracy	0.1386 (0.001)
Overprotection	-0.1193 (0.004)
Strict Discipline	-0.1687 (0.001)
Marital Compliance	0.0122
Demands & Age	0.1376 (0.001)
Restrictions & Age	0.0569
Demands & Rewards	0.0150
Restrictions & Punishments	-0.0241
Home Educational Environment	0.4153 (0.001)

Home Educational Environment proves to be the most highly related variable to achievement (0.4153 at 0.001 level) explaining 16% of variance in achievement. This indicates that in families where educational aspirations and the value placed on education is high, children show higher achievement.

When Child Rearing Attitudes are considered, achievement is observed to show negative correlations with Overprotection (-0.1193 at 0.004 level) and Strict Discipline (-0.1687 at 0.000 level) and positive correlation with Democracy (0.1386 at 0.001 level). Although Strict Discipline is observed to be the most highly correlated parental attitude, it explains only 3% of variance in achievement. Therefore child rearing attitudes of parents cannot be considered powerful

variables in explaining the amount of variance in achievement.

Similarly for Parent Socialization dimension, achievement is observed to be correlated only with Demands & Age (0.1376 at 0.001 level), explaining less than 2% of variance in achievement, thus indicating less of an influence on achievement compared to Child Rearing Attitudes of parents.

### Correlation between Achievement Motivation and Achievement

The correlation between achievement motivation and achievement is very low and insignificant ( $r = -0.0242$ ). The possible explanations for this low correlation between achievement and achievement motivation will be discussed in the Discussion section.

## **Analysis of Variance Results**

Analysis of Variance technique was applied in order to test:

- i) the existence of a curvilinear relationship between the variables in the model and;
- ii) the extent to which differences in one specific family variable resulted in differences in other family dimensions.

Additionally the differences in mother and father education type, resulting in differences in family process variables (which could not be determined through Pearson Product Moment Correlations) were determined through the ANOVA technique. Only the ANOVA results which indicate the existence of a significant difference between the groups are presented.

### **Differences in Family Process Variables of Parents with Different Static Family Variables**

#### **Education Level**

##### **Mother Education Level and Child Rearing Practices**

When mother education level was considered, Child Rearing Practices of parents was found to be different for different mother education levels in Democracy, Overprotection and Strict Discipline dimensions. However no two groups were found to be significantly different at the 0.05 level for Marital Conflict dimension.

Differences in Democratic, Overprotective, and Strict Disciplinary attitudes of parents where mothers have different educational levels are presented in Table 40, Table 41 and Table 42 respectively.

Table 40

Differences in Democratic Attitudes of Parents  
with Different Educational Levels  
(Mother Education Level)

Source	DF	SS	MS	F-ratio	F-prob
Between Grp	3	49.7766	16.5922	0.9005	0.4408
Within Grp	472	8996.9204	18.4257		
Total	475	8746.6975			

Mean	Group	Mother Education Level
26.5263	1	Primary school
27.2388	2	Middle school
27.3736	3	Lycee
28.6588	4	University

Scheffee's procedure ran after the one way analysis of variance showed that the mean score on Democracy factor was significantly higher for Group 4 (mother with higher education) compared to Group 1 (mothers with primary school education) and Group 3 (mothers with lycee education).

The results indicate that mothers with higher education had more democratic child rearing attitudes than primary school or lycee graduate mothers. middle school graduates however were not found to be significantly different than any of the other groups.

The differences in Overprotective attitudes of parents when parents are grouped in terms of the mother's education level are presented in Table 41.

Table 41

Differences in Overprotective Attitudes of Parents  
with Different Educational Levels  
(Mother Education Level)

Source	DF	SS	MS	F-ratio	F-prob.
Between Grp	3	1765.9195	588.6398	8.9196	0.0000
Within Grp	472	31149.0133	65.9937		
Total	475	32914.9328			

Mean	Group	Mother Education Level
39.3588	4	University
42.8516	3	Lycee
43.7015	2	Middle school
44.1404	1	Primary school

Results from Scheffee's procedure showed that the mean score on overprotection factor was significantly lower for Group 4 compared to other three groups.

The results indicate that mothers with higher education show less overprotective child rearing attitudes than mothers with primary, middle school and lycee education.

Differences in Strict Disciplinarian attitudes of parents when they are grouped in terms of mother education level are presented in Table 42

Table 42

Differences in Strict Disciplinarian Attitudes  
of Parents with Different Educational Levels  
(Mother Education Level)

Source	DF	SS	MS	F-ratio	F-prob
Between Grp	3	1223.4701	407.8234	9.6464	0.0000
Within Grp	470	19870.2114	42.2770		
Total	473	21093.6814			

Mean	Group	Mother Education Level
25.6331	4	University
28.4972	3	Lycee
29.0896	2	Middle school
29.8246	1	Primary school

Results from Scheffee's procedure showed that similar to overprotective attitudes strict disciplinarian attitudes are also lower for mothers with higher education compared to mothers with less education. Mean scores obtained for Group 4 was found to be significantly different than the mean scores obtained for Group 3, Group 2 and Group 1.

## Father Education Level and Child Rearing Practices

The only significant differences between the two groups at 0.05 level was observed for Strict Discipline dimension.

Differences in Strict Disciplinarian dimension when parents are grouped in terms of father education level are presented in Table 43.

Table 43

### Differences in Strict Disciplinarian Attitudes of Parents with Different Educational Levels (Father Education Level)

Source	DF	SS	MS	F-ratio	F-prob
Between Grp	3	721.0360	240.3453	5.5133	0.0010
Within Grp	471	20532.5934	43.5936		
Total	474	21253.6295			

Mean	Group	Father Education Level
27.0478	4	University
28.1698	3	Lycee
28.4898	2	Middle school
32.1852	1	Primary school

The results show that Group 1 shows significant difference at 0.05 level with Group 4 and Group 3. This indicates that parents have higher strict disciplinarian attitudes when the father is a primary school graduate compared to parents where the father is a graduate of lycee or higher education.

## Mother Education Level and Parent Socialization

Parent Socialization was found to show differences among groups with different mother education levels only in "Demands and Age" dimension.

No two groups were found to be significantly different at 0.05 level for the other Parent Socialization dimensions.

Table 44

Differences in "Demands & Age" dimension  
of Parents with Different Educational Levels  
(Mother Education Level)

Source	DF	SS	MS	F-ratio	F-prob
Between Grp	3	565.0118	188.3373	4.6787	0.0031
Within Grp	472	19000.1479	40.2546		
Total	475	19565.1597			

Mean	Group	Mother Education Level
42.8070	1	Primary school
43.7761	2	Middle school
44.8791	3	Lycee
46.0647	4	University

Significant differences were observed between Group 4 and Group 1 at 0.05 level. The results indicate that mothers with higher education demand certain behaviours from their children at an earlier age compared to mothers with primary school education.

## Father Education Level and Parent Socialization

No significant differences were observed between two groups with different educational levels for Parent Socialization dimensions.

## Mother Education Level and Home Educational Environment

Groups with respect to mother education level were observed to be significantly different for Home Educational Environment.

Table 45

### Differences in Home Educational Environment of Parents with Different Educational Levels (Mother Education Level)

Source	DF	SS	MS	F-ratio	F-prob
Between Grp	3	154.1900	51.39667	12.4310	0.0000
Within Grp	472	1955.6450	4.13456		
Total	475	2109.8350			

Mean	Group	Mother Education Level
24.8947	1	University
25.1941	2	Lycee
26.6044	3	Middle school
28.5058	4	Primary school

Scheffee's procedure results show that there are significant differences between Group 4 and Group 1; Group 4 and Group 2; Group 4 and Group 3. This indicates that in families where mothers are higher education graduates,

there's a more favorable educational environment in the home compared to families where the mothers have less education.

**Father Education Level and Home Educational Environment**

Father's education level was observed to show differences among groups of parents differing in their educational environment of the home, as presented in Table 46.

Table 46

Differences in Home Educational Environment of Parents with Different Educational Levels (Father Education Level)

Source	DF	SS	MS	F-ratio	F-prob
Between Grp	3	2403.448	801.1494	10.9879	0.0000
Within Grp	473	34414.446	72.9119		
Total	476	36817.894			

Mean	Group	Mother Education Level
23.3470	2	Middle school
23.9906	3	Lycee
25.8148	1	Primary school
28.6204	4	University

In the light of the results obtained from Scheffe's procedure, families where fathers have higher education were significantly different from families where fathers have less education in terms educational environment in their home.

Overall, the results show that differences in both the father's and mother's educational level result in differences in Home Educational Environment, and Strict Discipline. Differences in mother education level however, are observed to result in differences in Democratic and Overprotective attitudes and Demands & Age, as well; indicating that differences in family process variables are more frequently observed with differences in mother education level rather than father education level.

Higher Education is observed to be an important parental attribute effecting the family process variables. It was seen to belong to any one of the two groups observed to be significantly different from each other. This indicates that parents with higher education constitute a differentiable group compared to other groups where parents have less education in terms of the parental process variables concerned with the upbringing of children.

### Education Type

#### **Mother Education Type and Child Rearing Practices**

When mother education type is considered Child Rearing Practices of parents were found to be different for mothers with different education types in Overprotection and Strict Discipline dimensions. However no two groups were found to be different for Marital Compliance and Democracy dimensions.

ANOVA results on differences in Overprotective, and Strict Disciplinarian attitudes of parents who differ in terms of the mother's education type are presented in Table 47 and Table 48 respectively.

Table 47

Differences in Overprotective Attitudes  
of Parents with Different Types of Education  
(Mother Education Type)

Source	DF	SS	MS	F-ratio	F-prob
Between Grp	3	1891.5831	630.5277	9.6276	0.0000
Within Grp	416	27244.4074	65.4914		
Total	419	29135.9905			

Mean	Group	Mother Education Type
37.0656	1	Science-Technical
41.6164	2	Administrative-Trade
43.0044	3	Education
43.6897	4	Art

According to Scheffee's procedure results, mother education type showed significant differences at 0.05 level between Group 1 and the other three groups. Results indicate that in families where mother's education is related to scientific or technical fields , overprotective child rearing attitudes are lower with respect to those groups where mother's education is in the field of administration-trade, education or arts.

Table 48

Differences in Strict Disciplinarian Attitudes  
of Parents with Different Types of Education  
(Mother Education Type)

Source	DF	SS	MS	F-ratio	F-prob
Between Grp	3	1044.3482	348.1161	7.9908	0.0000
Within Grp	414	18035.6422	43.5644		
Total	427	19079.9904			

Mean	Group	Mother education Type
24.7869	1	Science-Technical
26.7123	2	Administrative-Trade
28.1938	3	Education
30.3509	4	Art

According to the results obtained through Scheffee's procedure, Group 1 is observed to be significantly different from Group 3 and Group 2, indicating that in families where mother's educational field is scientific or technical, disciplinarian attitudes are lower compared to the families where mother's educational field is education or arts. Differences are also observed between Group 2 and Group 4, indicating that relative to the cases where the mother's education is arts, in families where the mother is a graduate of administrative or trade fields, parents show less disciplinarian attitudes towards child rearing.

On the whole the results show that lowest disciplinarian attitudes are observed in families where the mothers have scientific or technical education, followed by education on administration and trade, and on the higher disciplinarian attitude side is observed the families where the mother is a graduate of arts or educational fields.

## Father Education Type and Child Rearing Practices

When father education type is considered no two groups were found to be significantly different at 0.05 level for the dimensions in Child Rearing Attitudes.

## Mother Education Type and Parent Socialization

Parent education type was found to show differences among groups with mothers having different types of education, only in "Restrictions & Punishments" dimension, as presented in Table 49.

Table 49

Differences in Restrictions & Punishments Dimension of Parents with Different Types of Education (Mother Education Type)

Source	DF	SS	MS	F-ratio	F-prob
Between Grp	3	495.8765	165.2922	3.4588	0.0165
Within Grp	416	19880.3020	47.7892		
Total	419	20376.1786			

Mean	Group	Mother education Type
17.9016	1	Science-Technical
20.0921	3	Education
20.5890	2	Administrative-Trade
21.8793	4	Arts

Scheffee's test results show that Group 1 and Group 4 are significantly different at 0.05 level indicating that parents where the mother is a graduate from the field of

arts give more intense punishments when their restrictions are violated compared to mothers who graduate from scientific and technical fields.

No significant differences in the intensity of punishments are observed for the groups where mother is a graduate from the field of education or administration-trade, ie. mother's being a graduate from these fields does not prove to be a differentiating parental characteristic leading to differences in the intensity of punishments given by the parents.

#### **Father Education Type and Parent Socialization**

When father education type is considered, no two groups were found to be significantly different at 0.05 level , in terms of Parent Socialization dimensions.

#### **Mother Education Type and Home Educational Environment**

When mother education type is considered , no two groups were found to be significantly different from each other. in terms of Home Educational Environment.

#### **Father Education Type and Home Educational Environment**

When father education type was considered parental groups were found to be significantly different at 0.05 level in terms of Home Educational Environment, as presented in Table 50.

Table 50

Differences in the Home Educational Environment  
of Parents with Different Types of Education  
(Father Education Type)

Source	DF	SS	MS	F-ratio	F-prob
Between Grp	3	880.6922	293.5641	11.7123	0.0000
Within Grp	444	11128.682	25.0646		
Total	447	12009.375			

Mean	Group	Father Education Type
24.9893	3	Education
26.1200	4	Arts
26.6200	2	Administration-Trade
28.5195	1	Science-Technical

According to the results obtained from Scheffee's test, Group 1 was observed to be significantly different from Group 3 and Group 2. This result indicates that parents have more favorable educational environments in the home when the father's educational field is Scientific-Technical with respect to parents where father's educational field is Administration-Trade or Education.

When the effects parental education type on family process variables are considered together, mother's education type is observed to show more influence on Child Rearing Practices and Parent Socialization, whereas father's education type shows greater influence on Home Educational Environment.

Overall, graduation from scientific or technical fields is seen to have a distinguishing effect on parental process variables. Generally for the dimensions where

significant differences between two groups are observed, one of the groups is consistently observed to cover graduation from scientific or technical fields. We can thus say that parents who are graduates of scientific or technical fields, constitute a different group in terms of the family process variables they possess.

### Stated Economic Level

#### Differences in the Family Process Variables in Families with Different Stated Economic Levels

No two groups of parents differing in terms of their stated economic status is observed to be significantly different from each other in the family process characteristics they possess.

### Birthorder

#### Differences in the Family Process Variables of Children with Different Birthorder

No two groups of parents differing in terms of their child's birthorder were observed to be significantly different from each other in the family process characteristics they possess.

### Differences in the Achievement Motivation of Children with Different Static Family Variables

No differences were observed in the achievement motivation of children with different static family variables (education level of parents, education type of parents, stated economic level).

## Differences in Achievement of Children with Different Static Family Variables

Achievement of children is observed to show differences when they are grouped in terms of their parent's education level and type. Both the mothers' and the fathers' education type and level is observed to result in differences in the achievement of children.

Other static family variables (stated economic level and birthorder) are not observed to result in differences in the achievement of children.

No significant difference between the achievement of different groups is observed, when children are grouped in terms of their birthorder or their economic level as stated by the parents.

### Education Level

#### **Mother Education Level**

Significant differences in the achievement of children are observed when they are grouped in terms of their mother's education level, as presented in Table 51.

Table 51

### Differences in the Achievement of Children whose Mothers have Different Educational Levels

Source	DF	SS	MS	F-ratio	F-prob
Between Grp	3	26288.8110	8762.937	24.1102	0.0000
Within Grp	470	170823.2397	363.453		
Total	473	197112.0506			

Table 51 (cont.)

Mean	Group	Mother Education Level
35.2105	1	Primary school
49.5152	2	Secondary school
50.6133	3	Lycee
59.4706	4	University

According to the results obtained by the Scheffee's procedure Group 4 was observed to be significantly different from Group 3, Group 2 and Group 1; having the highest mean. Group 1 was observed to be significantly different from Group 2, Group 3, and Group 4 having the lowest mean.

The results indicate that the achievement of children whose mothers have higher education is significantly different and higher than the achievement of children whose mothers have primary, secondary, and lycee education and, the achievement of children whose mothers have only primary education is significantly lower than those with secondary, lycee or university education.

No differences are observed between the achievement of children whose mothers have secondary education and those whose mothers have lycee education.

#### **Father Education Level**

Similar to the results obtained for mother education level, father education level is also observed to result in differences in the academic achievement of the child.

When children are grouped in terms of the educational level as possessed by their fathers different groups were observed to be significantly different from each other in terms of their achievement level, as presented in Table 52.

Table 52

Differences in the Achievement of Children  
whose Fathers have Different Educational Levels

Source	DF	SS	MS	F-ratio	F-prob
Between Grp	3	21596.8339	7198.9446	19.254	0.0000
Within Grp	471	176099.4313	373.8841		
Total	474	197696.2653			

Mean	Group	Father Education Level
34.8148	1	Primary school
40.4082	2	Secondary school
48.6981	3	Lycee
56.4846	4	University

Similar to the results obtained for mother education, Group 4 was found to be significantly different from Group 3, Group 2, and Group 1; having the highest mean score. Similarly Group 1 was found to be significantly different from Group 3 and Group 4 having the lowest mean score. The results indicate that children whose fathers had higher education have significantly different and higher achievement compared to those whose fathers had less education. Similarly the achievement of children whose fathers had only primary education is significantly lower than those whose fathers had secondary, lycee or higher education. No differences are observed between the achievement of children whose fathers had secondary and those who had lycee education.

## Education Type

Like the level of parental education, type of parental education is also observed to lead to differences in the achievement of children. Significant differences between different groups of children are observed when they are grouped in terms of both the mother's education type and as well as the father's education type.

### **Mother Education Type**

Table 53

#### Differences in the Achievement of Children whose Mothers have Different Educational Types

Source	DF	SS	MS	F-ratio	F-prob
Between Grp	3	14801.2281	4933.7427	12.414	0.0000
Within Grp	415	164932.1657	397.4269		
Total	418	179733.3938			

Mean	Group	Mother Education Type
47.9604	3	Education
51.0000	4	Arts
60.6164	2	Administration-Trade
61.7213	1	Science-Technical

According to Scheffe's procedure results Group 1 was observed to be significantly different from Group 3 and Group 4 having the highest achievement. Group 3 was observed to be significantly different from Group 1 and Group 2 having the lowest achievement.

The results indicate that the achievement of children whose mothers had education in the scientific and

technical fields is higher than the achievement of children whose mothers are educated in other fields, with mother education in the field of education having the lowest mean score. No significant differences are observed between the achievement of children whose mothers were educated in the field of arts or those who were from administration or trade.

### Father Education Type

Table 54

Differences in the Achievement of Children  
whose Fathers have Different Educational Types

Source	DF	MS	SS	F-ratio	F-prob
Between Grp	3	12448.4120	4149.4707	10.420	0.0000
Within Grp	442	176004.8436	398.2050		
Total	445	188453.2556			

Mean	Group	Father Education Level
43.0851	3	Education
51.5600	4	Arts
51.6980	2	Administration-Trade
57.2809	1	Science-Technical

According to Scheffee's procedure results, Group 3 is significantly different from Group 2 and Group 1. Both Group 1 and Group 2 have higher means compared to Group 3 indicating that children whose fathers are graduates of Scientific- Technical fields or Administrative-Trade fields have higher achievement than those whose fathers are graduates of the field of education.

### Stated Economic Level

Differences in the Achievement of Children whose Parents have Different Stated Economic Levels

No differences were observed in the achievement of children when they were grouped in terms of the economic levels stated by the parents.

### Birthorder

Differences in the Achievement of Children who differ in terms of their Birthorder

No differences were observed in the achievement of children who differed in terms of their birthorder

### Differences in the Achievement Motivation of Children with Different Family Process Variables

Achievement Motivation of children who are grouped in terms of different family process variables is not observed to show any significant differences across different groups.

### Differences in the Achievement of Children with Different Family Process Variables

Significant differences in the achievement of children is observed:

- 1) when they are grouped in terms of the home educational environment;
- 2) when they are grouped in terms of intensity of punishments given by their parents.

Achievement of children grouped in terms of other family process variables is not observed to be significantly different from each other.

ANOVA results indicating achievement differences between groups of children resulting from differences in the home educational environment and in the intensity of punishments are presented in Table 55 and Table 56 respectively.

Table 55

Differences in the Achievement of Children with Different Home Educational Environments

Source	DF	SS	MS	F-ratio	F-prob
Between Grp	3	851.7003	283.9001	0.418	0.7400
Within Grp	479	325203.2479	678.9212		
Total	482	326054.9482			

Mean	Group	
46.1962	2	Home Educational Environment scores
54.000	1	of the groups change such that,
56.2415	3	there's an increase from the least
86.0000	4	favorable to the most favorable environment from GRP1 towards GRP4

Achievement of children who have the most favorable educational environment at home (Group 4) is higher than the achievement of children who have less favorable educational environments (Group1, Group 2, Group 3). Group 3 is also observed to be significantly different from Group 2, which shows that as the educational environment of the home becomes more favorable, the achievement of the children increases.

Table 56

Differences in the Achievement of Children whose  
Parents Differ in "Restrictions & Punishments"

Source	DF	SS	MS	F-ratio	F-prob
Between Grp	3	3995.7493	1331.9164	1.981	0.1159
Within Grp	479	322059.1989	672.3574		
Total	482	326054.9482			

Mean	Group	
40.2500	4	"Restrictions & Punishments" scores
51.9641	2	across groups change such that
55.9098	3	There's an increase from lowest to
57.4103	1	highest intensity in punishments
		from GRP1 to GRP4

Scheffee's procedure results indicate significant differences between the achievement of children in the lowest and highest intensely punished groups.

The achievement of children who are more intensely punished is observed to be lower than the achievement of children who are least intensely punished. Similarly significant differences are observed between GRP 4 and GRP 3, favouring the least intensely punished group (GRP 4).

No significant differences are observed between the achievement of children who were in the groups with medium punishment intensity (i.e. between GRP2 and GRP3)

## Differences in the Achievement of Children with Different Achievement Motivation Levels

No significant differences are observed in the achievement of children who are grouped in terms of their achievement motivation levels.

In sum, the results obtained through ANOVA indicate that;

- 1) differences in parent education level, and parent education type result in significant differences in most of the family process variables,
- 2) differences in parent education level and parent education type result in significant differences in the achievement of children,
- 3) differences in only two of the family process variables ( Home Educational Environment and "Restrictions & Punishments" dimensions) result in significant differences in the achievement of children.
- 4) differences in family process or static variables do not result in any significant difference in the achievement motivation of the groups.
- 5) differences in achievement motivation of children do not result in any significant differences in the achievement of children.

Another finding concerning ANOVA results is that, no curvilinear relationship is evidenced between the variables in the model.

## Regression Analysis

Parental process variables were all subjected to regression analysis in order to determine the most important parental variables effecting achievement of children.

Results show that only three variables among all the family variables considered could be included in the equation because only three variables had p-value above 0.01 level.

Table 57

Significant Multiple Regression Results  
with Adjusted R-Sq Beta and p-values  
of Parental Process Variables for Achievement  
of the Total Sample

Variables	Adjusted r-sq (a)	Beta(b)	p-value(c)
Home Ed. Env.	0.17004	0.33216	0.0000
Mother Ed. Level	0.21649	0.2117	0.0000
Strict Discipline	0.22560	-0.10602	0.01

- (a) Adjusted R-sq indicates the percentage the independent variable accounts for the variance in the dependent variable. Consecutive R-sq values are additive.
- (b) Beta indicates the relationship between the independent and dependent variables.
- (c) p-value indicates the level of significance

Table 57 shows that the major parental variables influencing the achievement of children are; Home Educational Environment, Mother Education, and Strict Discipline.

The table shows that Home Educational Environment accounted for 17% of variance in achievement and it was the most effective parental variable in explaining the academic achievement of children. Home Educational Environment has a beta value of 0.33216.

The Education Level of the mother was also observed to be important in explaining the amount of variance in academic achievement. Mother's education accounted for 5% of variance in academic achievement, with a beta value of 0.2117

Strict Disciplinarian dimension on the other hand, has a negative beta value indicating the existence of a negative relationship with academic achievement. It accounts for 1% of variance in achievement.

**Specific Parental Behaviours / Attitudes  
related to the Achievement of Children  
(Analysis by t-test)**

The data was further analyzed to determine the specific parental factors which may be responsible for high academic achievement of children. The information thus obtained is considered to be a valuable source in the development of Parent Education Programmes, geared towards increasing achievement of children.

For this analysis instead of global parental dimensions, specific parental behaviors or attitudes were considered. The items in the tests were not taken as parts of a whole adding up to a specific parental dimension, but rather they were taken separately each indicating a specific parental attitude or behavior.

For each item parents were grouped in terms of the alternative they had selected. Thus four or five groups of parents were formed each differing in terms of the mode of behavior or attitude they showed under specified conditions (i.e.. conditions stated in the items). In other words children were grouped in terms of the behavior or attitude their parents showed , and the differences in their academic achievement were tested using t-test.

In the cases where a group was found to show significantly higher achievement with respect to other groups the parental attitudes / behaviours related to the higher and lower achieving groups were determined.

The parental attitudes or behaviors corresponding to the higher achieving group were identified as the expected parental attitudes / behaviours for high academic achievement of children. On the other hand, parental attitudes / behaviours corresponding to the lower achieving group, were identified as undesirable parental attitudes or behaviors for academic achievement of children.

Items were classified based on the existence or nonexistence of a significant difference in the achievement of children due to the differences in Behaviours / Attitudes of the parents, resulting in two groups of parental Behaviours / Attitudes :

- 1) Parental Behaviours / Attitudes which were observed to result in significant differences in the achievement of children , and
- 2) Parental Behaviours / Attitudes which did not result in any significant difference in the achievement of children.

Statistical calculations only for the items where significant differences are observed in the achievement of children whose parents differ in terms of their Behaviours / Attitudes, are presented in the "Results" section. Statistical calculations of items concerning the cases where no significant differences are observed between the groups, are presented in Appendix I.

Tables presenting item statistics provide information on :

- 1) the frequency of parents choosing the particular alternative
- 2) the percentage of parents choosing the particular alternative
- 3) the mean achievement scores of the children whose parents choose the particular alternative
- 4) the standard deviations of the achievement scores of children whose parents choose that particular alternative

The differences between the mean scores of children whose parents choose different alternatives, and significant differences between the mean scores are stated if they are at 0.01 level.

Home Educational Environment:  
Test Items and the Differences in the Achievement of  
Children whose Parents Share Different Views on  
Home Educational Environment

ITEM 1) How much time does the mother spare for the child's school work (omit if no time is spared by the mother)

- a) One or two hours a week
- b) Three-five hours a week
- c) Six-ten hours a week
- d) A few hours nearly every day

Table 58  
Item Statistics for Item 1

Alternatives	a	b	c	d	e
Frequency	211	71	168	351	119
Percentage	24	08	18	38	13
Mean ach.score	53.54	57.59	53.96	55.25	49.76
Standard dev.	15.17	18.32	17.10	15.99	16.58

Differences Between the Mean Achievement Scores  
for Item 1

Compared alternatives	Difference	Significance	
a-b	-4.05	-1.68	
a-c	-0.042	-0.025	
a-d	-1.71	-1.27	
a-e	3.78	2.05	
b-c	3.63	1.43	
b-d	2.34	1.00	
b-e	-1.79	-0.82	0.01 level
c-e	4.20	2.09	
d-e	5.49	3.15	0.01 level

Significant differences (at 0.01 level) are observed in the achievement of children whose mothers spend no time for the child's schoolwork and those who spend 3-5 hours a week or 1-2 hours a day, favouring the achievement of children whose mothers spare more time for their child's schoolwork.

These results may be interpreted such that involvement of the mother in the child's schoolwork has positive impact on the child's achievement.

ITEM 3) What percent of the child's educational needs are supplied by the money spared for his education? (Omit if no money is spared for the child's educational needs)

- a) 90% or more
- b) %80 - %89
- c) %50 - %79
- d) less than a half

Table 59

Item Statistics for Item 3

Alternatives	a	b	c	d	e
Frequency	165	200	212	321	22
Percentage	18	22	23	35	02
Mean ach.score	50.99	55.02	53.91	55.29	53.22
Standard dev.	16.86	16.70	15.48	16.37	16.32

Table 59 (cont.)

Differences Between the Mean Achievement Scores  
for Item 3

Compared alternatives	Difference		Significance
a-b	-4.03	-2.28	
a-c	-2.92	-1.73	
a-d	-4.30	-2.69	0.01 level
a-e	-2.23	-0.60	
b-c	1.11	0.70	
b-d	-0.27	-0.18	
b-e	1.80	0.49	
c-d	-1.38	-0.98	
c-e	0.69	0.19	
d-e	2.07	0.58	

The achievement of children whose educational needs are supplied by 90% or more were observed to be higher than those whose educational needs are supplied by 80%-89% or those whose educational needs are supplied by less than 50%.

The results however do not very powerfully indicate that the extend to which the child's educational needs are supplied, leads to a change in the child's achievement. The achievement of the group whose needs are supplied by 50%-79% is not observed to be different than the achievement of children whose needs are supplied to a greater extend (80% or more) as well as those whose needs are supplied to a lesser extend 50% or less).

Therefore it's not possible to conclude that an increase in the extend to which the child's educational needs are supplied leads to an increase in his/her achievement.

ITEM 4) What percent of your monthly expenditure do you spare for the child's education?(omit if no money is spared for the child's education

- a) Less than 10%
- b) %10-%20
- c) %21-%25
- d) More than 25%

Table 60

Item Statistics for Item 4

Alternatives	a	b	c	d	e
Frequency	116	359	195	198	52
Percentage	13	39	21	21	06
Mean ach.score	53.30	54.48	56.29	52.96	49.28
Standard dev.	16.42	16.41	17.12	15.58	15.14

Differences Between the Mean Achievement Scores for Item 4

Compared alternatives	Difference	Significance	
a-b	-1.18	-0.67	
a-c	-2.99	-1.53	
a-d	0.34	0.18	
a-e	4.02	1.55	
b-c	-1.81	-1.21	
b-d	1.52	1.08	
b-e	5.20	2.29	
c-d	3.33	2.02	
c-e	7,01	2.88	0.01 level
d-e	3.68	1.55	

Achievement of children whose parents spend 21%-25% of their monthly expenditure on the child's educational

needs were observed to be significantly (at 0.01 level) higher than those whose parents spend no money on the child's achievement. Increased percents of money spend on the child's educational needs is not observed to cause any change in the achievement level. Therefore an optimum rather than a maximum percent of money spend on the child's educational needs seems to go parallel with high achievement.

ITEM 10) What other informative resources does the child use apart from the school books?

- a) His own encyclopedias, magazines and the like
- b) Computer, video and the like
- c) Test books with solutions
- d) Nearly all of the above

Table 61

Item Statistics for Item 10

Alternatives	a	b	c	d	e
Frequency	334	4	160	380	42
Percentage	.36	00	17	41	05
Mean ach.score	48.67	39.75	57.96	57.77	50.54
Standard dev.	15.57	18.68	15.00	16.06	17.32

Table 61 (cont.)

Differences Between the Mean Achievement Scores  
for Item 10

Compared alternatives	Difference		Significance
a-b	8.92	0.95	
a-c	-9.29	-6.36	0.01 level
a-d	-9.10	-7.68	0.01 level
a-e	-1.87	-0.67	
b-c	-18.21	-1.93	
b-d	-18.02	-1.92	
b-e	-10.79	-1.11	
c-d	0.19	0.13	
c-e	7.42	2.54	
d-e	7.23	2.59	0.01 level

The achievement of children who use all the resources specified were observed to be higher to the achievement of children who use only the resources such as encyclopedias & journals. Similarly achievement of children who use all the resources was higher than those who do not use any educational resources at all. Achievement of children who use test books as main educational resource is observed to be higher than those who use encyclopedias and journals. The results may lead us to conclude that children with all educational resources available have higher achievement, and the use of text books is an important educational resource, connected to higher educational achievement compared to other resources.

ITEM 11) What's your expectation concerning your child's result on the College Entrance Exam?

- a) May get in the school of his first choice.
- b) May get in the school of his second or third choice
- c) We assume he will get in the school of any one of his choices.
- d) We don't think that he will be successful

Table 62

Item Statistics for Item 11

Alternatives	a	b	c	d	e
Frequency	130	243	497	27	23
Percentage	14	26	54	03	02
Mean ach.score	64.36	59.04	49.98	37.51	52.00
Standard dev.	17,53	14.57	14.90	9.21	18.27

Differences Between the Mean Achievement Scores for Item 11

Compared alternatives	Difference		Significance
a-b	5.32	2.96	0.01 level
a-c	14.38	8.58	0.01 level
a-d	26.85	11.45	0.01 level
a-e	12.36	3.01	0.01 level
b-c	9.06	7.89	0.01 level
b-d	21.53	10.75	0.01 level
b-e	7.04	1.79	
c-d	12.47	6.58	0.01 level
c-e	-2.02	-0.52	
d-e	-14.49	-3.45	0.01 level

Significant differences (at 0.01 level) in the achievement of children were observed between groups of parents based on their estimation of success on the college entrance exam. The differences between the groups were such that , the children in families with higher expectation of success achieved higher than the children in families with less expectation of success. the results point out to a clear linear relationship between parental aspirations and academic success.

ITEM 12) What kind of a result of your child on College Entrance Exam would annoy you?

- a) We would be annoyed even if he gets in the school of his first choice.
- b) We would be annoyed if he can't get in one of his first three choices.
- c) We would be annoyed if he cannot get in any one of his choices.
- d) We wouldn't be annoyed even if he cannot get in any one of his choices.

Table 63

Item Statistics for Item 12

Alternatives	a	b	c	d	e
Frequency	19	238	503	133	27
Percentage	02	26	55	14	03
Mean ach.score	67.36	60.47	51.34	52.18	49.29
Standard dev.	16.50	15.89	15.32	17.12	16.41

Table 63 (cont.)

Differences Between the Mean Achievement Scores  
for Item 12

Compared alternatives	Difference		Significance
a-b	6.89	1.76	
a-c	16.02	4.16	0.01 level
a-d	15.18	3.73	0.01 level
a-e	18.07	3.67	0.01 level
b-c	9.13	7.39	0.01 level
b-d	8.29	4.59	0.01 level
b-e	11.18	3.37	0.01 level
c-d	-0.84	-0.51	
c-e	2.05	0.63	
d-e	2.89	0.83	

The differences in achievement were such that the children whose parents would be more disappointed in the face of failure compared to those who are less likely to be disappointed, achieved higher. These results are in accordance with the results obtained for educational expectations. In fact the higher is the educational expectations of the parents, the higher will be their disappointment in the face of failure.

ITEM 13) How successful do you expect your child to be in his future academic life?

- a) We believe him to be very successful
- b) we believe him to be successful enough
- c) We believe to have certain problems.
- d) We are not concerned with this at the moment.

Table 64

Item Statistics for Item 13

Alternatives	a	b	c	d	e
Frequency	110	566	78	145	21
Percentage	12	61	08	16	02
Mean ach.score	63.11	55.22	42.41	49.04	52.23
Standard dev.	16.20	15.38	13.65	16.49	16.27

Differences Between the Mean Achievement Scores for Item 13

Compared alternatives	Difference		Significance
a-b	8.39	5.01	0.01 level
a-c	21.20	9.70	0.01 level
a-d	14.57	7.06	0.01 level
a-e	11.38	2.94	0.01 level
b-c	12.81	7.64	0.01 level
b-d	6.18	4.08	0.01 level
b-e	2.99	0.83	
c-d	-6.63	-3.21	0.01 level
c-e	-9.82	-2.54	
d-e	-3.19	-0.84	

Similar to the results obtained for the other items on educational aspirations, significant differences

between groups with varying educational expectations was observed.

Children in families where the expectation of the parents concerning the future educational success of the child is high, achieve significantly higher than those where the parents expectations are low. The differences between the groups follow a continuous trend, such that with increasing level of aspiration there's an increased level of achievement.

Another observable result related to parental views concerned with the future education of the child is that the achievement of children whose parents expect "to face certain difficulties" is lower than those whose parents are not concerned with the subject at the moment.

This result may be interpreted such that, the parents by the time their child is at the end of primary school, establish rather valid opinions on their child's academic success.

The parents of those who have higher achievement are rather content that their child will be able to achieve academically, whereas the parents of those who have low achievement expect certain educational problems. Only for the group who shows medium achievement, the parents seem to delay the concern on educational success for later years.

Therefore these items rather than showing the effect of parental educational aspirations on the child's educational achievement, may be claimed to show the effect of educational achievement on shaping the parents' future oriented educational aspirations.

If the achievement of the child is above or below average , parents are observed to arrive at certain realistic conclusions concerning the success of their child in future years. Only the parents of medium achievers postpone such a conclusion.

This result apart from suggesting a direction going from achievement to parental aspirations, may also be considered to suggest a consciousness on the part of the parent sample, regarding the school work of their child.

When Home Educational Environment was considered, specific parental behaviors resulting in differences in the achievement of children were observed to be related to "the value placed on education" , and "educational aspirations of the parents". Items on "achievement press" or "educational activities of the parents" did not show any significant differences between groups in terms of the child's achievement.

**Child Rearing Practices :**  
**Test Items and the Differences in the Achievement of**  
**Children whose Parents Share Different Views on**  
**Child Rearing Practices**

The alternatives in the items concerned with child rearing attitudes, are:

- a) very appropriate
- b) rather appropriate
- c) slightly appropriate
- d) not appropriate

The groups are formed based on the degree to which the attitude stated in the item is appropriate for the parents

Democratic Child Rearing Attitudes

ITEM 2) Parents must understand that their children cannot confront some of their problems to their parents.

Table 65

Item Statistics for Item 2

Alternatives	a	b	c	d	e
Frequency	165	200	212	321	22
Percentage	18	22	23	35	02
Mean ach.score	50.99	55.02	53.91	55.29	53.22
Standard dev.	16.86	16.70	15.48	16.37	16.32

Differences Between the Mean Achievement Scores for Item 2

Compared alternatives	Difference		Significance
a-b	-4.03	-2.28	
a-c	-2.29	-1.73	
a-d	-4.30	-2.69	0.01 level
a-e	-2.23	-0.60	
b-c	1.11	0.70	
b-d	-0.27	-0.18	
b-e	1.80	0.49	
c-d	-1.38	-0.98	
c-e	0.69	0,19	
d-e	2.07	0.58	

Significant differences were observed between two groups having opposing point of views concerning the attitude stated in the item. The two opposing views are that , it's not possible that the children have problems that they cannot discuss with their parents versus the

fact that they might have problems which cannot be discussed with the parents. The children of parents expecting discussion of all the problems from their child, achieve higher than the others.

ITEM 21) If children are allowed to tell their problems they'll complain further more.

Table 66

Item Statistics for Item 21

Alternatives	a	b	c	d	e
Frequency	32	51	129	674	34
Percentage	03	06	14	73	04
Mean ach.score	50.53	54.17	49.90	55.23	50.67
Standard dev.	15.35	18.52	15.22	16.27	17.41

Differences Between the Mean Achievement Scores for Item 21

Compared alternatives	Difference		Significance
a-b	-3.64	-0.97	
a-c	0.63	0.21	
a-d	-4.70	-1.69	
a-e	-0.14	-0.03	
b-c	4.27	1.46	
b-d	-1.06	-0.40	
b-e	3.50	0.89	
c-d	-5.33	-3.60	0.01 level
c-e	-0.77	-0.24	
d-e	4.56	1.50	

The achievement of children, whose parents think that their children would complain further more if they are

allowed to talk about their problems, is significantly lower than those whose parents consider this attitude as inappropriate. In fact most of the parents (73%) consider this attitude as very inappropriate, implying that most parents are open to talk about their child's problems and do not think that this would lead to any undesirable side effect.

ITEM 29) If you take care in children's problems they will make up stories to occupy you.

Table 67

Item Statistics for Item 29

Alternatives	a	b	c	d	e
Frequency	20	38	122	697	43
Percentage	02	04	13	76	05
Mean ach.score	52.80	44.84	50.53	55.43	51.34
Standard dev.	18.17	16.62	16.75	16.02	15.93

Differences Between the Mean Achievement Scores for Item 29

Compared alternatives	Difference	Significance	
a-b	7.96	1.63	
a-c	2.27	0.52	
a-d	-2.63	-0.64	
a-e	1.46	0.31	
b-c	-5.69	-1.84	
b-d	-10.59	-3.83	0.01 level
b-e	-6.5	-1.79	
c-d	-4.90	-3.00	0.01 level
c-e	-0.81	-0.28	
d-e	4.09	1.63	

Similar to the results obtained in item 21, most of the parents (76%) think that being involved in their children's problems does not result in any undesirable side effect such as being occupied with made up stories. The achievement of children whose parents share this attitude is observed to be significantly higher than those who are against it.

The items (item 2, item 21, item 29) which show significant differences in the achievement of children whose parents share different attitudes on "Democratic" dimension, are observed to centre around a particular theme. These items cover parental attitudes concerning their involvement with the problems of their children. So the most important parental attitude in Democratic dimension of PARI is observed to be the extent to which parents share personal problems of their children. Parents of higher achievers think that their children must be able to talk everyone of their problems with their parents without exception and being open to the problems of children does not lead to any further useless complaints, nor does it result in any further abuse of the parents' time.

These results are in favour of increased democratic attitudes, in terms of the child's academic success. The positive effect of increased democratic attitudes is observed in item 44. Though the differences between the groups are not significant, the groups where there is an increased tendency to behave democratically, achieve higher than the other groups. None of the results on the other hand are indicative of a positive effect of nondemocratic parental attitudes on academic success.

## Overprotective Child Rearing Attitudes

ITEM 6) There are so many things in life that a child should learn, that waste of time cannot be tolerated.

Table 68

### Item Statistics for Item 6

Alternatives	a	b	c	d	e
Frequency	78	143	341	343	15
Percentage	08	16	37	37	02
Mean ach.score	49.24	54.30	53.57	55.90	47.80
Standard dev.	17.01	15.68	16.69	15.98	15.44

### Differences Between the Mean Achievement Scores for Item 6

Compared alternatives	Difference		Significance
a-b	-5.06	-2.17	
a-c	-4.33	-2.04	
a-d	-6.66	-3.16	0.01 level
a-e	1.44	0.33	
b-c	0.73	0.46	
b-d	-1.60	-1.02	
d-e	6.50	1.55	
c-d	-2.33	-1.86	
c-e	5.77	1.41	
d-e	8.10	1.99	

The achievement of children whose parents share the view that , children shouldn't waste their time as there are so many things in life to learn, is found to be

significantly lower than the achievement of children whose parents are against this attitude.

Similar to the results obtained in other items the two groups which are found to be significantly different from each other are the groups which hold views at the extremes, ie. they either find the particular attitude very appropriate or not appropriate at all.

ITEM 8) Parents must learn to sacrifice their own happiness for their child's happiness.

Table 69

Item Statistics for Item 8

Alternatives	a	b	c	d	e
Frequency	298	306	246	51	19
Percentage	.32	33	27	06	02
Mean ach.score	52.07	54.60	55.85	54.72	53.21
Standard dev.	17.14	16.08	15.34	17.36	17.19

Differences Between the Mean Achievement Scores for Item 8

Compared alternatives	Difference		Significance
a-b	-2.53	-1.87	0.01 level
a-c	-3.78	-2.71	
a-d	-2.65	-1.01	
b-c	-1,25	-0.93	
b-d	-0.12	-0.05	
b-e	1.39	0.34	
c-d	1.13	0.43	
c-e	2.64	0.65	
d-e	1.51	0.33	

The achievement of children whose parents find it slightly appropriate that they should sacrifice their happiness in favour of their child's' happiness, is observed to be higher than those whose parents regard such an attitude as very appropriate.

This result indicates that a certain amount of self-sacrifice may have positive impact on the child's academic achievement. However, increased amounts of self-sacrifice by the parents does not result in increased amounts of academic achievement. Although , the observed significant differences are not between groups which hold extreme views on the particular attitude concerned, the results favour the group of children whose parents are against sacrifice.

ITEM 11) It's a mothers duty to know her child's deepest secrets.

Table 70

Item Statistics for Item 11

Alternatives	a	b	c	d	e
Frequency	243	227	238	190	22
Percentage	26	25	26	22	02
Mean ach.score	51.04	54.56	54.50	57.40	50.04
Standard dev.	17.17	15.46	15.48	16.72	17.57

Table 70 (cont.)

Differences Between the Mean Achievement Scores  
for Item 11

Compared alternatives	Difference		Significance
a-b	-3.52	-2.34	
a-c	-3.46	-2.32	
a-d	-6.36	-3.88	0.01 level
a-e	1.00	0.26	
b-c	0.06	0.04	
b-d	-2.84	-1.79	
b-e	4.52	1.16	
c-d	-2.90	-1.84	
c-e	4.46	1.15	
d-e	7.36	1.87	

The achievement of children whose parents regard it very appropriate that a mother should know everything about their children is observed to be lower than those whose parents regard such a view as very inappropriate.

This result indicates that the parents of higher achievers show a respect for their child's confidentiality compared to the parents of lower achieving students.

As is the case in most of the items showing significant differences; the differences observed at 0.01 level of significance are between the two extreme groups, that is the parents either find the attitude concerned very appropriate or not appropriate at all. Differences in achievement of children between other groups where parents hold closer views are not found to be significant.

ITEM 18) It's a mothers duty to know everything about her child because he is a part of her.

Table 71

Item Statistics for Item 18

Alternatives	a	b	c	d	e
Frequency	432	248	158	67	24
Percentage	47	27	17	07	03
Mean ach.score	52.63	54.95	54.86	60.11	49.08
Standard dev.	16.77	16.13	14.93	16.24	16.99

Differences Between the Mean Achievement Scores for Item 18

Compared alternatives	Difference		Significance
a-b	-2.32	-1.77	
a-c	-2.23	-1.55	
a-d	-7.48	-3.49	0.01 level
a-e	3.55	1.00	
b-c	0.09	0.06	
b-d	-5.16	-2.31	
b-e	5.87	1.62	
c-d	-5.25	-2.27	
c-e	5.78	1.58	
d-e	11.03	2.76	0.01 level

Majority (74%) of the parents think that mothers should know everything about their children. But the results do not favour the attitudes shared by the majority. The achievement of children whose parents do not think that a mother should know everything about her child, was significantly higher than those who think otherwise. Here again parental respect for the child's confidentiality is observed to go parallel with high academic achievement.

ITEM 20) Children must be concerned about all that their parents sacrifice for them.

Table 72

Item Statistics for Item 20

Alternatives	a	b	c	d	e
Frequency	278	258	263	95	26
Percentage	30	28	29	10	03
Mean ach.score	50.48	55.00	55.49	59.02	51.65
Standard dev.	16.94	16.47	15.42	15.20	15.80

Differences Between the Mean Achievement Scores for Item 20

Compared alternatives	Difference		Significance
a-b	-4.52	-3.13	0.01 level
a-c	-5.01	-3.60	0.01 level
a-d	-8.54	-4.59	0.01 level
a-e	-1.17	-0.36	
b-c	-0.49	-0.35	
b-d	-4.02	-2.15	
b-e	3.35	1.03	
c-d	-3.53	-1.93	
c-e	3.84	1.18	
d-e	7.37	2.12	

Significant differences between groups show that the lowest achieving group consists of students whose parents think that children should be aware of their parents' sacrifices. Children whose parents regard the view that their sacrifices should be taken into consideration as very appropriate, achieve lower than those whose parents consider such a view as inappropriate or very inappropriate. This suggests that higher achievement is

observed in families where the parents do not tend to expect a return for what they give to their children.

ITEM 23) "Parents can sacrifice nearly all their fun for their children.

Table 73

Item Statistics for Item 23

Alternatives	a	b	c	d	e
Frequency	125	149	390	223	33
Percentage	14	16	42	24	04
Mean ach.score	50.62	52.87	54.61	56.57	49.93
Standard dev.	16.70	16.50	16.35	15.18	19.70

Differences Between the Mean Achievement Scores for Item 23

Compared alternatives	Difference		Significance
a-b	-2.25	-1.12	
a-c	-3.99	-2.34	
a-d	-5.95	-3.29	0.01 level
a-e	0.69	0.18	
b-c	-1.74	-1.10	
b-d	-3.70	-2.19	
b-e	2.94	0.80	
c-d	-1.96	-1.49	
c-e	4.68	1.33	
d-e	6.64	1.86	

Significant differences between groups indicate that parents of higher achievers do not find it appropriate to sacrifice most of their entertaining activities for their children.

This result when considered together with the results obtained for the previous item, points out to a particular dimension in parent-child relationships. The parent-child relationships are observed to be less demanding for the parents of higher achievers.

ITEM 24) A good mother must protect her child even from the smallest difficulties.

Table 74

Item Statistics for Item 24

Alternatives	a	b	c	d	e
Frequency	101	77	203	508	31
Percentage	.11	08	22	55	03
Mean ach.score	50.60	51.27	52.82	55.85	52.09
Standard dev.	16.40	17.79	16.14	15.95	18.00

Differences Between the Mean Achievement Scores for Item 24

Compared alternatives	Difference		Significance
a-b	-0.67	-0.26	
a-c	-2.22	-1.12	
a-d	-5.25	-2.95	0.01 level
a-e	-1.49	-0.41	
b-c	-1.55	-0.67	
b-d	-4.58	-2.13	
b-e	-0.82	-0.21	
c-d	-3.03	-2.27	
c-e	0.73	0.21	
d-e	3.76	1.14	

The results obtained from this item indicate the negative impact of overprotection on academic achievement. The achievement of children whose parents find it very appropriate to protect the child from even the smallest difficulties , is observed to be lower than the achievement of children whose parents view such an intense protection as very inappropriate.

This item is directly concerned with overprotective attitudes of the parents. Again significant differences are observed between groups of parents whose attitudes are at the extremes in terms of the overprotective attitude concerned, with children with highly overprotective parents achieving lower than those whose parents are extremely against overprotection.

ITEM 31) Children must be sensitive towards their mother because she has to do so much for them.

Table 75

Item Statistics for Item 31

Alternatives	a	b	c	d	e
Frequency	205	221	307	156	31
Percentage	22	24	33	17	03
Mean ach.score	53.40	52.71	54.28	57.49	49.58
Standard dev.	16.15	15.70	16.75	16.24	17.42

Table 75 (cont.)

Differences Between the Mean Achievement Scores  
for Item 31

Compared alternatives	Difference		Significance
a-b	0.69	0.45	
a-c	-0.88	-0.60	
a-d	-4.09	-2.38	
a-e	3.82	1.15	
b-c	-1.57	-1.10	
b-d	-4.78	-2.85	0.01 level
b-e	3.13	0.95	
c-d	-3.21	-1.99	
c-e	4.70	1.44	
d-e	7.91	7.33	

Similar to the results obtained for item 34, expecting high levels of appreciation from children is characteristic of families where children show lower achievement.

The achievement of children whose parents do not expect greater levels of care in return for what they do, is significantly higher than those whose families think that children should care more in return for the difficulties that their mothers have to face for their good.

The observed differences in achievement are not between the groups of children who hold extreme views on this parental attitude. Although majority of parents show a tendency to expect appreciation from their children, the results are observed to favour the parental attitude which is totally against such an expectation, in terms of the achievement of children.

ITEM 34) Parents must teach their children not to waste their time in order to get ahead in life.

Table 76

Item Statistics for Item 34

Alternatives	a	b	c	d	e
Frequency	429	290	154	27	20
Percentage	47	32	17	02	02
Mean ach.score	51.98	55.59	57.72	52.81	51.55
Standard dev.	16.59	15.69	16.35	15.27	17.21

Differences Between the Mean Achievement Scores for Item 34

Compared alternatives	Difference		Significance
a-b	-4.52	-3.13	0.01 level
a-c	-5.01	-3.60	0.01 level
a-d	-8.54	-4.59	0.01 level
a-e	-1.17	-0.36	
b-c	-0.49	-0.35	
b-d	-4.02	-2.15	
b-e	3.35	1.03	
c-d	-3.53	-1.93	
c-e	3.84	1.18	
d-e	7.37	2.12	

Majority of the parents consider it very appropriate that parents should teach their children to be involved in an activity all the time in order to be able to progress in life. However the achievement of children whose parents strongly support the need for continuous activity, is significantly lower than those whose parents are not so strongly insistent on continuous activity.

However the achievement of children whose parents do not support continuous activity at all, is also observed to be lower (though not significantly) than all the other groups. It's possible to say that extreme parental reactions concerned with this attitude has negative impact on achievement of children.

ITEM 37) Children must be kept away from all difficult tasks that can harm their self esteem.

Table 77

Item Statistics for Item 37

Alternatives	a	b	c	d	e
Frequency	171	112	240	374	23
Percentage	18	12	26	41	03
Mean ach.score	50.62	54.95	54.55	55.40	49.73
Standard dev.	17.27	16.89	16.17	15.76	15.74

Differences Between the Mean Achievement Scores for Item 37

Compared alternatives	Difference		Significance
a-b	-4.33	-2.09	
a-c	-3.93	-2.33	
a-d	-4.78	-3.08	0.01 level
a-e	0.89	0.25	
b-c	0.40	0.21	
b-d	-0.45	-0.25	
b-e	5.22	1.43	
c-d	-0.85	-0.64	
c-e	4.82	1.40	
d-e	5.67	1.68	

Significant differences in the achievement of children is observed between groups of parents who support extreme views on this particular attitude. Achievement of children whose parents strongly favour overprotective attitudes is observed to be lower than those who are strongly against the fact that children should be avoided from attempting difficult tasks which could lower their self esteem.

Most of the items concerned with the overprotective attitudes of parents reflect significant differences in the achievement of children. Parents of higher achievers are less overprotective in their child rearing attitudes as compared to the parents of lower achievers. The results indicate a certain pattern of parent-child relationship as desired by the parents of higher achievers. In general parents of higher achievers can be said to have a tendency to act within the limits of personal boundaries, that is although they care for their child's happiness, they do not try to make the child happy in expense of their own happiness, and they do not expect their child to be highly considerate of what they have given in return. The parent-child relationships are not permitted take the shape of mutual abuse. Rather there is a respect for confidentiality, privacy, and personal freedom.

## Strict Disciplinarian Child Rearing Attitudes

ITEM 5) The sooner a child learns how to walk, the better he can be disciplined.

Table 78

### Item Statistics for Item 5

Alternatives	a	b	c	d	e
Frequency	67	81	119	631	22
Percentage	07	09	13	68	02
Mean ach.score	51.07	48.65	53.97	55.30	49.45
Standard dev.	14.65	16.88	16.30	16.29	17.46

### Differences Between the Mean Achievement Scores for Item 5

Compared alternatives	Difference	Significance
a-b	2.42    0.93	
a-c	-2.90   -1.24	
a-d	-4.23   -2.22	
a-e	1.62    0.39	
b-c	-5.32   -2.22	
b-d	-6.65   -3.35	0.01 level
b-e	-0.80   -0.19	
c-d	-1.33   -0.82	
c-e	4.52    1.13	
d-e	5.85    1.55	

Significant differences obtained between the two groups are in favour of those who are against disciplinarian attitudes. Children whose parents are against the idea that learning to walk early would help better discipline, achieve higher than those who share

this attitude. no significant differences are observed in the achievement of children between other groups with different parental attitudes. Majority of the parents (68%) are observed to regard the fact that it would be easier to discipline a child who learns to walk early, whereas only 7% of the parents regard such an attitude as appropriate.

ITEM 7) The best adults grow out of children who are brought up with strict rules.

Table 79

Item Statistics for Item 7

Alternatives	a	b	c	d	e
Frequency	24	71	216	545	64
Percentage	.03	08	23	59	07
Mean ach.score	45.87	54.87	54.63	54.36	52.26
Standard dev.	13.65	14.80	17.05	16.47	15.21

Differences Between the Mean Achievement Scores for Item 7

Compared alternatives	Difference		Significance
a-b	-9.00	-2.73	0.01 level
a-c	-8.76	-2.90	0.01 level
a-d	-8.49	-2.95	0.01 level
a-e	-6.39	-1.89	
b-c	0.24	0.11	
b-d	0.51	0.27	
b-e	2.61	1.01	
c-d	0.27	0.20	
c-e	2.37	1.06	
d-e	2.10	1.04	

This item specifically directed towards disciplinarian attitudes by the parents is also not shared by majority of the parents. Results are against those who share disciplinarian attitudes. Achievement of children whose parents strongly agree with the fact that best adults are brought up through strict rules, is significantly lower than those whose parents slightly agree or completely disagree with this view. However no differences are observed between the achievement of children whose parent have a slight tendency towards disciplinarian attitudes and those who are completely against it. What is observed for this specific item is the negative effect of strict disciplinarian attitudes on the achievement of the children. Thus it is only the strong insistence on discipline which seems to be undesirable for academic achievement.

ITEM 12) Parents must teach their children unconditioned obedience.

Table 80

Item Statistics for Item 12

Alternatives	a	b	c	d	e
Frequency	81	88	226	499	26
Percentage	09	10	25	54	03
Mean ach.score	47.38	50.21	53.10	56.35	53.42
Standard dev.	17.02	17.79	16.02	15.76	15.85

Table 80 (cont.)

Differences Between the Mean Achievement Scores  
for Item 12

Compared alternatives	Difference		Significance
a-b	-2.83	-1.06	
a-c	-5.72	-2.64	0.01 level
a-d	-8.97	-4.44	0.01 level
a-e	-6.04	-1.66	
b-c	-2.89	-1.33	
b-d	-6.14	-3.03	0.01 level
b-e	-3.21	-0.88	
c-d	-3.25	-2.54	
c-e	-0.32	-0.10	
d-e	2.93	0.92	

The results obtained for this particular item also favours the nondisciplinarian attitudes. Children whose parents expect unquestioned obedience, achieve lower than those whose parents are strongly against this attitude or only slightly share it. For this item also, like in item 7, a slight tendency towards obedience is not observed to show a significant negative effect on the achievement of children. But, unlike item 7, the less is the parental expectation of obedience, the higher is the achievement of children, ie. there is an increase in achievement as the disciplinarian attitudes of parents get less.

Thus it is not only the existence or nonexistence of parental expectation of obedience which effects the degree of academic achievement, but also the quantity of this expectation.

ITEM 14) A child must be taught to stay away from fights no matter what the conditions are.

Table 81

Item Statistics for Item 14

Alternatives	a	b	c	d	e
Frequency	201	170	309	202	38
Percentage	22	19	34	22	04
Mean ach.score	51.51	53.74	53.80	57.72	52.44
Standard dev.	16.36	16.41	16.84	14.83	17.64

Differences Between the Mean Achievement Scores for Item 14

Compared alternatives	Difference		Significance
a-b	-2.23	-0.05	
a-c	-2.29	-1.06	
a-d	-6.21	-3.07	0.01 level
a-e	-0.93	-0.26	
b-c	-0.06	-0.03	
b-d	-3.98	-1.67	
b-e	1.30	0.35	
c-d	-0.06	-0.05	
c-e	1.36	0.43	
d-e	5.28	1.66	

Significant differences were observed between the groups who consider this attitude as very appropriate for themselves and those who consider it as very inappropriate. In families where parents were against fighting no matter what the consequences, children were observed to achieve lower than those where the parents did not indicate such a great objection against fighting.

In general as the parental attitude towards avoiding fighting regardless of the consequences got stronger, the achievement of children got less, although for difference was not significant for all groups.

ITEM 16) A child will be grateful to his family in the future if he is strictly disciplined.

Table 82

Item Statistics for Item 16

Alternatives	a	b	c	d	e
Frequency	103	129	202	181	305
Percentage	11	14	22	20	33
Mean ach.score	51.10	56.26	53.47	58.43	52.03
Standard dev.	17.16	15.72	16.81	14.87	16.40

Differences Between the Mean Achievement Scores for Item 16

Compared alternatives	Difference		Significance
a-b	-5.16	-2.36	
a-c	-2.37	-1.15	
a-d	-7.33	-3.63	0.01 level
a-e	-0.93	-0.48	
b-c	2.79	1.53	
b-d	-2.17	-1.23	
b-e	4.23	2.53	
c-d	-4.96	-3.06	0.01 level
c-e	1.44	0.95	
d-e	6.40	4.41	0.01 level

Significant differences were obtained for this item too, which is directly related to disciplinarian attitudes. The children from families where the parents agreed with the fact that the child would appreciate it if he was given strict discipline, achieved lower than the children from families where parents were strongly against or partly agreed with this idea.

Here again the differences in achievement were particularly true for the group which highly favoured strict discipline, indicating a significantly lower achievement for the children in this group. Therefore it's possible to say that, it's holding extreme views favouring discipline or not, which is related to differences in the achievement of children.

ITEM 17) Small children must be kept away from sexual matters

Table 83

Item Statistics for Item 17

Alternatives	a	b	c	d	e
Frequency	164	162	324	241	29
Percentage	18	18	35	26	03
Mean ach.score	50.14	53.16	53.20	59.04	50.62
Standard dev.	16.91	15.49	16.08	15.90	50.62

Table 83 (cont.)

Differences Between the Mean Achievement Scores  
for Item 17

Compared alternatives	Difference		Significance
a-b	-3.02	-1.68	
a-c	-3.06	-1.92	
a-d	-8.90	-5.33	0.01 level
a-e	-0.48	-0.14	
b-c	-0.04	-0.03	
b-d	-5.88	-3.70	0.01 level
b-e	2.54	0.77	
c-d	-5.84	-4.30	0.01 level
c-e	2.58	0.81	
d-e	8.42	2.61	0.01 level

This item which is mainly related to the extend of open conversation between parents and children, shows significant differences between the group which is strictly against avoiding discussion of sexual matters with the child and all the other groups.

The achievement of children whose parents are open to discussing sexual matters with their children, is significantly higher than those whose parents are partly slightly or completely in agreement with the fact that discussion of sexual matters should be avoided.

This item particularly indicates the positive effect of free parent-child conversation on academic achievement, with the group of parents who may be considered as having open communication with their children having significantly higher achieving children compared to all other groups.

ITEM 28) A child must be taught to consult to his  
 parents whenever he is in trouble.

Table 84

Item Statistics for Item 28

Alternatives	a	b	c	d	e
Frequency	370	234	187	90	39
Percentage	40	25	20	10	04
Mean ach.score	52.79	54.87	53.97	59.37	50.20
Standard dev.	15.92	16.17	17.35	15.34	16.99

Differences Between the Mean Achievement Scores  
 for Item 28

Compared alternatives	Difference		Significance
a-b	-2.08	-1.55	
a-c	-1.18	-0.78	
a-d	-6.58	-3.62	0.01 level
a-e	2.59	0.91	
b-c	0.90	0.54	
b-d	-4.50	-2.33	
b-e	4.67	1.60	
c-d	-5.40	-2.63	0.01 level
c-e	3.77	1.26	
d-e	9.17	2.90	0.01 level

The achievement of children from families who were most tolerant to fighting when necessary was significantly higher compared to all other groups. Children from families where parents strongly disagree with the fact that children must consult to their parents instead of fighting whenever they get into trouble showed the highest achievement.

The results obtained for the items concerned with the aggressive behaviour expected from the child when necessary seem to converge at particular points indicating an increased amount of achievement in families where parents expect their children to be able to manage and handle particular troubles even if it requires fighting or aggressive behaviour.

ITEM 32) A child finally understands that he cannot be any wiser than his parents.

Table 85

Item Statistics for Item 32

Alternatives	a	b	c	d	e
Frequency	37	37	54	745	47
Percentage	04	04	06	81	05
Mean ach.score	52.08	47.21	52.25	54.85	51.9
Standard dev.	18.05	15.54	15.89	16.25	16.90

Differences Between the Mean Achievement Scores for Item 32

Compared alternatives	Difference	Significance
a-b	4.87    1.24	
a-c	-0.17   -0.05	
a-d	-2.77   -0.92	
a-e	0.89    0.23	
b-c	-5.04   -1.51	
b-d	-7.64   -2.91	0.01 level
b-e	-3.98   -1.12	
c-d	-2.60   -1.16	
c-e	1.06    0.32	
d-e	3.66    1.44	

Majority of the parents (81%) are against the view that a child eventually learns that he cannot surpass his parents' wisdom.

Significant differences are observed between the two groups of parents indicating that the achievement of children whose families partly agree with the thought that a child cannot surpass his parents' wisdom is lower than those whose parents are strongly against such an attitude. Because the thought that a child always lacks the wisdom of his parents may imply a sense of superiority felt over the child, disagreement with such a view may reflect a greater respect for the child's individuality and personality, as an attribute of the parents of higher achieving children.

ITEM 33) A child hitting another child can never be tolerated.

Table 86

Item Statistics for Item 33

Alternatives	a	b	c	d	e
Frequency	377	178	203	132	30
Percentage	41	19	22	14	03
Mean ach.score	52.51	54.61	56.76	54.27	52.10
Standard dev.	16.24	16.73	16.00	16.04	18.09

Table 86 (cont.)

Differences Between the Mean Achievement Scores  
for Item

Compared alternatives	Difference		Significance
a-b	-2.10	-1.39	
a-c	-4.25	-3.03	0.01 level
a-d	-1.76	-1.08	
a-e	0.41	0.12	
b-c	-2.15	-1.28	
b-d	0.34	0.18	
b-e	2.51	0.71	
c-d	2.49	1.39	
c-e	4.66	1.34	
d-e	2.17	0.61	

This item, like the other two items on fighting behaviour (item 14 & item 28), indicates the positive effect of tolerance for fighting when necessary, on academic achievement.

The achievement of children where parents are slightly against, hitting another child regardless of the consequences, is higher than those whose parents are strongly against it, which is observed to be a general trend in the families of higher achieving children.

ITEM 40) Loyalty to parents is a priority.

Table 87

Item Statistics for Item 40

Alternatives	a	b	c	d	e
Frequency	328	286	194	95	17
Percentage	36	31	21	10	02
Mean ach.score	51.35	54.67	55.88	57.97	55.17
Standard dev.	16.40	16.56	15.67	15.96	16.25

Differences Between the Mean Achievement Scores  
for Item 40

Compared alternatives	Difference		Significance
a-b	-3.32	-2.49	
a-c	-4.53	-3.14	0.01 level
a-d	-6.62	-3.54	0.01 level
a-e	-3.82	-0.94	
b-c	-1.21	-0.81	
b-d	-3.30	-1.73	
b-e	-0.50	-0.12	
c-d	-2.09	-1.05	
c-e	0.71	0.17	
d-e	2.80	0.66	

Although majority of the parents agree with the view that royalty to parents is a priority, children in this group are observed to achieve less compared to other children whose parents completely disagree or only slightly agree with this view.

In Strict Discipline dimension of PARI, differences in parental attitudes leading to differences in the achievement of children converge at two main points;

- 1) the attitudes of parents concerning disciplinarian and authoritarian tendencies;
- 2) the attitudes of parents concerning the child's aggressive behaviour under necessary conditions.

These findings suggest that parents of higher achievers are strongly against authoritarian attitudes, unquestioned obedience, and strict rules but they have a tendency to accept aggressive behaviour when and if necessary. Another item which deserves special attention is concerned with the discussion of sexual matters with the child. This particular item which seems to be demonstrating the extend of openness in mutual parent-child conversations, was similar results to those obtained for the same attitude in Democracy dimension. Discussion of sexual matters with children, can be interpreted as openness to discussing any kind of matter concerning the child. Here again the results clearly indicate the positive effect of free parent-child communication on achievement.

### Marital Compliance

The last five items related to the extend of marital compliance within the family are not observed to be indicative of the extend of academic achievement actualized by the child. Children in families where parents have different attitudes on resolving conflicts between spouses or the wives hold different views on their husband's role within the family, are not seen to be significantly different in their achievement.

Therefore Marital Compliance, both as a global dimension as well as in terms of specific parental behaviours cannot be considered as having significant relevance to academic achievement of children as far as the results of this study are concerned.

Parent Socialization  
Test Items and the Differences in the Achievement of  
Children whose Parents Share Different Views on  
Parent Socialization

Demands & Age

The alternatives of the Demands & Age questionnaire specify the age until which the behaviours expected from the child are to be learned. The age limits are as follows:

- a) until 7 years of age
- b) until 11 years of age
- c) until 15 years of age
- d) after 15 years of age

The groups are formed in terms of the age until which certain behaviours are demanded.

ITEM 3) To be willing to try new things on his own without depending on his mother for help.

Table 88

Item Statistics for Item 3

Alternatives	a	b	c	d	e
Frequency	336	400	122	20	42
Percentage	.36	43	13	02	05
Mean ach.score	55.52	53.98	53.11	51.25	47.92
Standard dev.	16.00	16.88	14.96	15.65	17.43

Table 88 (cont.)

Differences Between the Mean Achievement Scores  
for Item 3

Compared alternatives	Difference		Significance
a-b	1.54	1.27	
a-c	2.41	1.50	
a-d	4.27	1.18	
a-e	7.60	2.69	0.01 level
b-c	0.87	0.55	
b-d	2.73	0.76	
b-e	6.06	2.15	
c-d	1.86	0.50	
c-e	5.19	1.72	
d-e	3.33	0.75	

The achievement of children whose parents expected them to be willing to try new things without getting help from their mothers was significantly higher than those whose parents had no such expectation.

ITEM 4) To take part in his parents conversations.

Table 89

Item Statistics for Item 4

Alternatives	a	b	c	d	e
Frequency	236	394	179	68	43
Percentage	26	43	19	07	05
Mean ach. score	56.77	54.66	52.66	47.01	51.34
Standard dev.	16.64	15.78	16.37	16.43	16.66

Table 89 (cont.)

Differences Between the Mean Achievement Scores  
for Item 4

Compared alternatives	Difference		Significance
a-b	2.11	1.57	
a-c	4.11	2.51	
a-d	9.76	4.30	0.01 level
a-e	5.43	1.97	
b-c	2.00	1.37	
b-d	7.65	3.57	0.01 level
b-e	3.32	1.25	
c-d	5.65	2.42	
c-e	1.32	0.47	
d-e	-4.33	-1.34	

Achievement of children whose parents expected them to be able to join in their conversation before 7 or 11 years of age was observed to be significantly higher than those whose parents expected such behaviour after 15 years of age.

This result indicating willingness of the parents to have conversation with their children at an earlier age, is in line with the findings obtained in parental attitudes on child rearing practices where parents of higher achievers are observed to favour a greater extend of communication with the child.

This particular characteristic appears to be a major attribute of families where children show higher academic achievement compared to those with less emphasis on parent-child communication.

ITEM 5) To try hard things for himself without asking for help.

Table 90

Item Statistics for Item 5

Alternatives	a	b	c	d	e
Frequency	17	355	292	127	29
Percentage	13	39	32	14	03
Mean ach.score	56.71	56.62	52.25	49.73	50.27
Standard dev.	16.12	16.21	16.29	15.84	16.10

Differences Between the Mean Achievement Scores for Item 5

Compared alternatives	Difference	Significance	
a-b	0.09	0.05	
a-c	4.46	2.52	
a-d	6.98	3.41	0.01 level
a-e	6.44	1.93	
b-c	4.37	3.40	0.01 level
b-d	6.89	4.18	0.01 level
b-e	6.35	2.04	
c-d	2.52	1.48	
c-e	1.98	0.63	
d-e	-0.54	-0.16	

In this item too, significant differences are observed between children whose parents expect them to try to manage difficult tasks before 7 or 11 years of age and those whose parents expect such a behaviour after 15 years of age. This finding is in line with the results obtained for specific parental attitudes on child rearing where avoidance from attempting difficult tasks is observed to

be favoured more by the families of lower achieving students

Also in line with the findings observed for item 4 , an earlier age of demand by the parents goes together with higher achievement of the child,

ITEM 11) To be able to stay at home alone during the day.

Table 91

Item Statistics for Item 11

Alternatives	a	b	c	d	e
Frequency	73	626	183	15	23
Percentage	08	68	20	02	02
Mean ach.score	55.00	54.79	52.86	47.73	46.08
Standard dev.	16.74	16.34	16.28	14.75	15.43

Differences Between the Mean Achievement Scores for Item 11

Compared alternatives	Difference		Significance
a-b	0.21	0.10	
a-c	2.14	0.93	
a-d	7.27	1.70	
a-e	8.92	2.37	
b-c	1.93	1.41	
b-d	7.06	1.83	
b-e	8.71	2.65	0.01 level
c-d	5.13	1.28	
c-e	6.78	1.97	
d-e	1.65	0.33	

The group of children who were expected to be able to stay at home alone by themselves before the age of 11 showed significantly higher achievement compared to those whose parents had no such expectation. The achievement of children was observed to increase as the age until which the parents expected their child to stay at home alone decreased.

When "Demands & Age" questionnaire is considered in terms of the differences in achievement, only four items out of 15 are observed to show significant differences between groups. The behaviours, which result in higher achievement if they are expected at an earlier age, do not point to a specific direction. These items are concerned with the demands on willingness to try new or difficult tasks without help, to be able to stay at home alone, and to be able to join in conversation with parents. The fact that earliness in expectation to join in parents' conversation results in significantly higher achievement, is in accordance with the results obtained for similar questions in child rearing attitudes dimension, where a positive parental attitude towards open discussion and free conversation was found to favour achievement. The earliness of demands on developing hobbies, tidiness, helping daily housework, was not observed to result in any differences in achievement. Most of the other items however, were observed result in an increase in achievement with a decrease at the age until which this particular demand was expected, though the differences were not significant. On the whole a decrease at the age of expectation was in fact found to result in differences (significant or insignificant) in achievement, favouring earlier ages.

## Demands & Rewards

The alternatives of the Demands and Rewards questionnaire specify the type of reward presented to the child in cases when the behaviour expected from the child is actualized. The types of rewards presented are as follows:

- a) We kiss and hug him/her
- b) We verbally state that we appreciate his/her success
- c) We reward him/her with a present he/she likes
- d) We advise ways for improving

The groups are formed in terms of the reward given to the child.

ITEM 2) To know his way around in the neighbourhood and to play where he wants without getting lost.

Table 92

### Item Statistics for Item 2

Alternatives	a	b	c	d	e
Frequency	71	325	11	305	208
Percentage	08	35	01	33	23
Mean ach.score	54.16	55.76	55.27	51.46	55.26
Standard dev.	16.02	16.33	13.81	16.17	16.62

Table 92 (cont.)

Differences Between the Mean Achievement Scores  
for Item 2

Compared alternatives	Difference		Significance
a-b	-1.60	-0.76	
a-c	-1.11	-0.24	
a-d	2.70	1.28	
a-e	0.49	0.11	
b-c	4.30	3.32	0.01 level
b-d	0.50	0.34	
b-e	3.81	0.89	
c-d	0.01	0.00	
c-e	-3.80	-2.57	

Significant of children who were rewarded verbally for being able to play in the neighbourhood without getting lost; was observed to be significantly higher than those who were advised for further improvement of that particular behaviour.

ITEM 4) To take part in his parents conversations.

Table 93

Item Statistics for Item 4

Alternatives	a	b	c	d	e
Frequency	63	249	13	313	282
Percentage	07	27	01	34	31
Mean ach.score	58.42	55.58	51.53	51.43	54.89
Standard dev.	16.55	15.72	16.35	16.36	16.56

Table 93 (cont.)

Differences Between the Mean Achievement Scores  
for Item 4

Compared alternatives	Difference		Significance
a-b	2.84	1.23	
a-c	6.89	1.38	
a-d	6.99	3.06	0.01 level
a-e	3.53	1.53	
b-c	4.05	0.87	
b-d	4.15	3.05	0.01 level
b-e	0.69	0.49	
c-d	0.10	0.02	
c-e	-3.36	-0.72	
d-e	-3.46	-2.56	

Significant differences were observed between achievement of children whose parents use verbal or physical (kissing and hugging) rewarding modes and those whose parents prefer advising for improvement in cases when parental demands are actualized, favouring those who reward verbally or physically.

The fact that, children whose parents react in cases when their demands are actualized in such a way as to advice better ways for improvement, achieve lower than children on who are rewarded by other means is encountered in most of the cases where a significant difference is observed.

ITEM 6) To make his own friends among children his own age.

Table 94

Item Statistics for Item 6

Alternatives	a	b	c	d	e
Frequency	75	401	11	205	228
Percentage	08	43	01	22	25
Mean ach. score	51.68	55.08	54.00	51.18	55.77
Standard dev.	16.63	16.14	16.07	16.56	16.24

Differences Between the Mean Achievement Scores for Item 6

Compared alternatives	Difference		Significance
a-b	-3.40	-1.63	
a-c	-2.32	-0.45	
a-d	0.50	0.22	
a-e	-4.09	-1.86	
b-c	1.08	0.22	
b-d	3.90	2.77	0.01 level
b-e	-0.69	-0.51	
c-d	2.82	0.57	
c-e	-1.77	-0.36	
d-e	-4.59	-2.91	0.01 level

Achievement of children whose parents advice for improvement when children make friends by themselves; was observed to be lower than those whose parents reward such a behaviour through verbal appraisal or those who do not consider such a behaviour as worth rewarding.

This result also shows that what makes a difference between groups is the type of reward provided rather than the type of behaviour particular to the item. Here again it's possible to conclude that advising for improvement is a characteristic of the parents of the lower achieving group.

ITEM 7) To do well in school on his own.

Table 95

Item Statistics for Item 7

Alternatives	a	b	c	d	e
Frequency	238	374	101	112	95
Percentage	26	41	11	12	10
Mean ach.score	55.43	55.17	52.97	49.37	53.29
Standard dev.	15.38	16.93	15.69	15.96	16.92

Differences Between the Mean Achievement Scores  
for Item 7

Compared alternatives	Difference		Significance
a-b	0.26	0.20	
a-c	2.46	1.33	
a-d	6.06	3.35	0.01 level
a-e	2.14	1.07	
b-c	2.20	1.23	
b-d	5.80	3.33	0.01 level
b-e	1.88	0.97	
c-d	3.69	1.66	
c-e	-0.32	-0.14	
d-e	-3.92	-1.70	

Achievement of children whose parents reward academic success with a present, was observed to be lower than those whose parents use physical reward (kissing or hugging) or verbal appraisal.

ITEM 8) To earn his own spending money.

Table 96

Item Statistics for Item 8

Alternatives	a	b	c	d	e
Frequency	104	393	85	108	230
Percentage	11	43	09	12	25
Mean ach.score	57.69	54.00	53.78	50.87	54.26
Standard dev.	14.93	16.30	17.22	15.44	17.00

Differences Between the Mean Achievement Scores for Item 8

Compared alternatives	Difference	Significance
a-b	3.69	2.20
a-c	3.91	1.65
a-d	6.82	3.27
a-e	0.22	1.86
b-c	0.22	0.11
b-d	3.13	1.84
b-e	-0.26	-0.19
c-d	2.91	1.22
c-e	-0.48	-0.22
d-e	-3.39	-1.82

The achievement of children whose parents use physical rewarding modes when their children could earn

pocket money , was higher than those whose parents prefer advising for improvement of such a behaviour.

ITEM 11) To be able to stay at home alone during the day.

Table 97

Item Statistics for Item 11

Alternatives	a	b	c	d	e
Frequency	171	301	102	114	232
Percentage	19	33	11	12	25
Mean ach.score	55.52	53.69	51.25	50.66	56.50
Standard dev.	16.88	16.31	15.74	15.70	16.28

Differences Between the Mean Achievement Scores for Item 11

Compared alternatives	Difference	Significance	
a-b	1.83	1.15	
a-c	4.27	2.11	
a-d	4.86	2.48	
a-e	-0.98	-0.58	
b-c	2.44	1.34	
b-d	3.03	1.74	
b-e	-2.81	-1.97	
c-d	0.59	0.28	
c-e	-5.25	-2.78	0.01 level
d-e	-5.84	-3.21	0.01 level

The achievement of children is significantly different between groups of parents who do not consider staying home alone during the day as worth rewarding and those who reward such a behaviour by a present or suggest

ways of improvement. The observed differences show that the achievement of children whose parents consider such a behaviour as natural or unworthy of a reward, was higher compared to other two groups.

ITEM 12) To compete to win in sports and games.

Table 98

Item Statistics for Item 12

Alternatives	a	b	c	d	e
Frequency	123	370	105	202	120
Percentage	13	40	11	22	13
Mean ach.score	54.87	55.57	53.12	51.30	54.30
Standard dev.	16.07	16.91	16.73	15.71	15.34

Differences Between the Mean Achievement Scores for Item 12

Compared alternatives	Difference	Significance	
a-b	-0.70	-0.41	
a-c	1.75	0.80	
a-d	3.57	1.96	
a-e	0.57	0.28	
b-c	2.45	1.32	
b-d	4.27	3.02	0.01 level
b-e	1.27	0.77	
c-d	1.82	0.92	
c-e	-1.18	-0.55	
d-e	-3.00	-1.68	

Achievement of children whose parents use verbal appraisal when their children compete to win in sports and

games, was observed to be higher than those whose parents advise ways of improvement.

ITEM 13) To be able to assert himself in children's groups.

Table 99

Item Statistics for Item 13

Alternatives	a	b	c	d	e
Frequency	65	438	11	200	206
Percentage	07	48	01	22	22
Mean ach.score	53.86	55.39	48.45	50.44	55.27
Standard dev.	17.27	16.12	19.11	16.29	16.10

Differences Between the Mean Achievement Scores for Item 13

Compared alternatives	Difference		Significance
a-b	-1,53	-0.67	
a-c	5.41	0.88	
a-d	3.42	1.41	
a-e	-1.41	-0.58	
b-c	6.94	1.19	
b-d	4.95	3.57	0.01 level
b-e	0.12	0.09	
c-d	-1.19	-0.34	
c-e	-6.82	-1.16	
d-e	-4.83	-3.00	

The achievement of children who suggest ways for improving the child's assertive behaviour among friends was observed to be lower than those whose parents reward

such a behaviour verbally or do not consider it worth rewarding at all.

### Restrictions & Age

The alternatives of Restrictions and Age questionnaire specify the age until which the behaviours restricted from the child are to be learned. The age limits are as follows:

- a) until 7 years of age
- b) until 11 years of age
- c) until 15 years of age
- d) permanently

The groups are formed in terms of the age until which certain behaviours are restricted.

ITEM 5) To be respectful and not to interfere with adults.

Table 100

#### Item Statistics for Item 5

Alternatives	a	b	c	d	e
Frequency	87	125	178	404	126
Percentage	09	14	19	44	14
Mean ach.score	54.64	56.68	51.53	53.14	57.84
Standard dev.	16.43	15.53	16.10	16.70	15.67

Table 100 (cont.)

Differences Between the Mean Achievement Scores  
for Item 5

Compared alternatives	Difference		Significance
a-b	-2.04	-0.91	
a-c	3.11	1.46	
a-d	1.50	0.77	
a-e	-3.20	-1.42	
b-c	5.15	2.80	0.01 level
b-d	3.54	2.19	
b-e	-1.16	-0.59	
c-d	-1.16	-1.10	
c-e	-6.31	-3.42	0.01 level
d-e	-4.70	-2.89	0.01 level

The achievement of children who are restricted from opposing or answering back to their parents up to 15 years of age or permanently is observed to be significantly lower than those who are not subjected to such a restriction at all.

ITEM 12) To disobey parental decisions concerning the way he should be dressed.

Table 101

Item Statistics for Item 12

Alternatives	a	b	c	d	e
Frequency	172	288	196	51	213
Percentage	19	31	21	05	23
Mean ach. score	55.75	53.20	51.61	51.43	56.89
Standard dev.	15.75	16.02	17.11	15.07	16.51

Table 101 (cont.)

Differences Between the Mean Achievement Scores  
for Item 12

Compared alternatives	Difference		Significance
a-b	2.55	1.67	
a-c	4.14	2.42	
a-d	4.32	1.78	
a-e	-1.14	-0.69	
b-c	1.59	1.03	
b-d	1.77	0.77	
b-e	-3.69	-2.50	
c-d	0.18	0.07	
c-e	-5.28	-3.17	0.01 level
d-e	-5.46	-2.28	

The achievement of children whose parents consider restricting the child from choosing his clothes freely as meaningless, was observed to be higher than the achievement of children who are not allowed to choose their cloths freely until 15 years of age.

When the results obtained in the "Restrictions & Age" questionnaire were considered altogether, it was seen that the age until which children are restricted from certain behaviours does not result in differences in achievement. The only two behaviours which were observed to favour achievement were; the parental tolerance for arguing against and opposing to the parents or freedom in choosing what to wear. The fact that arguing with parents is easily tolerated by the parents of higher achievers is in line with other findings related to open conversation with parents. Different tolerance levels for noisiness, naughtiness, dangerous experiments, untidiness does not result in changes in achievement.

## Restrictions & Punishments

The alternatives in the Restrictions & Punishments questionnaire specify the alternatives to be given when the restrictions put by the parents are violated. The alternatives are:

- a) we may spank him
- b) we shout at him
- c) we deprive him of something he likes
- d) we explain the reason for restricting that behaviour and advise

The groups are formed in terms of the kind of punishment given to the child.

ITEM 7) To play with children he doesn't know or his parents don't approve.

Table 102

### Item Statistics for Item 7

Alternatives	a	b	c	d	e
Frequency	4	71	54	735	56
Percentage	00	08	09	80	06
Mean ach.score	43.25	52.46	55.42	54.45	50.92
Standard dev.	7.46	15.86	15.84	16.57	14.95

Table 102 (cont.)

Differences Between the Mean Achievement Scores  
for Item 7

Compared alternatives	Difference		Significance
a-b	-9.21	-2.21	
a-c	-12.17	-2.83	0.01 level
a-d	-11.20	-2.97	
a-e	-7.67	-1.81	
b-c	-2.96	-1.03	
b-d	-1.99	-1.01	
b-e	1.54	0.56	
c-d	0.97	0.43	
c-e	4.50	1.53	
d-e	3.53	1.69	

Majority of the parents give the reason for restricting the child from playing with people who are not approved or known by the parents. The achievement of children who are given explanation for restriction was significantly higher than those who are spanked for violating such a restriction. However, the physical punishment (spanking) group consists of only four children, which makes the result questionable.

ITEM 11) To try to do things around the house where he will be in the way.

Table 103

Item Statistics for Item 11

Alternatives	a	b	c	d	e
Frequency	4	230	41	440	205
Percentage	00	25	04	48	22
Mean ach.score	32.75	53.01	55.85	53.83	55.95
Standard dev.	17.04	16.29	17.62	16.23	16.20

Differences Between the Mean Achievement Scores for Item 11

Compared alternatives	Difference	Significance
a-b	-20.26    -2.36	
a-c	-23.10    -2.58	0.01 level
a-d	-21.08    -2.46	
a-e	-23.20    -2.70	0.01 level
b-c	-2.84    -0.96	
b-d	-0.82    -0.62	
b-e	-2.94    -1.88	
c-d	2.02    0.71	
c-e	-0.10    -0.03	
d-e	-2.12    -1.55	

The achievement of children who were spanked for hindering housework was observed to be significantly lower than those who were deprived of something they like or those whose parents did not consider such a punishment necessary.

ITEM 15) To cause trouble while playing with friends because of his will to win.

Table 104

Item Statistics for Item 15

Alternatives	a	b	c	d	e
Frequency	5	41	19	345	510
Percentage	00	04	02	37	55
Mean ach.score	46.00	56.24	62.10	55.72	52.60
Standard dev.	20.45	16.81	13.13	16.30	16.29

Differences Between the Mean Achievement Scores for Item 15

Compared alternatives	Difference		Significance
a-b	-10.24	-1.08	
a-c	-16.10	-1.67	
a-d	-9.72	-1.06	
a-e	-6.60	-0.72	
b-c	-5.86	-1.47	
b-d	0.52	0.19	
b-e	3.64	1.34	
c-d	6.38	2.03	
c-e	9.50	3.07	0.01 level
d-e	3.12	2.75	0.01 level

Significant differences were observed in the achievement of children who were grouped in terms of the way they were punished for causing trouble in games due to their will to win all the time. The achievement of children who did not consider such a behaviour as a cause of punishment was observed to be lower than those who were

either deprived of something they liked or simply informed about the negative aspect of their behaviour.

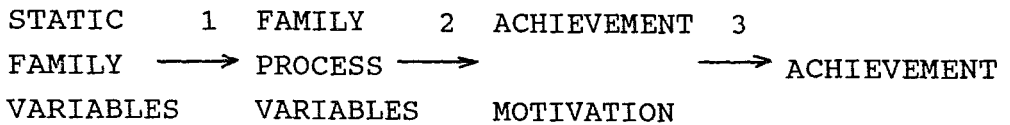
When all the items belonging to the Restrictions & Punishments questionnaire were considered altogether, majority of the parents were observed to avoid punishment, and preferred to explain their children why they restricted those behaviours. Physical punishment was generally avoided and the very small group of children who were subjected to physical punishment for violating restrictions were observed to achieve lower than all the other groups although the differences were not significant for most of the cases.

Only three items out of 15 were observed to show significant differences between groups in terms of achievement. In two of these items, one of the groups showing significant difference (physical punishment group), consisted of very small number of people (only 4 people in one item and 5 in the other). Therefore information obtained in these two items is questionable. So there is only one item where the differences among groups are worth mentioning. This item is concerned with the will to win. Majority of parents did not think of punishing their children because of the trouble they make due to their will to win. However the achievement of children whose parents somehow restricted their child from causing trouble due to their will to win in games, was observed to be higher than the group which was not subjected to such a restriction. Although not directly concerned with academic achievement, this item reflects the existence of a negative attitude towards the will to win with a positive consequence on achievement.

## DISCUSSION

The relationship between the variables in the model and their impact on each other was discussed through the use of Pearson Product Moment Correlations, Analysis of Variance and Regression Analysis results. The discussion of relations between the variables was carried out through the order stated in the model:

- 1) Static Family Variables and Process Variables
- 2) Family Process Variables and Achievement Motivation
- 3) Achievement Motivation and Achievement



The direct effect of static family variables on achievement motivation or achievement; and the direct effect of family process variables on achievement are also discussed in order to cover interactions between all the variables in the model.

The intercorrelations between the variables in the same family dimension ( ie. intercorrelations between static family variables and intercorrelations between family process variables ) are included in the discussion at points where further clarification or justification of the relations are needed.

## Static Family Variables and Family Process Variables

### Parent Education

Both mother education level and father education level were influential over child rearing practices and home educational environment. Although the magnitude and direction of their influence was similar, mother education level was observed to have a greater influence on child rearing practices whereas father education level was more influential on the educational environment of the home. For both parents the democracy dimension increased with an increase in the level of education whereas overprotective and strict disciplinarian attitudes decreased. For educational environment of the home, an increased level of parental education was observed to lead to a more positive educational environment of the home, with higher value and emphasis placed on educational activities.

The influence of mother education level on overall family process variables had a wider range compared to father education level. Mother education level was also influential over Parent Socialization dimension whereas no such influence was observed for father education level. In Parent Socialization dimension, mother education determined the age at which certain behaviours were expected of the child and the kinds of punishments to be given when parental restrictions were violated by the child. An increase in the level of mother education lead to a decrease in the age at which certain behaviours were expected of the child, as well as a decrease in the intensity of punishments given to the child.

Considering the relatively high correlation between father education level and mother education level (0.5973), it was possible to claim that in most families parents had similar education levels, so their effect on family process variables was not contradictory. Therefore in homes where parents were more educated, child rearing

practices were more democratic, less overprotective, less disciplinarian and there was a more advantaged educational environment, compared to families where parent education level was lower. in line with more democratic and less overprotective behaviour, high education level especially that of the mother lead to expectation of independent behaviour at an earlier age. Similarly in line with less disciplinarian attitudes, in families where educational level of the mother was high, children were subjected to less severe punishments.

The Pearson Product Moment correlations indicated the existence of a linear relationship and ANOVA results gave no clue as to the existence of a nonlinear relation between parental education level and family process variables. This made it possible to conclude that the relation between parent education level and Family process variables was a linear one.

To see the most crucial parental education level which lead to differences in the family process dimensions ANOVA results were reccsidered.

When child rearing practices were considered the major educational level which resulted in differences in achievement was observed to be "higher education level" for the mother. Although no differences were observed in the overprotective, disciplinarian or democratic attitudes of mothers with primary, secondary or lycee education; mothers who had higher education were less overprotective, less disciplinarfan and more democratic than mothers with less education. For father educational level, differences between the groups were observed only in the strict discipline dimension. Here fathers with primary education, showed more disciplinarian attitudes compared to fathers with lycee or higher education. On the whole strict discipline was observed to be a characteristic of families where the mother had no higher education, or where the father was a primary school graduate. A decrease in overprotective and democratic attitudes was observed to be a function of higher education level of the mother.

In considering Parent Socialization dimension; differences were observed in the two extreme groups. That is mothers with higher education expected their children to behave independently at an earlier age compared to mothers with primary school education. Father education level did not result in any significant differences between the groups.

Home educational environment was considered separately for value placed on education and educational aspirations of the parents. For both dimensions groups with higher education (both father and mother) were observed to be the main cause of difference. That's it was having higher education or not, which lead to differences in the value placed on education, or educational aspirations of parents. Generally lower levels of parent education was not enough to result in significantly higher levels of value or aspirations for the educational activities of the child.

When type of parental education was considered along with level of parental education, significant differences mainly in child rearing practices and home educational environment were observed.

Mother education in scientific and technical fields was observed to result in less overprotective and disciplinarian attitudes compared to other groups. Mother education in scientific and technical fields also showed differences in the Restrictions & Punishments dimension compared to mother education in the arts field where mothers from scientific and technical fields were less severe in their punishments than mothers from the arts. Another parental process variable which graduation from scientific field made a difference was value placed on education where graduates of technical or scientific fields valued education more compared to graduates of arts or education.

Differences in father education type lead to differences only in the home educational environment. Similar to the results obtained in mother education type;

the most pronounced education type leading to differences was observed to be scientific and technical. Parents where the father was a graduate of a scientific or technical field, had higher educational aspirations and higher value placed on education.

When variables concerned with parent education and family variables were combined, it could be concluded that; parents with higher education especially those from scientific or technical fields, tend to be more democratic, less overprotective, less disciplinarian, earlier in demanding independent behaviour, show preference for mild punishments, have higher educational aspirations for the child, and place higher value on the education of the child.

#### Stated Economic Level

Pearson Product Moment correlations indicated that, as the economic level stated by the parents increased, there was a movement towards more positive educational environment in the home. The existence of a curvilinear relationship was not evidenced by ANOVA results. Therefore home educational environment could be concluded to show a linear relationship with stated economic level. The existence of neither linear, nor nonlinear relationship was evidenced through stated economic status and other parental variables, except for Restrictions & Age, indicating that as the stated economic level increased parents tended to be earlier in their restrictions. So it was possible to conclude that parents who stated themselves to be in higher economic levels, provided a better educational environment for the child at home, but they imposed certain restrictions at an earlier age, compared to other parents.

#### Birthorder

The results of Pearson Product Moment correlations and Analysis of Variance, did not show any evidence of the existence of a linear, nor a nonlinear relationship between birthorder and family process variables.

## Family Process Variables and Achievement Motivation

The results obtained between family process variables and achievement motivation were not in line with the expected results. Achievement motivation was observed to show very low correlations with the process variables in the model. The only two variables which showed considerably higher correlations with higher significance were; Overprotection and Restrictions & Punishments dimensions. Achievement motivation of children increased as parents showed relatively more overprotective attitudes. Similarly an increase in the achievement motivation of children was observed as parents got more severe in their punishments.

In an attempt to discover more about achievement motivation and its interaction with parental variables in the model, ANOVA results related to the differences in achievement motivation of children with different static or dynamic family variables were reconsidered. However, achievement motivation of children was not observed to show any significant differences across groups with different family characteristics. So the possibility for the existence of a curvilinear relationship between achievement motivation and the parental variables in the model was excluded. Furthermore, when the direct relation of static family variables with achievement motivation (Pearson Product Moment Correlations between achievement motivation and static family variables) were considered, no significant correlations were observed.

Therefore the only conclusion which could be drawn out was that a tendency towards overprotective attitudes, and an increased intensity in punishments fostered achievement motivated behaviour of children. This result however was completely contradictory to the past research findings. Past research indicated the existence of a

negative correlation between achievement motivation and overprotective attitudes. Similarly more intense punishment modes of parents were observed to be related to decreased levels of achievement motivated behaviour, in studies about achievement motivation. Possible explanations concerning the low number of contradicting results obtained for achievement motivation are to be discussed later in this section.

### **Achievement Motivation and Achievement**

Achievement motivation and achievement of children was not observed to be related to each other neither in the form of a linear nor a curvilinear relationship (based on the results obtained Pearson Product Moment Correlations and ANOVA results).

Another important result which has implications concerning the nature of the relationship between achievement motivation and achievement is the contradictory findings obtained between certain parental characteristics and achievement or achievement motivation. Overprotection and Restrictions & Age were found to be positively related to achievement motivation but negatively related to achievement of children. This contradictory finding is not an expected one, because based on the defining characteristics and literature on achievement motivation and achievement, these parental characteristics are expected to be related to both achievement and achievement motivation in the same direction.

However the appearance of parental practices associated with high grades in children, with potentially debilitating motivational patterns, was also discussed in Mussen (1983), on a review of socialization research related to achievement motivation. Several studies by Miller 1970, Crandall & Battle, Teichmann, Gollnitz &

Gohler 1975 (cited in Mussen 1983) and Metcalf & Gaier (1987) were observed to show that a high degree of parental dominance, intrusive help and criticism was related to high grades but had a debilitating effect on achievement motivation. Therefore it was concluded that achievement motivational patterns should be distinguished from achievement.

Although the findings in this study lead to conclusions in line with this argument, it's important to reconsider other probable causes for the absence of a relationship between achievement and achievement motivation.

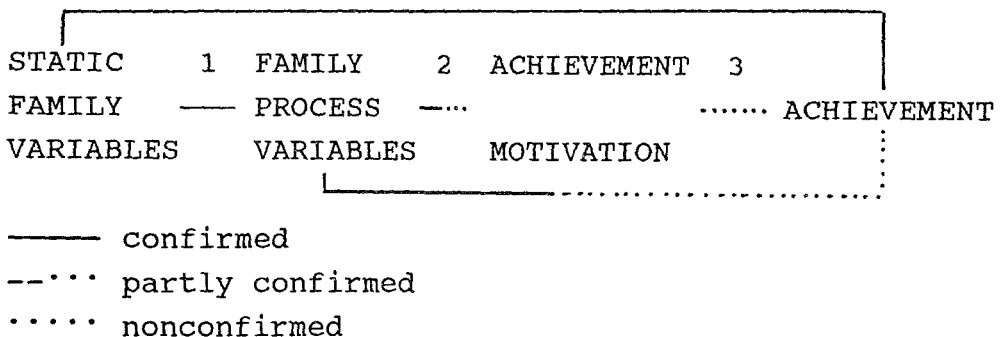
The nonexistence of a relationship between achievement motivation and achievement as well as the low number of contradictory correlations between achievement motivation and other parental variables necessitates further explanation of the concept of achievement motivation as it stands within the context of this study.

Prior to reconsideration and discussion of "Achievement Motivation" within the context presented in the study; the results concerning the relationships in the model could be summed up as follows:

- 1- Most of the static family variables were observed to be influential over family process variables, thus confirming the relation between the first two dimensions (1) of the model.
  - a- The static family variable which was observed to be most influential over the family process variables was Mother Education Level.
  - b- The family process variable which was observed to be most intensely effected by static family variables was Home Educational Environment.
  - c- The static family variable which was observed to have negligible influence over family process variables was Birthorder.
  - d- The family process variables which were observed to be the least influenced by static family variables were Marital Compliance and Demands & Age.
- 2- Only two family process variables, Overprotection and Restrictions & Age were observed to be related to Achievement Motivation of children, thus partly confirming the second part (2) of the model
- 3- Achievement Motivation of children was observed to be unrelated to achievement of children, thus failing to confirm the third part (3) of the model.
- 4- When the direct effect of static family variables on achievement motivation was considered, none of the static family variables were observed to be related to the achievement motivation of children.

- 5- When the direct effect of static family variables on achievement was considered, mother education and father education were observed to be influential over the achievement of children.
- 6- When the direct relation of family process variables with achievement was considered, Democracy, Overprotection, Strict Discipline, Demands & Age, and Home Educational Environment were observed to be related to the achievement of children. Home Educational Environment was the most effective parental variable in explaining the percent of variance in academic achievement.
- 7- In cases where relations were observed between the variables, these relations were observed to be linear in nature. No curvilinear relationship was evidenced between the variables in the model.

In sum the confirmed, partly confirmed and nonconfirmed relations between the variables in the model can be listed as follows:



When the most significant correlations between the variables in the model were considered the global characteristics of the families whose children achieve higher compared to other children could be represented by the following schema. The most important parental variables effecting achievement as determined by Regression Analysis were found to be; Mother Education Level, Strict Discipline, and Home Educational Environment

(underlined variables in Figure 3). Important parental characteristics (static and dynamic family variables) related to high academic achievement of children are presented in Figure 3.

Figure 3

Important Parental Variables Related to Academic Achievement of Children

Static Family Characteristics	Family Process Characteristics
<p><u>Higher Educated Parents</u></p> <p>Parents with a Degree in Scientific &amp; Technical Field</p>	<p>-More Democratic Attitudes</p> <p>-Less Overprotective Attitudes</p> <p><u>-Less Disciplinarian Attitudes</u></p> <p>-Earlier Demand of Independent Behaviour</p> <p>-Preference for Mild Punishments</p> <p><u>-Higher Educational Aspirations</u></p> <p><u>-Higher Value Placed on Education</u></p>

These general parental factors resulting in higher achievement of the child were considered in terms of the correlations between them, in order to see if there were any inconsistencies regarding the coexistence of these process factors within the same family unit. In order to conclude for a consistency, the correlations between these family process factors should be in the expected directions stated below:

Positive correlations are expected between:

- Democratic attitudes and Demands & Age
- Democratic Attitudes and Home Educational Environment
- Overprotective Attitudes and Disciplinary Attitudes
- Overprotective Attitudes and Restrictions & Punishments
- Disciplinary Attitudes and Restrictions & Punishments
- Demands & Age and Home Educational Environment

Negative correlations are expected between:

- Democratic Attitudes and Overprotective Attitudes
- Democratic and Disciplinary Attitudes
- Overprotective Attitudes and Demands & Age
- Overprotective Attitudes and Home Educational Environment
- Disciplinary Attitudes and Demands & Age
- Disciplinary Attitudes and Home Educational Environment
- Demands & Age and Restrictions & Punishments
- Restrictions & Punishments and Home Educational Environment

All the correlations were observed to be in the expected direction except for Overprotection and Democracy (0.0809) or Home Educational Environment (0.0035), which showed positive instead of negative correlations. But because these correlations were negligibly low and insignificant, they were not considered as causing serious contradictions. so it's possible to find all the parental variables presented in Figure within the same family unit.

Therefore it could be concluded that, parents with higher education (especially those who were graduates of scientific and technical fields), tended to be more democratic, less overprotective, less disciplinary,

earlier in demanding independent behaviour, showed preference for mild punishments, had higher educational aspirations for the child, and placed more value on education of the child. All these parental characteristics ( except preference for mild punishment modes) were in turn observed to be significantly related to high academic achievement of the child.

### **Achievement Motivation Reconsidered**

Possible explanations for low and contradictory correlations obtained between achievement motivation and achievement of children as well as those between achievement motivation and parental variables could be listed as follows:

- 1- Homogeneity of the sample population in terms of achievement motivation scores.
- 2- The dominant effect of ability over achievement motivation in explaining the variance in achievement.
- 3- Problems concerning the content validity of the Achievement Motivation Test.
- 4- The relative position of achievement motivation within the sample population.

## **Homogeneity of the sample population in terms of Achievement Motivation**

The nonexistence of a relationship between achievement motivation and achievement could be explained by homogeneity of the sample in terms of achievement motivation scores. The homogeneity of the sample population was regarded as an advantage at the beginning of the study, because it was recommended by the past researchers that closer connections between achievement motivation and achievement could be trapped by using more homogeneous samples. However achievement motivation of the sample showed the smallest variance compared to all other variables included in the model. This meant that homogeneity of the sample was reflected most pronouncedly on the achievement motivation dimension, compared to all other dimensions in the study. Although homogeneity of the sample in terms of achievement motivation could be proposed as an explanation for the nonexistence of a relationship between achievement motivation and achievement, it does not explained the existence of contradictory results obtained between achievement motivation and family process variables.

## **The Dominant Effect of Ability over Achievement Motivation**

As mentioned in the above explanation the homogeneity of the sample was recommended in order to cluster the subjects within similar ability levels and most preferably towards the upper end of ability distribution. The reason for such a sampling preference was explained through the fact that accomplishments depended on motivation after a certain point of intelligence on. Similarly below a lower limit of ability motivation became irrelevant. The subject in this study were in fact assumed to be homogeneous in terms of their ability, clustering at the upper levels (due to the fact that they were a selected group). However although the homogeneity of the group was reflected in the form of homogeneity in the achievement motivation levels, this might not have been true for the case of ability.

Therefore the differences in achievement might be more related to the differences in ability than differences in motivation.

The predominance of the effect of ability over the effect of motivation in predicting achievement, is in no way a negligible amount. In some studies the correlation coefficient based on motivation alone was raised from 0.30's to 0.60's with the inclusion of aptitude scores (Weiss et al. , 1959; Dember et al.,1962). Therefore although the sample was a selected group, such a large contribution of ability in explaining achievement might not have been eliminated.

### **Content Validity of Achievement Motivation Instrument**

Achievement motivation Instrument was developed based on the past research results concerning achievement motivated behaviour and through the use of items related to achievement oriented behaviour in Eysenk Personality Inventory and Edwards Personal Preference Schedule.

The content validity of the instrument was established through calculating the correlation between, newly prepared Achievement Motivation Test and total score obtained from the items concerned with the need for achievement in Edwards personal Preference Schedule, taken by a group of fifth grade students. the correlation was found to be 0.54, which was considered acceptable to conclude for the content validity of the instrument.

However the results obtained in the study have lead to considerable doubts concerning the validity of the instrument. the validity of the instrument was questioned particularly due to the low but significant correlations obtained between two family process variables (Overprotection and Restrictions & Punishments), which were contradicting with the correlations obtained between these parental variables and achievement.

The results lead to the conclusion that, certain parental behaviours or attitudes favored the development of achievement motivation while hindering the development of achievement, like in the case of overprotection. The fact that certain factors should produce opposite forces on achievement motivation and achievement was not easy to understand as by its very definition achievement motivation is destined to go parallel with achievement. So the content validity of the Achievement Motivation Test was reconsidered. It was possible that what was measured for achievement motivation was in fact a desire to achieve developed through relatively more intense punishment modes and overprotective child rearing attitudes. Such a desire to achieve might not necessarily lead to an increase in achievement because it represents parental pressure rather than an activated motivation to achieve. Achievement Motivation scores might reflect an anxious desire to succeed in order to get parental approval or avoid disapproval. However although this might provide an explanation for the low and contradicting correlations obtained for achievement and achievement motivation, it could not be backed up with the existing data and findings.

#### **The Relative Value of Achievement Motivation within the Sample Population**

Another explanation is concerned with the relative value given to achievement motivated behaviour by the parents in the sample population participating in the study.

Crosscultural research on achievement motivation indicates to the existence of a low achievement motivation level in Turkey (McClelland, 1961; Bradburn, 1963; Benedict, 1974). However Kaoitçibafi (1972) based on her study on a group of high school students in Turkey claims that, achievement motivation may take different forms in different cultures and different situations and that it is not possible to generalize the existence of low achievement motivation level for Turkey.

Two possible conclusions may be drawn from these studies and viewpoints concerned with achievement motivation in Turkey; either achievement motivation exists in low levels or it exists in other forms than that conceptualized by McClelland. In either case different values are to be attributed to achievement motivated behaviour.

Another area of research closely related to achievement motivated behaviour is the traditional attitudes towards competitive behaviour. Competitive strivings, Competitive strivings and envy was found to be considered as shameful in Turkish society, at least within the traditional circles.

The negative attitude towards envy was most strikingly evidenced in the first item of the Achievement Motivation test where majority (a total of 97%) of children claimed that they never (60%) or only seldom (37%) envied students who got higher grades.

The entrance exam stands as a very Competitive experience which may lead to many comparisons and envy activated by the desire to win. However cultural values functioning within the population sample might be acting in such away that while there actually is a desire to succeed, background habits and attitudes conflict with achievement motivated behaviour. therefore instead of a conscious channelling toward achievement motivated behaviour, there might be an unclear approach to achievement or achievement oriented behaviours. Theses unstable parental values and attitudes concerned with achievement and achievement means might have shown itself on student answers concerned with achievement motivated behaviour thus failing to make a sharp distinction between different levels of achievement motivated behaviour.

## IMPLICATIONS OF THE STUDY

The aim of the study was to identify parental factors which go together with the differences in the achievement motivation level of children thus resulting in differences in their academic achievement level.

Although the results indicated the parental behaviours/attitudes related to different achievement levels, they failed to identify the function of achievement motivation in causing this differences in the achievement level.

In other words, although achievement of children was found to vary in different families with different parental characteristics, no such differences were observed for achievement motivation. Achievement motivation was observed to be completely uncorrelated with the other variables in the model (the reasons of which were discussed in the Discussion section.

Thus the results lacked the explanation on how these parental variables functioned so that they resulted in differences in student achievement. Nevertheless, although an explanation concerning student dimension was lacking, parental variables directly related to high academic achievement were considered worth mentioning. As a matter of fact, the main intention of the study was to provide guidelines in parental characteristics related to high academic achievement of children. Differences in the student dimension, namely achievement motivation, resulting from the differences in the parental variables was regarded to have a theoretical, rather than a practical value. It would help to clarify the question on how parental variables function so as to result in differences in academic achievement levels of children. With the existing data and findings, this question was left unanswered. So the study failed to provide implications concerning parental variables fostering high academic motivation and thus leading to an increase in

academic achievement of children. Instead implications were mainly directed towards parental factors related to higher academic achievement, without consideration of the intervening variable. Thus the implications mainly fulfilled practical rather than the theoretical purposes of the study.

Characteristics of parents whose children achieved higher compared to other children were outlined in the Discussion section. Parents of higher achieving students were found :

- to have higher education levels,
- to have a tendency towards more democratic, less overprotective, and less disciplinarian attitudes,
- to be earlier in demanding independent behavior from the child,
- to be less severe in their punishment modes,
- to have better educational environment at home.

Apart from these general parental factors, more specific parental behaviors or attitudes related to higher academic achievement of children, were also included to provide a more detailed picture family characteristics and academic achievement.

Specific parental behaviors or attitudes observed in families where students showed higher academic achievement compared to other students were determined by analyzing all the questions directed to the parents separately in terms of student achievement level.

**Specific Parental Behaviours/Attitudes  
related to  
Higher Achievement of Children**

**Home Educational Environment**

Home Educational Environment items showing differences in student achievement indicated the existence of two main parental factors related to achievement; 1) time and money spent for the child's education; 2) the extend of educational success expected of the child. These were mainly the items concerned with the value of education and educational aspirations of parents. These two parental variables making up most of the Home Educational Environment items were observed to be most influential on the achievement of children as shown by the Regression Analysis and Pearson Product Moment correlations.

When considered in detail , items concerned with educational aspirations of parents were observed to result in differences in achievement among all different parental groups. That is, differences among groups clearly indicated that with an increase in the educational aspirations there was an increase in the achievement of children. These were the only items in the whole test which showed significant differences across all groups.

The items concerned with the time spent by the parents on the child's education indicated that , the time spent by the mother rather than the father was important in determining the degree of achievement by the child. Time spent by the father lead to no differences in the achievement of children, while increased levels of time spent by the mother was observed with increased levels of achievement.

When the items concerned with the money spent by the parents were considered, items on " the extend to which money spent on the child's education supplied his/her

needs" and "the percentage of monthly expenditure spent for the child's schoolwork " were found to result in differences in the achievement of children.

Results showed that groups whose educational needs were supplied by 90% , and groups whose parents spared approximately 21%-25% of their monthly income on the child's education , showed higher achievement particularly compared to those whose educational needs were supplied by less than 50%, or those whose parents claimed to spare no money on the child's education. Therefore a maximum supply of the child's educational needs and sparing an optimum percentage of monthly expenditure on the child's educational needs was observed to be favorable for academic achievement.

Another item , not related to educational value or educational aspirations, was concerned with the educational resources used by the child and showed differences across groups using different resources. The differences observed between the groups lead to the conclusion that, children with all educational resources available showed higher achievement and use of text books with solved problems , was an important educational resource for academic achievement compared to the existence of all other resources.

Characteristics of Home Educational Environment related to high academic achievement could be summed up as follows:

- The mother spares considerable amount of her time for the child's schoolwork.
- Parents supply maximum amount of the child's educational needs through sparing an optimum percentage (21%-25%) of their monthly income.
- Parents expect high educational success from their child for the present and in the future.

## Child Rearing Attitudes

### Democracy

When children were grouped in terms of the views on democratic modes of child rearing as shared by their parents; differences among groups were observed only for three items. These items were concerned with the views on the extent to which parents thought "their children free to talk about their problems" ; or "talking freely about the child's problems would lead to further complaints" ; and "children would preoccupy parents with made up stories if parents got involved with their problems".

All three items converged at parental attitudes related to discussing the child's problems. thus openness to discussion and sharing the child's problems could be identified as an outstanding parental attitude related to academic achievement of children within the Democracy dimension of PARI. All the other items concerned with democratic attitudes of parents failed to show differences in the achievement of children. Therefore as far as the democratic attitudes were concerned , the main parental attitudes resulting in differences in the achievement level of the child was "openness to free discussion of problems"

In general parents who were willing to discuss all problems concerning their children without any doubt or suspicion, and those who thought that their children would feel equally free about discussing their problems , were observed to belong to the higher achieving group, compared to parents who had doubts about sharing all the problems concerning their children. Similarly in the lower achieving group parents believed that it was highly probable that their children had problems which were not shared with the parents.

## Overprotection

In overprotective child rearing attitudes , the items which lead to differences in the achievement of children, reflected three main points of view concerning, 1) parental sacrifice for children, 2) confidentiality , and 3) parental protection from difficulties.

Parents of higher achievers were observed to show a balanced degree of sacrifice for their children. They were against excessive self sacrifice but held lower levels of expectations from the child in return for what they do, compared to the parents of lower achieving children who held extreme attitudes in the give-and-take parent-child relations. Similarly in the families of those who were observed to be achieving more, there was a respect for confidentiality and personal privacy. They did not think that knowing everything about their child was their right nor their duty.

The third focus area related to achievement in overprotection dimension was concerned with parental views on protecting the child from difficulties. As might be expected , children whose parents were willing to protect the child from attempting difficult or even slightly difficult tasks achieved lower than those whose parents considered these highly protective modes as very inappropriate.

In sum, when overprotective attitudes were considered, children whose parents showed respect for confidentiality, had balanced give-and-take relations and were against highly protective attitudes.

## Strict Discipline

Items of strict discipline dimension resulting in differences in the achievement of children were observed to converge at two specific areas 1) attitudes concerning discipline, and 2) attitudes related to aggressive behavior of the child when necessary.

The differences in the achievement of children observed in the items which were basically concerned with discipline, favoured nondisciplinarian attitudes, as one might expect. In families where parents favoured unquestioned obedience, or thought that the child would best benefit from strict disciplinarian child rearing modes, children showed lower achievement, compared to those children whose families regarded these views as very inappropriate.

The second observable view related to achievement in strict discipline dimension, was parental attitudes concerning the child's aggressive behavior. The parents of higher achievers were observed to be showing greater tolerance to the child for fighting especially for protective purposes. For these parents, staying away from fights regardless of conditions was not considered to be appropriate.

Another item in strict discipline dimension, was more in line with the results obtained from the items related to free parent-child communication. This item was concerned with parental views on parent-child communication related to sexual matters. For this item, the group whose parents were strictly against avoiding the discussion of sexual matters with the child, was observed to achieve significantly higher than all the other groups. Here, even a slight tendency to avoid discussion of sexual matters was observed to be unfavorably related to high academic achievement. This item indicated that it was complete freedom of communication on all subject matters without exception, that was observed to make the families of higher achievers distinguishable.

In general, achievement of children with respect to differing views on child rearing attitudes was observed to differ across extreme groups. That is, differences were observed between the groups where parents stated either total rejection or total acceptance of the attitude specified in the item. The groups in between (showing moderate degrees of acceptance concerning the attitude specified) were generally not observed to be significantly different from the other groups. When all items, showing differences in the achievement of children grouped in terms of parental attitudes on child rearing practices , were considered together; they ended up in a pattern of parent-child relationship as favoured by the parents of higher achievers. This pattern could be illustrated by the following parental characteristics:

- Openness to the child's problems
- Respect for the child's privacy and confidentiality
- avoidance of unnecessary parental sacrifice for the child and excessive expectations from the child in return such that there is room for individuality and personal freedom
- avoidance of protecting the child from attempting difficult or even slightly difficult tasks
- Strong avoidance of authoritarian attitudes, unquestioned obedience and strict rules.
- Tendency to accept aggressive behavior when necessary

## Parent Socialization

### Demands & Age

Items of Demands & Age , scale showing differences in achievement of children did not converge at a particular area. They were diverse in nature and covered demands such as "willingness to try new things without getting help" ; "trying difficult tasks without help"; "joining in parents" conversation"; and "staying home alone during the day".

The demand concerning the ability to join in parents conversation, was in line with the parental characteristics observed in child rearing attitudes. Here again parents of higher achievers were found to expect parent-child conversation at an earlier age compared to the parents of lower achievers.

The other to demands concerned with managing new or difficult tasks without getting help, were also observed to be expected at a much earlier age by the parents of achievers. This finding was also in line with the parental characteristics observed in overprotection dimension where parents of higher achievers were not willing to protect the child from attempting difficult tasks.

When the age rather than the nature of the demand was considered, the parents of higher achieving group were always found to expect the specified behavior before 7 years of age.

### Restrictions & Age

For Restrictions & Age dimension two items were observed to result in differences in the achievement of children. Both of these items were observed to show parental common characteristics in terms of the time and nature of the demand. in both cases , parents of the higher achieving group were found to regard such a restriction as completely unnecessary , whereas parents of

the lower achieving group, thought that such a behavior should be restricted till 15 years of age.

These restrictions were again in line with the previous findings. one of them was concerned with opposing to parental views, or interrupting their talk. the differences observed between the groups for this restriction, once more indicated the fact that parental openness to conversation or opposition by children was related to high academic achievement. The second item was concerned with opposition to parental views on the way of clothing, where parents of the higher achieving group regarded such a restriction as completely unnecessary.

The fact that both restrictions which were regarded to be functioning till 15 years of age for the lower achieving group, whereas they were never restricted from the higher achieving group, indicates that; in a way less restrictions were imposed on the child in families where children achieved higher.

### Restrictions & Punishments

In Restrictions & Punishments dimension, the identified items instead of reflecting commonalties in the nature of behavior restricted, reflected parental punishment modes common to higher or lower achieving groups. although the number of children belonging to the lower achieving group was very small in all cases (4-5 children); physical punishment (spanking); was observed to be related to lower achievement.

In sum, parental characteristics in Parent Socialization dimension related to the higher achieving group were such that they;

- expected their children to try new or difficult tasks at an earlier age (usually before 7)
- expected their children to join in their conversation at an earlier age (before 7)
- showed greater tolerance for opposition to their points of view by their children
- avoided physical punishment modes

When all the parental variables were considered together, it was possible to describe characteristics of families where students showed higher academic achievement compared to other students.

In general children achieved higher in families where both parents had higher education which lead to more favorable child rearing practices (less discipline, less overprotection, and more democracy); more favorable parent socialization (earlier demand of independence, less restrictions and less intense punishment modes); and more favorable home educational environment (higher educational aspirations, and higher value placed on the education of the child). Because all these static (mother education and father education) and dynamic variables (child rearing practices, parent socialization, and home educational environment) were also observed to be correlated with each other, their coexistence in a single family unit did not lead to any contradictions. Therefore it was possible to talk about an integrated pattern of family characteristics resulting in (or at least going together with) high academic achievement.

When relationships were considered in more detail, closer connections between education level and family process variables were observed. Mother education level which lead to the most pronounced differences in the

family process variables was observed to be higher education.. Higher education of the mothers acted as a threshold above which significant differences in the family process variables towards more favorable terms were observed.

Similar results were obtained in father education level for home educational environment dimension. Higher education of the father acted as a threshold for only home educational environment dimension, above which educational environment was observed to be more favorable, compared to families where fathers had less education.

Higher education by the mother made a crucial difference on all family variables whereas higher education by the father made a crucial difference only in home educational environment dimension. Apart from this fact mother education level in general had a wider range of influence on all family process variables compared to father education level which was influential over child rearing practices , and home educational environment; but not on parent socialization dimension. Another difference observed related to the effect of parent education levels was that mother education level was more influential over child rearing practices and father education level was more influential on home educational environment.

Based on these findings, higher education by both parents could be identified as the most favorable static family variable, leading to favorable dynamic family process characteristics.

The dynamic family process variables were described as "favorable" because the effect of all these family process variables resulting from higher parent education were positively related to academic achievement of children.

As was mentioned earlier, the aim of the study was to identify alterable and nonalterable parental characteristics in order to form guidelines for parental behavior to foster student achievement. The positive effect of parent education level has a theoretical value in describing the differences in academic achievement, however it cannot be used for practical purposes due to its relatively stable nature compared to family process variables. Therefore for practical purposes it's more important to focus on these process variables which could possibly be altered.

When all specific behaviors or attitudes observed in the items showing differences in achievement were integrated, a list of parental characteristics making up a consistent union could be obtained for families where children show high academic achievement. In these families parents;

- (especially the mother) spend considerable amount of time for the child's schoolwork;
- supply maximum amount of the child's educational needs through sparing an optimum percentage (21%-25%) out of the total monthly income;
- expect high educational success from the child for the present and in the future;
- show openness to the child's problems;
- show openness to discussion and opposition to their viewpoints by their children;
- respect the child's privacy and confidentiality;
- avoid unnecessary parental sacrifice and excessive expectations from the child in return (ie. there's room for individuality and personal freedom);
- do not try to protect the child from attempting easy or difficult tasks, on the contrary expect

their child to try new or difficult tasks at an early age;

- strongly avoid authoritarian attitudes, unquestioned obedience and strict rules;
- avoid physical punishment modes;
- show a tendency to accept aggressive behavior when necessary.

The attitudes and behavior modes specified above are mostly alterable. It is possible to say that if a certain amount of parental characteristics mentioned above could be achieved by the parents, there could be an increase in the achievement of their children; provided that these characteristics are more of a cause than a result of high achievement.

Although it's not possible to specify a causal direction between family process variables and achievement, going from former to latter; within a logical framework educational aspirations of the parents stands to be the only probable variable where the direction of the relationship is from achievement to parental characteristics. All the other variables may also show a two directional nature in their relationship with achievement., that is they may effect achievement as well as being effected by achievement. However even such a partial effect can be considered worthwhile in attempting to change parental characteristics to increase student achievement.

Therefore all the above mentioned characteristics excluding parental aspirations can be described as parental characteristics, which when altered may lead to higher academic achievement. That is for all other parental variables it's possible to claim that a shift from behavioral modes of the lower achieving group, to those of higher achieving group will result in an increase in achievement.

In short the results provide us with a list of favorable parental attitudes and behaviours. What's implied and proposed is that the parental characteristics which are termed as favorable can be achieved through educational means. Although these characteristics differ in terms of the degree to which they can be achieved through educational means , ie. their instructability level, several adult education programs exist, that bring about the desired parental behaviour changes.

For some parental characteristics even an awareness of the favorable and unfavorable conditions may lead to a change. These are the most easily instructable ones. The amount of time and money spent on the child's education may prove to be such a parental characteristic. Although both time and money spent by the parents on the child's education may depend on the availability of the existing resources as well, only the mere fact of knowing an optimum amount related to achievement may lead parents to reconsider the way they use these resources.

Parental characteristics concerning parental behaviour related to the type and intensity of punishments and rewards following their restrictions and demands are also relatively easily alterable. One particular parental characteristic observed to be related to school achievement in this area is, " the avoidance of use of intense punishment modes ". A probable means for providing a change in the use of severe punishment modes may be by supplying the parents with the necessary tools to get the child obey their rules or restrictions. Many parent education programmes are geared towards changing the child's behaviour in the direction expected by the parents. Another way be through providing the parents with alternative response patterns which are less intense and less severe, but also functional in decreasing the frequency of undesired behaviour.

Parental characteristics based on parental attitudes prove to be the ones which are most resistant to change , because changes in attitudes mostly require major changes in the value system of the parents. However more practical

methods of interventions can be proposed based on the existing parent education programmes, where parental behaviours are intended to be changed without basic changes in their value systems.

Parent education programs involving training in better communication skills , and aiming towards a decrease in the direct role of parents in the decision making process, may help achievement of more favorable parental characteristics like openness to child's problems, openness to discussion and opposition , respect for the child's privacy and confidentiality, provision of room for individuality, personal freedom, and tendency to accept aggressive behaviour when necessary.

Other favorable parental characteristics which effect parental attitudes related to child rearing are ; avoidance of overprotective ( protection the child attempting easy or difficult tasks), and strict disciplinarian (unquestioned obedience and alliance to strict rules) attitudes. Although these characteristics are more bound to the value system of the parents, it's also possible to propose alternative child rearing styles which may not be in conflict with the existing value system of the parents.

The last favorable parental characteristic related to high academic achievements concerned with the educational aspirations of the parents. This particular characteristic may prove to be the most stable one. Apart from its dependence on the value system of the parents, it carries a high probability of being effected by the actual achievement of the child. Therefore a shift from a low to a high level of educational aspirations by the parents may require a change a low to a high level of academic achievement level by the child.

Table 105 shows up parental characteristics which can be achieved through educational processes in terms of their instructability and the means through which they can be achieved.

Table 105

Favorable Parental Characteristics,  
Their Instructability Level and Means of Education

Favorable Parental Characteristics	Instructability Level	Means of Education
Optimum amount of time and money spent by the parents on the child's education	High	Lecture/Discussion Awareness of the most favorable conditions.
Avoidance of severe and intense punishment modes	Medium	Lecture/Discussion on alternative punishment modes.  Training in Behavior Modification (teaching parents to get the child to do what they expect)
Openness to child's problems	Medium	Training in Communication Skills
Openness to discussion and opposition		Training in Problem Solving and Decision Making Skills
Respect for the child's confidentiality and privacy		



Current Educational Programmes  
in the Proposed Areas

Training for Behavioral Change

Parent Training in this area focuses on parents' behaviour and teaches parents to tailor their responses to the child in order to produce changes in the child's subsequent behaviour. It's based on the assumption that a person's overt behaviour can be changed through the systematic application of learning theory principles.

A series of parent training project by Patterson, Cobb and Ray (1973), (cited in Mussen 1983); and replications by Leichman and Szykula (1981), Weinrott, Bauske and Patterson (1979) (cited in Mussen, 1983), in this area involve basic elements such as:

- 1) Assigning a programmed learning text on social learning principles
- 2) Training parents to define and record a range of acceptable behaviours
- 3) Participating in a parent training group involving instruction modelling, role playing of parenting skills, and contract negotiations.

A Behavioral Skills Programme ( by J. S. Kanisberg and R. F. Levant, 1988)

- Session 1 : Defining and Analyzing Behaviour
- Session 2 : Observing and Tracking Behaviour
- Session 3 : Principles of Reinforcement
- Session 4 : Strengthening and Weakening Behaviour
- Session 5 : Development and Implementation of a Behavioral Programme
- Session 6 : Token Economy and Behavioral Contracts
- Session 7 : Teaching and Shaping New Behaviours
- Session 8 : Posttest and Graduation

## Training in Communication Skills

Parent training in the area of communication skills emphasizes parental awareness, understanding and acceptance of the child's feelings, and focuses on the replacement of negative communication styles with positive communication skills.

In more recent training programmes by Robin (1980), Robin, Kent, O'Leary, Foster and Prinz (1977) (cited in Mussen, 1983), entire family is incorporated along with the parents. Training programmes employ modelling, behavioral rehearsal, problem solving and communication skills for the whole family. Families are also assigned homework involving use of problem solving and communication skills in everyday life.

Parent education programmes in the area of communication skills are aimed to increase ; 1) mutual understanding between parents and children such as freedom of expression, talking out problems and joint decision making; 2) mutual trust representing a belief in the child's individuality as opposed to his being merely an extension of his parents; 3) confidence in the parental role and ; 4) acceptance of the child's feelings, behaviour and normal developmental changes.

A Communication Skills Programme ( by J. S. Kanisberg and R. F. Levant, 1988)

- Session 1 : Listening to What Your Child Says
- Session 2 : Listening to How Your Child Feels
- Session 3 : Becoming Aware of How You Feel
- Session 4 : Speaking for Yourself
- Session 5 : Communicating Rules and Setting Limits
- Session 6 : Resolving Conflicts
- Session 7 : Putting it Altogether
- Session 8 : Posttest and Graduation

## Training in Alternative Methods of Child Rearing

Parent education programs such as Parent Effectiveness Training can be used in order to provide parents with alternative means of child rearing and to change their attitudes towards child rearing practices to a certain extent. Parent Effectiveness Training developed by Gordon (1970), is a technique used for improving parents' child rearing practices. The program aims to facilitate change in parental attitudes and to equip parents with skills that are consistent with the newly acquired attitudes. The program is based on training parents with skills used by professional psychotherapists. The most outstanding skills taught in the program are ; "Active Listening" , "I-Messages" , and the "No Lose" method.

"Active Listening" is defined as the ability to listen to another's problems in a non-judgemental and accepting manner (Gordon, 1970). Training in "I-Messages" aims to teach the parents "to tell the child what the person is responding to, without shaming or blaming or without attributing any motives to him" (Gordon, 1970). The "No Lose" method is a method where conflicts are resolved with no one winning or no one losing, because the solution is acceptable to both parties and there's mutual agreement on the solution. It's a training for democratic problem solving skills.

The effect of Parent Effectiveness Training on a sample of Turkish parents was investigated by Bovete (1986). The 11 session program includes:

- Session 1 : Creating an Intimate Milieu
- Session 2, 3 ,4 : Active Listening Skills
- Session 5, 6, 7 : Skills involving I-Messages
- Session 8, 9, 10: Problem Solving Skills
- Session 11 : Evaluation

The most pronounced effects of the program were observed in overprotective attitudes. Mothers were observed to become less overprotective and less extreme in their mothering style, practice less control over the child , intervene less and are less self sacrificing. Strict Disciplinarian and Democratic attitudes on the other hand were observed to show changes in attitudes for a shorter duration, only during the training process. That is parents were observed to revert back to old disciplinary, domineering and repressing habits once the training was over. Thus Parent Effectiveness Training might prove to be a tool in Parent Education Programs geared towards attitudinal changes to a certain extend, but may be regarded as functional in informing parents with alternative ways in parent-child relationships.

An alternative parenting style which may be favored by parents who regard existence of rules and obedience as essential in child rearing is the authoritative parenting style. However although authoritative parenting style involves firm enforcement of rules and standards, it also requires encouragement of the child's independence and individuality , open communication between parents and children and recognition of the rights of both parents and children. In authoritative parenting style emphasis is placed on,; - identification of acceptable and unacceptable behaviours,

- use of nonpunitive discipline
- responding positively to good behaviour

In authoritative parenting style , rules put by the parents and obedience to these rules are essential. However the punishment modes are much more smooth , and good behaviour is appreciated.

In fact authoritative parenting style covers nearly all the parental characteristics which are presented as favorable. It represents a collection of parental characteristics identified as favoring high academic achievement. Actually it is possible to claim that a shift from less favorable to more favorable parental modes is

not only expected to cause a positive change in achievement, but in other personality dimensions of the child as well. This may lead us to arrive at a general conclusion concerning academic achievement and parental behavioral modes. When the behavioral dynamics of the parents or the whole family is under question , fostering healthy development in one particular dimension is not easily separated from development in other dimensions of personality. Therefore academic achievement of children may emerge as a natural product in families where healthy interpersonal relations and favorable means of discipline are employed.

## LIMITATIONS AND RECOMMENDATIONS

Two issues discussed in the " Achievement Motivation Reconsidered" section proves to be the major limitations encountered in the study.

- 1) the homogeneous nature of the sample population
- 2) the content validity of the Achievement Motivation Scale

In line with these limitations a number of suggestions for further research can be presented depending on the purpose of the research in question.

Working with more homogeneous samples will serve the purpose of identification of more cultural , subcultural or class-bound correlates of achievement motivation and achievement with parental variables.

However if the purpose is disclosing closer connections between achievement motivation , achievement and parental variables then the homogeneity of the sample population cannot be totally discarded. Instead it is necessary to identify item content which would show high variance even within a sample population with such a homogeneous nature. For the present study this condition was reassured through item analysis by calculating "the appropriateness of alternatives" for each item. "The appropriateness of alternatives" determines the extend to which sample population shows variance across the behaviour specified in the item. A critical value (0.50) was determined to indicate a satisfactory level of variance within the sample group. items which were above 0.50 in terms of "the appropriateness of alternatives" were considered as having sufficient variance across the sample. However it might have been possible to differentiate a greater number of parental behaviours showing higher variance across such a homogeneous sample by including more measuring instruments and increasing the

critical value above 0.50 for considering an item (or the behaviour specified in that item) as showing variance. Through such a procedure a greater number of specific parental behaviours with higher variance would result, giving way to a more informative and detailed range of behaviours in a homogeneous sample.

In short, when specific behaviours are considered, it can be suggested to use a homogeneous sample, but include a greater range of parental behaviours with a higher variance (specifically a value above 0.50 for "appropriateness of alternatives: the analysis used in determining the variance in each item in the present study.)

As far as the achievement of children is concerned the parental dimension which deserves greater focus is observed to be the educational environment of the home. Home Educational Environment is an outstanding dimension in explaining the achievement of children independent of achievement motivation.

When dealing with the factors related to achievement motivation or achievement oriented behaviour of the children on the other hand, a major suggestion would be reconsideration of the Achievement Motivation Scale in terms of its content validity.

Two major considerations related to the content validity of the test are proposed to be the extend to which the test measures a) intrinsic motivation over extrinsic motivation and b) the motive to achieve success over the motive to avoid failure. The findings of this study suggests the predominance of extrinsic over intrinsic motivation and the motivato avoid failure over the motive to achieve success. However these suggestions are not backed up with the existing data. Therefore these facts should be reconsidered prior to the use of the Achievement Motivation Scale used in this study. In fact this argument may hold true for any measurement used to assess achievement motivated behaviour might bear

different dimensions of achievement motivation and it's important to identify the dominant dimension assessed.

Another factor which should be taken into consideration when dealing with the parental factors associated with achievement oriented behaviour or achievement motivation of children, is the inclusion of the factors related to child. The results of this study suggest that the investigation of achievement motivation within the context of the family would be more complete if the factors related to the child (such as gender, self esteem, IQ) are also taken into consideration and controlled for.

In sum, in the light of the results and limitations encountered in this research, suggestions for later research on the relation between parental factors and achievement motivation and achievement of children can be listed as follows:

- More heterogeneous samples is to be used if the relation is to be investigated in a more global sense including cultural, subcultural or class-bound factors.
- If closer connections between parental variables and achievement or achievement motivation are to be disclosed homogeneous groups should be used provided that they show variance in specific dimensions under question.
- In investigating the relationship between parental variables and achievement greater focus should be given to educational environment of the home.
- In investigating the relationship between parental factors and achievement motivated behaviour, factors related to the child (such as gender, IQ, self-esteem) should also be taken into consideration and controlled for.
- In assessing achievement motivation, different dimensions of achievement motivated should be distinguished, and the multi-dimensional nature of achievement motivated behaviour should be taken into consideration.

## REFERENCES

- Atkinson, J. W. (1958) Towards experimental analysis of human motivation in terms of motives expectancies and incentives. In J. W. Atkinson (ed.), Motives, fantasy and action in society pp. 288-306, New Jersey: D. Van Company.
- Alwin D. F. & Thorton A. (1984) Family origins and the schooling process: Early versus late influences of parental characteristics. American Sociological Review, 49,784-382
- Bachmann, G., Green, S. & Wirtanen, J. D. (1976) Youth in transition. Michigan: Institute for Social Research.
- Bolles, R. C. (1975) Theory of Motivation. New York: Harper & Row Publishers.
- Bovete, Leon (1986) Parent effectiveness training: a test of its effectiveness with a Turkish sample; Bogaziçi University: Istanbul.
- Brideman, B. (1978) Preschool measures of self-esteem and achievement motivation as predictors of third grade achievement. Journal of Educational Psychology, 70, 17-21
- Bronfenbrenner, U. (1953) Personality. In C. P. Stone & D. W. Taylor (ed.), Annual Review of Psychology, Stanford California: Annual Reviews Inc.
- Berkowitz, L. (1964) The development of motives and values in the child. New York: Basic Books Inc.
- Butkovsky I. S. & Willows D. M. (1980) Cognitive motivational characteristics of children varying in reading ability. Journal of Educational Psychology, 72, 408-421.
- Bradburn, N. M. (1963) NAchievement and father dominance in Turkey. Journal of Abnormal and Social Psychology, 67, 464-468
- Campbell, J. R. & Mandel F. (1990) Connecting math achievement to parental influences. Contemporary Educational Psychology, 15, 64-74
- Child, I., Storm, T. & Veroff, J. (1958) Achievement themes in folk tales related to socialization process. In J. W. Atkinson (ed.), Motives, fantasy, action, and society, pp 270-278, New Jersey: D. Van Nostrad.
- Cofer C. N. & Appley M. H. (1964) Motivation, theory and research, New York: Wiley

- Crandall, V. C., Katkovsky, W. & Preston, A. (1962) Motivational and ability determinants of young children's intellectual achievement behaviours. Child Development, 33, 643-661.
- Crandall, V. C. (1966). Personality characteristics and social and achievement behaviours associated with children's social desirability response tendencies. Journal of Personality and Social Psychology, 4, 477-486
- deCharms R. & Muir M. S. (1978) Motivation: Social approaches. In M. R. Rosezweig & L. W. Porter (eds.). Annual Review of Psychology, 29, pp.91-113, California: Annual Reviews Inc.
- Dolan, L. (1983) The prediction of reading achievement and self esteem from an index of home educational environment. Measurement and Evaluation in Guidance, 86-94
- Dornbush, S., Rittel, P. L. ,Linderman P. H. R., Donald F. & Fraleigh, M. J. (1987) The relation of parenting style to adolescent school performance. Child Development, 58(5), 1244-1257.
- Douvan, E. (1958) Social status and success strivings . In J. W. Atkinson (ed.) Motives, fantasy, action and society, pp. 509-518, Canada: D. Van Company.
- Dweck, C. S. (1975) The role of expectations and attributions in the alleviation of learned helplessness. Journal of Personality and Social Psychology, 31, 674-685.
- d"Ydewalle, G. & Lens, W. (1981) Cognition in human motivation and learning, Belgium: Leuven University Press.
- Elliot, E. S. & Dweck C. S. (1988) An approach to motivation and achievement. Journal of Personality and Social Psychology, 54(1), 5-12
- Ellis, A. & Bernard, M. E. (1983). Rational and emotive approaches to the problems of childhood, New York: Plenum Press.
- Entwisle, D. R., Alexander, K. L. , Cadigan, D. & Pallas, A. (1986) The schooling process in first grade: Two samples a decade apart. American Education Research Journal, 23(4), 587-613
- Eysenk, H. J. & Wilson G. (1975) Know your own personality. Middlesex: Penguin Books
- Faber, A. & Mazlish, E. (1980) How to talk so kids will listen and listen so kids will talk. New York: Avon

- Fisher, S. & Fisher, R. L. (1986) What we really know about child rearing: Science in support of effective parenting. New Jersey: Jason Aronson Inc.
- Fowler, P. (1982) .Relationship of family environment and personality characteristics. Journal of Clinical Psychology, 38, 804-810
- Greene J. C. (1985) Relationship among learning and attribution theory, motivational variables. American Educational Research Journal, 22(1), 65-78
- Grolnick, W. S. & Ryan, R. M. (1989) Parent styles associated with children"s self-regulation and competence in school. Journal of Educational Psychology, 81(2), 143-154
- Gustin, W. C. (1985) The development of exceptional research mathematicians, in B. S. Bloom (ed) Developing talent in young people, New York:Ballantine Books.
- Hansford, B. C. & Hattie, J. A. (1982) The relationship between self and achievement performance measures. Review of Educational Research, 52, 123-142.
- Haynes, N. M., Comer, J. P., Hamilton, L. M. & James, B.(1987),An analysis of the relationship between children"s self concept and their teacher"s assessments of their behaviour: Implications for prediction and intervention. Journal of School Psychology, 25(4), 393-397.
- Heckhausen, H. (1967) Personality and Psychopathology. New York: Academic Press.
- Hunt, J.(1965) Intrinsic motivation and its role in psychological development. In D. Levine (ed.), Nebraska Symposium on Motivation, Lincoln: University of Nebraska
- Izard, C. E.(1979) Emotions as motivations: An evolutionary developmental perspective. In R. Dienstbier (ed.), Nebraska Symposium on Motivation, Lincoln: University of Nebraska.
- Kagan, J. (1971) Understanding children: Behaviour, motives and thought. New York, H.B.J. Inc.
- Kagan, J. (1972) Motives and development. Journal of Personality and Social Psychology, 22, 51-66.
- Kagıtçibası, Ç. (1988) İnsan ve insanlar: Sosyal psikolojiye giriş. İstanbul: Evrim Basım Yayın Dağıtım

- Kanisberg, J. S. & Levant, R. F. (1988) Parental attitudes and children's self concept and behaviour following parents' participation in parent training groups. Journal of Community Psychology, 16, 152-160.
- Keith, T. Z. , Reimers, T. M. & Fehrmann, P. G. (1986) Parental involvement, homework and tv time: direct and indirect effects on highschool achievement. Journal of Educational Psychology, 78, 374-381.
- Kohn, L. M. (1973) Social class and parent-child relationships. In H. C. Lingren (ed.) Contemporary research in social psychology. New York: Wiley
- Kohnrich, M. (1965) Underachievement. Illinois: Charles C. Thomas Publisher.
- Koupernick, C. A. J. (1970) The child in his family. New York: Wiley
- Kuzgun, Y. (1985) Edwards kisisel tercih envanterinin Türkiye'de güvenirligi ve geçerliliği. Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi, 17, 1-2.
- Küçük, A. S. (1987) The validity of the Turkish form of PARI subscales II, III, IV, Bogaziçi University: Istanbul.
- Marjoribanks, K. (1972) Environment, social class and mental abilities. Journal of Educational Psychology, 63, 103-109
- Marjoribanks, K. (1987) Ability and attitude correlates of academic achievement: Family group differences. Journal of Educational Psychology, 79 (2), 171-178
- Markovitz, E., Ginsburg, H. P. (1988) early academic socialization. Sociological Abstracts, Aug., 986-990.
- McClelland, D., Atkinson, W., Clark, R. A. & Lowell, E. L. (1953) The achievement motive, New York: Appleton Century Crofts.
- McClelland, D. C. (1958) The importance of early learning in the formation of motives. In J. W. Atkinson (ed.). Motives, fantasy , action and society, pp. 437-453, New Jersey: D. Van Company.
- McClelland, D. C. (1961) The achieving society. New Jersey: D. Van Nostrad
- McCartin, R. & Meyer, K. A. (1988) Youth and society, 19 (4), 378-394.
- McNamara, J. & Kallagan, T. (1972) Family correlates of verbal reasoning ability. Developmental Psychology, 7, 49-53.

- Mehta, P. & Kumar, D. (1985) Relationship of academic achievement with intelligence, personality, adjustment, study habits, and academic motivation. Journal of Personality and Clinical Studies, 1, 57-68.
- Metcalf, K. & Garnier, E. L. (1987) Patterns of middle class parenting and adolescent underachievement. Adolescence, 22, 919-928
- Murray, H. A. (1938) .Explorations in Personality, New York: Oxford Un. Press
- Mussen, H. P. (1983) Handbook of child psychology, Vol:IV, New York: Wiley
- Nelson, G. (1984) The relationship between dimensions of classroom and family environments and self concept, satisfaction and achievement of grade 7 & 8 students. Journal of Community Psychology, 12(3), 276-286.
- Nicholls, J. G. (1979) Development of perception of own attainment and causal attributions for success and failure in reading. Journal of Educational Psychology, 71, 94-99.
- Öner, N. (1984) Does education make a difference in the child rearing attitudes of parents in Turkey? Boğaziçi Üniversitesi Dergisi, 2, 43-53.
- Parsons, E. J. & Ruble, N. D. (1977) Development of achievement related experiences. Child Development, 48, 1075-1079.
- Rogers, D. (1969) Issues in child psychology, California: Brooks/Cole.
- Rosen, B. C. (1958) The achievement syndrome: A psychocultural dimension of social stratification. In J. W. Atkinson (ed.) Motives, fantasy, action and society, pp.495-509, New Jersey: D. Van Company.
- Ruthland, D., Gold, M. & Feld, S. (1978) Role problems and relationship of achievement motivation to scholastic performance. Journal of Educational Psychology, 70(6), 950-956.
- Savaid, M. & Singh, R. (1987) Relationship between parental attitudes and achievement motivation. Psychological Studies. 32(1), 15-18.
- Schavelson, R. J. & Bolus R. (1982) Self concept: The interplay of theory and methods. Journal of Educational Psychology, 74, 3-17.
- Stendler, C. B. (1964) .Readings in child behaviour and development, New York: Hartcourt Brace & World.

- Stevenson, D. L. & Baker, P. (1987) The family school relation and the child's school performance. Child Development, 58, 1348-1357
- Stinson E. T. (1989) Parental ideology: Implications for child academic achievement and self concept. Dissertation Abstracts International, (University of Pennsylvania)
- Stipek, D. J. & Hoffman, J. M. (1980) Children's achievement related expectancies as a function of academic achievement, performance, histories, and sex. Journal of Educational Psychology, 72(6), 861-865.
- Stipek, D. J. (1981) Children's perceptions of their own and their classmates' ability. Journal of Educational Psychology, 73, 404-410.
- Teevan, R. J. (1967) Motivation. New York: Mc Graw Hill Company.
- Tessler, A. & Blusiewicz, C. O. (1987) Dependency conflict and underachievement. Journal of Social and Clinical Psychology, 5(3), 378-390.
- Travers, R. M. W. (1973) Second handbook of research on teaching, Chicago: Rand Mc Nally.
- Walberg, H. J. & Marjoribanks, K. (1973) Differential mental abilities and home environments. Developmental Psychology, 9, 363-368.
- Walberg, H. J., & Marjoribanks, K. (1976) Family environment and cognitive development: Twelve analytical models. Review in Educational Research, 46, 527-551.
- Weiner, B. & Kukla, A. (1970) An attributional analysis of achievement behaviour. Journal of Personality and Social Psychology, 15, 1-20.
- Weiner, B. (1974) Achievement motivation and attribution theory, New Jersey: General Learning Press.
- Weiner, B. & Sierad, J. (1975) Misattribution for failure and enhancement of achievement strivings. Journal of Personality and Social Psychology, 31(3), 415-421.
- Winterbottom, M. R. (1958) The relation of need for achievement to learning experiences in independence and mastery. In J. W. Atkinson (ed.) Motives in fantasy, action and society, pp. 453-479, New Jersey: D. Van Company.

Wood, J., Chapin, K. & Hanich, M. E. (1988) Family environment and its' relationship to underachievement. Adolescence, 123, 283-290.

Young, P.T. (1961) .Motivation and emotion, New York: Wiley

## APPENDIX A

### Items Used to Assess Static Family Variables

#### Family Structure

##### Birthorder:

- Çocuktan yaşça küçük kardeşlerin sayısı: (Yoksa boş bırakınız)
  - a) Sadece bir tane
  - b) İki tane
  - c) Üç tane
  - d) Üçten çok

#### Sociocultural Characteristics of Parents

##### Education Level of the Parents:

- Annenin en son bitirdiği öğrenim kurumunun düzeyi:
  - a) İlkokul
  - b) Ortaokul
  - c) Lise
  - d) Yükseköğretim
- Babanın en son bitirdiği öğrenim kurumunun düzeyi:
  - a) İlkokul
  - b) Ortaokul
  - c) Lise
  - d) Yükseköğretim

Education Type of the Parents:

- Annenin en son bitirdiđi öđretimin niteliđi:

- a) Fen/Teknik
- b) İdari/Ticari
- c) Eđitim/Öđretim
- d) İletişim/Dil/Sanat

- Babanın en son bitirdiđi öđretimin niteliđi:

- a) Fen/Teknik
- b) İdari/Ticari
- c) Eđitim/Öđretim
- d) İletişim/Dil/Sanat

Stated Economic Status

- Türkiye ölçülerinde ailenin ekonomik açıdan genel geçinme düzeyi:

- a) Çok yüksek
- b) Rahat
- c) Yeterli
- d) Yetersiz

## APPENDIX B

### Original Items of the Parent Socialization Questionnaires (Marian R. Winterbotton, 1953)

#### Demands and Age Questionnaire

From the list of 20 demands, the mother is asked:

- to put a check beside each item she considers to be a goal of her training;
- to indicate the age by which she expects her child to have learned the behaviour.

List of Demands:

- 1- to stand up for his own rights with other children
- 2- to know his way around his part of the city so that he can play where he wants without getting lost.
- 3- to go outside and play when he wants to be noisy and boisterous.
- 4- to be willing to try new things on his own, without depending on his mother for help.
- 5- to be active and energetic in climbing, jumping, and sports.
- 6- to show pride in his own ability to do things well.
- 7- to take part in his parents interest and conversations.
- 8- to try hard things for himself without asking for help.
- 9- to be able to eat alone without help in cutting and handling food.
- 10- to be able to lead other children and assert himself in children"s groups.
- 11- to make his own friends among children his own age.

- 12- to hang up his own clothes, and to look after his own possessions.
- 13- to do well in school on his own.
- 14- to be able to undress and go to bed by himself.
- 15- to have interests and hobbies on his own. to be able to entertain himself
- 16- to earn his own spending money.
- 17- to do some regular tasks around the house.
- 18- to be able to stay at home alone during the day.
- 19- to make decisions like choosing his clothes or deciding how to spend his pocket money by himself.
- 20- to do well in competition with other children.

### Demands and Rewards Questionnaire

The mothers were asked to make three choices among the six alternative parental reactions , indicating what they do when the child fulfills their demands. List of parental reactions to "good" performance in the child is made up of three rewarding reactions:

- Kiss or hug him to show how pleased you are
- Tell him what a good boy he is. Praise him for being good.
- Give him a special treat or privilege.

and three relatively neutral reactions:

- Do nothing at all to make it seem special.
- Show him you expected it of him.
- Show him how he could have done better.

The same list of 20-demands as in Demands and Age Questionnaire are used.

## Restrictions and Age Questionnaire

From a list of 20 restrictions the mother is asked:

- to put a check beside each item that she considers a goal of her training;
- the age by which she expected it to be learned.

List of Restrictions:

- 1- not to fight with children to get his own way.
- 2- not to play away from home without telling his parents where he is.
- 3- not to be noisy and boisterous in the house.
- 4- to be cautious in trying new things on his own when his parents aren't around.
- 5- not to run and jump a lot.
- 6- not to try to be the centre of attention. Not to boast or brag.
- 7- to be respectful and not interfere with adults.
- 8- not to try to do things himself that others can do better.
- 9- not to be sloppy at the table & eat with fingers.
- 10- not to boss other children.
- 11- not to play with children he doesn't know or of whom his parents don't approve.
- 12- not to leave his clothes lying around or his room untidy.
- 13- not to fail at school work.
- 14- not to stay out after dark.
- 15- not to depend on his mother for suggestions of what to do.
- 16- not to earn money or take a job without his parent's consent.
- 17- not to whine or cry when his mother leaves him alone.
- 18- not to try to do things around the house where he will be in the way.
- 19- not to make important decisions like choosing his clothes or deciding how to spend his money without asking his parents.
- 20- not to try to beat other children in play.

## Restrictions and Punishments Questionnaire

The mothers were asked to make three choices among six alternative parental reactions , indicating what they do when the child violates their restrictions. The list of alternative parental reactions to "bad" performance, is made up of three punishment items:

- Scold or spank him.
- Show him that you are dissappointed in him.
- Deprive him of something he likes or expects, like a special treat or privilige.

and three relatively neutral reactions:

- Don't show any feeling about it.
- Point out how he sdhould have behaved.
- Just wait until he does what you want.

The same list of 20-restrictions as in the Restrictions and Age Questionnaire are used.

## APPENDIX C

### Parent Socialization Questionnaires

#### Demands and Age Questionnaire

#### Beklentiler ve Yaş

Aşağıdaki maddelerde anne ve babaların çocuklarından bekleyebileceği bazı davranışlar verilmektedir. Bu davranışların çocuklarca HANGİ YAŞ sınırına kadar öğrenilmesi gerektiğine ilişkin görüşünüzü aşağıdaki seçeneklere göre belirtiniz. Öğrenilmesini ÖNEMSİZ gördüğünüz davranışları gösteren maddeleri boş bırakabilirsiniz.

- (a) 7 yaşına kadar öğrenmelidir.
- (b) 11 yaşına kadar öğrenmelidir.
- (c) 15 yaşına kadar öğrenmelidir.
- (d) 15 yaşından sonra öğrenmelidir.

- 1- Diğer çocuklara karşı kendi haklarını savunmak.
- 2- Yakın çevresini tanıyarak istediği yerde kaybolmadan oynayabilmek.
- 3- Annesinden yardım almadan yeni şeyleri denemeye istekli olmak.
- 4- Anne ve babasının konuşmalarına katılabilmek.
- 5- Yardım beklemeden zor işleri yapmaya çalışmak.
- 6- Yaşlılarıyla kendiliğinden arkadaşlık kurabilmek.
- 7- Okulda ya da yuvada kendi başına başarılı olabilmek.
- 8- Kendi başına harçlık kazanabilmek.
- 9- Kendi kendini oyalayabilecek hobiler geliştirmek.
- 10- Evdeki bazı gündelik işleri yapabilmek.
- 11- Gündüzleri evde tek başına kalabilmek.
- 12- Oyunlarda veya sporda kazanmayı amaçlayabilmek.
- 13- Akranları arasında düşüncelerini açıkça söyleyebilmek.
- 14- Eşyalarını, oyuncaklarını derli toplu tutabilmek.
- 15- Gerektiğinde kendi başına dışarı çıkıp oynayabilmek.

## Demands and Rewards Questionnaire

### Beklentiler ve Karsiliklari

1-15 arasındaki maddelerde aynı beklentiler tekrar verilmektedir. Ancak bu kez sizden istenilen bu beklentiler gerçekleştiğinde çocuğa karşı nasıl davranılması gerektiği konusundaki görüşünüzdür. Çocuk bu beklentileri gerçekleştirdiğinde anne-babanın verebileceği bazı karşılıklar seçeneklerde gösterilmiştir. Görüşünüze EN UYGUN seçeneği cevap kağıdınızda belirtiniz. Eğer, çocuğun bu beklentiyi gerçekleştirmesi sizce ÇOK DOĞAL ya da ÖNEMSİZ ise boş bırakabilirsiniz.

- (a) Kucaklayıp öperiz.
- (b) Başarısını taktir ettiğimizi söyleriz.
- (c) Bir armağanla ödüllendiririz.
- (d) Daha iyi olması için yeni öğütler veririz.

- 1- Diğer çocuklara karşı kendi haklarını savunmak.
- 2- Yakın çevresini tanıyarak istediği yerde kaybolmadan oynayabilmek.
- 3- Annesinden yardım almadan yeni şeyleri denemeye istekli olmak.
- 4- Anne ve babasının konuşmalarına katılabilmek.
- 5- Yardım beklemeden zor işleri yapmaya çalışmak.
- 6- Yaşitlariyla kendiliğinden arkadaşlık kurabilmek.
- 7- Okulda ya da yuvada kendi başına başarılı olabilmek.
- 8- Kendi başına harçlık kazanabilmek.
- 9- Kendi kendini oyalayabilecek hobiler geliştirmek.
- 10- Evdeki bazı gündelik işleri yapabilmek.
- 11- Gündüzleri evde tek başına kalabilmek.
- 12- Oyunlarda veya sporda kazanmayı amaçlayabilmek.
- 13- Akranları arasında düşüncelerini açıkça söyleyebilmek.
- 14- Eşyalarını ve oyuncaklarını derli toplu tutabilmek.
- 15- Gerektiğinde kendi başına dışarı çıkıp oynayabilmek.

## Restrictions and Age

### Kısıtlamalar ve Yas

Aşağıdaki maddelerde anne ve babaların çocuklarında kısıtlayabileceği bazı davranışlar verilmektedir. HANGİ YAŞ sınırına kadar bu davranışlara karşı olduğunuzu belirtiniz. Kısıtlanmasını GEREKSİZ gördüğünüz davranışları gösteren maddeleri boş bırakabilirsiniz.

- (a) 7 yaşına kadar kısıtlanmalıdır.
- (b) 11 yaşına kadar kısıtlanmalıdır.
- (c) 15 yaşına kadar kısıtlanmalıdır.
- (d) Sürekli olarak kısıtlanmalıdır.

- 1- Kendi bildiğini yapmak için akranlarıyla kavga etmek.
- 2- Anne ve babasına bildirmeden evden uzakta oynamak.
- 3- Evde gürültü ve azgınlık yapmak.
- 4- Evde kimse yokken tehlikeli deneyler yapmak.
- 5- Büyüklere karşı çıkıp onların sözlerine karışmak.
- 6- Anne-babanın yapabileceği işleri kendi başına denemeye kalkışmak.
- 7- Anne-babanın istemediği veya tanımadığı arkadaşlarla oynamak.
- 8- Eşyalarını veya oyuncaklarını dağınık bırakmak.
- 9- Ödevlerini aksatıp öğreneceklerinde geri kalmak.
- 10- Karanlıkta dışarda kalmak.
- 11- Evin içinde ayak altında dolaşım işleri engellemek.
- 12- Giyim kuşam konusunda büyüklerinin kararına itiraz etmek.
- 13- Harçlıklarını harcarken anne babasının isteklerine aykırı davranmak.
- 14- Hep ilgi kaynağı olmaya çalışmak.
- 15- Akranları ile oynarken hep kazanma hırsı yüzünden huzursuzluk çıkarmak.

## Restrictions and Punishments

### Kısıtlamalar ve Karsılıkları

1-15 maddelerde aynı kısıtlamalar tekrar verilmektedir. Ancak bu kez sizden istenilen bu kısıtlamalara uymadığında çocuğa karşı nasıl davranılması gerektiği konusundaki görüşünüzdür. Çocuk bu kısıtlamalara uymadığında anne-babanın gösterebileceği bazı tepkiler seçeneklerde gösterilmiştir. EN UYGUN seçeneği cevap kağıdında belirtiniz. Eğer çocuğun bu kısıtlamaya uymaması sizce çok DOĞAL ya da ÖNEMSİZ ise boş bırakabilirsiniz.

- (a) Tokat bile atabiliriz.
- (b) Bağırip azarlarız.
- (c) İsteddiği birşeyden yoksun bırakırız.
- (d) Kısıtlamanın gerekçesini anlatıp öğüt veririz.

- 1- Kendi bildiğini yapmak için akranlarıyla kavga etmek.
- 2- Anne ve babasına bildirmeden evden uzakta oynamak.
- 3- Evde gürültü ve azgınlık yapmak.
- 4- Evde kimse yokken tehlikeli deneyler yapmak.
- 5- Büyüklere karşı çıkıp onların sözlerine karışmak.
- 6- Anne-babanın yapabileceği işleri kendi başına denemeye kalkışmak.
- 7- Anne-babanın istemediği veya tanımadığı arkadaşlarla oynamak.
- 8- Eşyalarını veya oyuncaklarını dağınık bırakmak.
- 9- Ödevlerini aksatıp öğreneceklerinde geri kalmak.
- 10- Karanlıkta dışarda kalmak.
- 11- Evin içinde ayak altında dolaşip işleri engellemek.
- 12- Giyim kuşam konusunda büyüklerinin kararına itiraz etmek.
- 13- Harçlıklarını harcarken anne babasının isteklerine aykırı davranmak.
- 14- Hep ilgi kaynağı olmaya çalışmak.
- 15- Akranları ile oynarken hep kazanma hırsı yüzünden huzursuzluk çıkarmak.

## APPENDIX D

### Parental Attitudes Research Instrument

#### Çocuk Yetistirmeye İlişkin Görüşler

Bu bölümde çocuk yetiştirme konusundaki bazı görüşler verilmekte ve sizin bu görüşlerle ilgili tutumlarınız sorulmaktadır. Her görüşle ilgili düşüncenizi aşağıdaki seçeneklerden bir tanesi ile belirtmeniz istenmektedir. Doğru ya da yanlış bir cevap yoktur. Size sağlıklı sonuçlar bildirilebilmesi için hiçbir maddenin boş bırakılmaması çok önemlidir.

- (a) Çok uygun buluyorum.
- (b) Oldukça uygun buluyorum.
- (c) Biraz uygun buluyorum.
- (d) Hiç uygun bulmuyorum.

- 1- Çocuk yorucu ve zor işlerden korunmalıdır.
- 2- Ana-babalar çocuklarının bazı dertlerini kendilerine açamayacaklarını anlamalıdır.
- 3- Çocuk boşa geçen dakikaların bir daha geri gelmeyeceğini ne kadar çabuk öğrenirse kendisi için okadar iyi olur.
- 4- Ana-babalar çocuklarının düş kırıklığına uğramaması için ellerinden geleni yapmalıdır.
- 5- Çocuk yürümeyi ne kadar çabuk öğrenirse okadar iyi terbiye edilebilir.
- 6- Çocuğun hayatta öğrenmesi gereken okadar çok şey var ki zamanını boşa geçirmesi affedilemez.
- 7- En iyi yetişkinler sıkı kurallarla yetiştirilen çocuklardan çıkar.
- 8- Ana-babalar çocuklarının mutluluğu için kendi mutluluklarından özveride bulunmayı öğrenmelidirler.
- 9- Hareketli bir çocuk büyük bir olasılıkla mutlu bir kişi olacaktır.

- 10- Büyükler çocukların şakalarına güler, onlara eğlendirici öyküler anlatırlarsa, evdeki düzen daha sürekli ve sağlam olur.
- 11- Çocuğun en gizli düşüncelerini kesinlikle bilmek bir annenin görevidir.
- 12- Ana-babalar çocuklarına kendilerine sorgusuz sualsiz sadık kalmayı öğretmelidirler.
- 13- Ana-babalar her zaman çocukların kendilerine uymalarını beklememeli, biraz da kendileri çocuklarına uymalıdırlar.
- 14- Bir çocuğa ne olursa olsun döğüşmekten kaçınması öğretilmelidir.
- 15- Çocukların aile yaşamında uygun görmedikleri kuralları ana-babalarına söylemeleri hoş karşılanmalıdır.
- 16- Çocuk sıkı terbiye edilirse sonradan ailesine müteşekkir olur.
- 17- Küçük çocuklar cinsel konulardan sakınılmalıdır.
- 18- Çocuğun hayatı hakkında herşeyi bilmek bir annenin hakkıdır, çünkü çocuğu onun bir parçasıdır.
- 19- Uyanık ana-babalar çocuklarının tüm düşüncelerini öğrenmeye çalışırlar.
- 20- Çocuklar ana-babalarının kendileri için neler feda ettiklerini düşünmelidirler.
- 21- Eğer çocukların dertlerini söylemelerine izin verilirse büsbütün şikayetçi olurlar.
- 22- Sert terbiye sağlam ve iyi karakter geliştirir.
- 23- Ana-babalar çocukları için hemen hemen bütün eğlencelerini feda edebilirler.
- 24- İyi bir anne çocuğunu ufak tefek güçlüklerden bile korumalıdır.
- 25- Bir çocuğa anne-babasını herkezden üstün görmesi öğretilmelidir.
- 26- Çocuk hiçbir sırrını ailesinden saklamamalıdır.
- 27- Çocuklardan sık sık ödün vermelerini, ana-babalarına uymalarını istemek doğru değildir.
- 28- Bir çocuğa başı derde girdiğinde döğüşmek yerine büyüklerine başvurması öğretilmelidir.
- 29- Çocukların sorunlarına eğilirseniz , sizi oyalamak için bir sürü masal uydururlar.

- 30- Eger ana-babalar çocukları ile şakalasıp beraber eğlenirlerse, çocuklar onların öğütlerini dinlemeye daha çok yönelirler.
- 31- Anneleri kendileri yüzünden zorluk çektiği için çocuklar onlara karşı daha anlayışlı olmalıdırlar.
- 32- Bir çocuk eninde sonunda anne babasından daha üstün bir akıla sahip olamayacağını öğrenir.
- 33- Bir çocuğun diğer bir çocuğa vurması hiçbir şekilde hoş karşılanamaz.
- 34- Ana-babalar çocuklarına hayatta ilerleyebilmeleri için hep birşeyler yapmaları ve boşa zaman geçirmemeleri gerektiğini öğretmelidirler.
- 35- Evde olup bitenleri sadece anne bildiğine göre ev hayatını da onun planlaması gerekir.
- 36- Eğer anne kollarını sıvar bütün yükü sırtlanırsa bütün aile rahat eder.
- 37- Çocuklar kendilerine olan güvenlerini sarsabilecek bütün güç işlerden uzak tutulmalıdırlar.
- 38- Çocuklar aslında sıkı disiplin içinde mutlu olurlar.
- 39- Çocuklarının toplantılarıyla, kız erkek arkadaşları ile ve eğlenceleri ile ilgilenen ana-babalar onların iyi yetişmesini sağlarlar.
- 40- Anne ve babaya sadakat herşeyden önce gelir.
- 41- Babalar biraz daha şevkatli olsalar anneler çocuklarını daha iyi yönetebilirler.
- 42- Eğer anneler dileklerinin kabul edileceğini bilselerdi, babaların daha anlayışlı olmalarını isterlerdi.
- 43- Eğer bir anne çocuklarını iyi yetiştiremiyorsa belki de bu , babanın kendine düşen görevleri yapmamasından ileri gelmektedir.
- 44- Kendi haklarına sahip olabilmesi için bazen bir kadının kocasına karşı çıkabilmesi gerekir.
- 45- Babalar daha az bencil olsalar kendilerine düşen görevi yaparlardı.
- 46- Ana-babalar arasındaki bazı çelişkiler küçük tartışmalarla çözümlenemez.

## APPENDIX E

### Home Educational Environment Questionnaire (20 items)

#### Aile Egitim Ortamı Ölçeği

Bu bölümde çoktan seçmeli sorular vardır. Her sorunun altında verilen seçenekler arasından sizin durumunuzu tam olmasa bile en iyi yansıtan seçeneği işaretleyiniz.

- 1- Anne çocuğun dersleriyle ilgilenmek için ne kadar zaman ayırabilmektedir? (Hemen hemen hiç ayıramıyorsa boş bırakınız.)
  - a) Haftada bir-iki saat
  - b) Haftada üç-beş saat
  - c) Haftada altı-on saat
  - d) Hemen hergün birkaç saat
  
- 2- Baba çocuğun dersleriyle ilgilenmek için ne kadar zaman ayırabilmektedir? (Hemen hemen hiç ayıramıyorsa boş bırakınız.)
  - a) Haftada bir-iki saat
  - b) Haftada üç-beş saat
  - c) Haftada altı-on saat
  - d) Hemen hergün birkaç saat
  
- 3- Çocuğunuzun eğitimi için ayırdığınız para O'nun bu konudaki ihtiyaçlarınınin yaklaşık ne kadarını karşılayabilmektedir? (Ancak çocuğun eğitimine hiç para ayrılmıyorsa boş bırakınız.)
  - a) % 90 veya daha fazlasını
  - b) % 80 - % 89
  - c) % 50 - % 79
  - d) Yarısından azını

4- Aylık harcamalarınızın ne kadarını çocuğunuzun eğitimi için ayırıyorsunuz? (Ancak çocuğun eğitimine hiç para ayrılmıyorsa boş bırakınız.)

- a) % 10'dan azını
- b) % 10 - % 20 arası
- c) % 21 - % 25
- d) % 25'ten fazlasını

5- Çocuğun eğitimi için yaptığınız harcamalar bütçenizi ne ölçüde etkilemektedir?

- a) Bütçemizi önemli ölçüde sarsmaktadır.
- b) Tasarruflarımızı kısıtlayarak karşılıyoruz.
- c) Lüks sayılabilecek harcamalarımızı kısıtlayarak karşılıyoruz.
- d) Hiçbir kısıntı yapmamız gerekmiyor.

6- Çocuk evde annesini en çok hangi konumda görür? (Bu soruda lütfen çocuğunuzun görüşünü alınız.)

- a) Evle ilgili işleri yaparken
- b) TV izlerken
- c) Gazete, kitap vb. okurken
- d) Mesleği ile ilgili bir çalışmada

7- Çocuk evde babasını en çok hangi konumda görür? (Bu soruda lütfen çocuğunuzun görüşünü alınız.)

- a) Evle ilgili işleri yaparken
- b) TV izlerken
- c) Gazete, kitap vb. okurken
- d) Mesleği ile ilgili bir çalışmada

8- Çocuğunuzun girdiği sınavlardan hangilerinin sonucunu yakından izliyorsunuz?

- a) Ayırım yapmaksızın hepsini
- b) Sadece önemli saydıklarımızı
- c) Sadece kurstaki sınavları
- d) Sadece okuldaki sınavları

9- Çocuğunuzun başarısını engelleyeceği düşüncesi ile hangi tür faaliyetleri kısıtlıyorsunuz? (Ancak hiçbir kısıtlama yapmıyorsanız boş bırakabilirsiniz.)

- a) TV, video, bilgisayar, resim, elişi vb. ev içi uğraşlarını
- b) Spor-oyun-gezi-gezinti vb. ev dışı etkinlikleri
- c) Sinema-tiyatro-arkadaş toplantıları
- d) Hemen hepsinde önemli ölçüde kısıntı yapıyoruz

10- Ders kitapları dışında çocuğun evde yararlandığı bilgi kaynakları nelerdir? (Seçeneklerden hiçbirinden yararlanmıyorsa boş bırakabilirsiniz.)

- a) Kendisine ait ansiklopedi, dergi vb. yayınlar
- b) Bilgisayar, video vb. donanımlar
- c) Çözümlü test kitapları
- d) Hemen hemen hepsi

11- Çocuğunuzun seçme sınavlarında hangi sonucu alacağını tahmin ediyorsunuz?

- a) İlk tercihini kazanabilir.
- b) İkinci ya da üçüncü tercihini kazanabilir.
- c) Açıkta kalmayacağını tahmin ediyoruz.
- d) Başarılı olabileceğinden ümitli değiliz.

12- Çocuğunuzun seçme sınavlarından alabileceği sonuçlardan hangisi sizi üzer?

- a) İkinci tercihini kazansa bile üzülürüz.
- b) İlk üç tercihini kazanamazsa üzülürüz.
- c) Ancak açıkta kalırsa üzülürüz.
- d) Hiçbir yeri kazanamazsa bile üzülmeyiz.

- 13- Çocuğunuzun ilerdeki eğitim hayatında ne düzeyde bir öğrenci olacağını tahmin ediyorsunuz?
- Çok başarılı olacağını sanıyoruz.
  - Yeterince başarılı olacağına inanıyoruz.
  - Bazı sıkıntılarımız olmasından korkuyoruz.
  - Şu anda bunu düşünmüyoruz.
- 14- Çocuğunuzun ilerdeki eğitim hayatında daha azına razı olamayacağınız başarı düzeyi hangisidir?
- Pekiyi
  - İyi
  - Orta
  - Şimdilik bunu düşünmüyoruz.
- 15- Anne ya da baba çocuğun ders çalışmasına nasıl yardımcı olmaktadır?
- Oturup konuları öğreterek
  - Sorduğu soruları yanıtlayarak
  - Çocuğun çalışmalarında disiplin sağlayarak
  - Yukardakilerden en az ikisi
- 16- Çocuğun televizyon izlemeye ayırdığı zaman:  
(Kesinlikle tv ve video seyretmiyorsa boş bırakınız)
- Hergün iki saatten fazla
  - Hergün en çok iki saat
  - Hergün değil ama haftada toplam 10 saatten fazla
  - Hergün değil ve haftada toplam en çok 10 saat
- 17- Çocuğun televizyon izlemesine karşı ailenin kısıtlayıcılığı:  
(ancak televizyon yoksa boş bırakınız)
- Hemen hemen hiç kısıtlama yoktur.
  - Çok az fakat düzenli kısıtlama vardır.
  - Çok az ve düzensiz kısıtlamalar vardır.
  - Sürekli ve düzenli kısıtlamalar vardır.

18- Çocuđunuz televizyon kısıtlamalarına ne ölçüde uymaktadır? (Uyarılara hiç kulak asmiyorsa boş bırakabilirsiniz.)

- a) Hepsine ve benimseyerek
- b) Sadece benimsediklerine
- c) İstemiyerek de olsa çođuna
- d) Pek azına uyar

19- Çocuđun ev içi oyunlara ayırdıđı zaman:

- a) Hergün iki saatten fazla
- b) Hergün en çok iki saat
- c) Hergün deđil ama haftada toplam 10 saatten fazla
- d) Hergün deđil ama haftada toplam en çok 10 saat

20- Çocuđu ev dışı oyun, gezinti, spor vb. etkinliklere ayırdıđı zaman:

- a) Hergün iki saatten fazla
- b) Hergün en çok iki saat
- c) Hergün deđil ama haftada toplam 10 saatten fazla
- d) Hergün deđil ve haftada toplam en çok 10 saat

## APPENDIX F

### Home Educational Environment Questionnaire (Reduced Form : 10 items)

#### Aile Eđitim Ortamı Ölçeđi

- 1- Anne çocuđun dersleriyle ilgilenmek için nekadardan zaman ayırabilmektedir? (Hemen hemen hiç ayıramıyorsa boş bırakınız.)
  - a) Haftada bir-iki saat
  - b) Haftada üç-beş saat
  - c) Haftada altı-on saat
  - d) Hemen hergün birkaç saat
  
- 2- Çocuđunuzun eđitimi için ayırdıđınız para O'nun bu konudaki ihtiyaçlarınınin yaklaşık nekadarını karşılayabilmektedir? (Ancak çocuđun eđitimine hiç para ayrılmıyorsa boş bırakınız.)
  - a) %90 veya daha fazlasını
  - b) % 80 - % 89
  - c) % 50 - % 79
  - d) Yarısından azını
  
- 3- Çocuk evde annesini en çok hangi konumda görür? (Bu soruda lütfen çocuđunuzun görüşünü alınız.)
  - a) Evle ilgili işleri yaparken
  - b) TV izlerken
  - c) Gazete, kitap vb. okurken
  - d) Mesleđi ile ilgili bir çalışmada

- 4- Çocuk evde babasını en çok hangi konumda görür?  
(Bu soruda lütfen çocuğunuzun görüşünü alınız.)
- Evle ilgili işleri yaparken
  - TV izlerken
  - Gazete, kitap vb. okurken
  - Mesleği ile ilgili bir çalışmada
- 5- Çocuğunuzun başarısını engelleyeceği düşüncesi ile hangi tür faaliyetlerini kısıtlıyorsunuz?  
(Ancak hiçbir kısıtlama yapmıyorsanız boş bırakabilirsiniz.)
- TV, video, bilgisayar, resim, elişi vb. ev-içi uğraşlarını
  - Spor-oyun-gezi-gezinti vb. ev dışı etkinlikleri
  - Sinema-tiyatro-arkadaş toplantıları
  - Hemen hepsinde önemli ölçüde kısıntı yapıyoruz.
- 6- Ders kitapları dışında çocuğun evde yaralandığı bilgi kaynakları nelerdir?  
(Seçeneklerden hiçbirinden yararlanmıyorsa boş bırakabilirsiniz.)
- Kendisine ait ansiklopedi, dergi vb. yayınlar
  - Bilgisayar, video vb. donanımlar
  - Çözümlü test kitapları
  - Hemen hemen hepsi
- 7- Çocuğunuzun seçme sınavlarında hangi sonucu alacağını tahmin ediyorsunuz?
- İlk tercihini kazanabilir.
  - İkinci ya da üçüncü tercihini kazanabilir.
  - Açıkta kalmayacağını tahmin ediyoruz.
  - Başarılı olabileceğinden ümitli değiliz.

8- Çocuđunuzun seçme sınavlarından alabileceđi sonuçlardan hangisi sizi üzer?

- a) İkinci tercihini kazansa bile üzülürüz.
- b) İlk üç tercihini kazanamazsa üzülürüz.
- c) Ancak açıkta kalırsa üzülürüz.
- d) Hiçbir yeri kazanamazsa bile üzülmeyiz.

13- Çocuđunuzun ilerdeki eğitim hayatında ne düzeyde bir öğrenci olacağını tahmin ediyorsunuz?

- a) Çok başarılı olacağını sanıyoruz.
- b) Yeterince başarılı olacağına inanıyoruz.
- c) Bazı sıkıntılarımız olmasından korkuyoruz.
- d) Şu anda bunu düşünmüyoruz.

## APPENDIX G

### Home Educational Environment Evaluation Form (Form given to expert judges)

#### Aile Eđitim Ortamı Deđerlendirme Formu

Ařađıdaki sorular "Aile Eđitim Ortamı" anketinde kullanılacaktır. Lütfen her sorunun hangi bölüme ait olabileceđini ve bu bölüme uygunluk derecesini iřaretleyiniz. Yardımlarınıza teřekkürler.

#### Bölümler ve Tanımları

- I) Ebevyenlerin eđitimle ilgili amaçları:  
Ebevyenlerin çocuklarının okul ve başarıları ile ilgili beklentileri
- II) Ebevyenlerin eđitime verdiđi deđer:  
Ebevyenlerin çocuklarının eđitimi için harcadıkları zaman ve maddi olanaklar
- III) Ebevyenlerin eđitimle ilgili uğrařları:  
Çocukların anne ve babalarını diđer ev iřlerine oranla eđitime yönelik uğrařlar içinde ne ölçüde gözlemledikleri
- IV) Akademik başarı baskısı:  
Ebevyenlerin çocuđun okul başarısını engelleyebilecek faaliyetleri ne ölçüde kısıtladıkları
- V) Hiçbiri

## APPENDIX H

### Achievement Motivation Scale

#### Başarı Motivasyonu Testi

Sevgili Öğrenciler

Bu testte 30 soru var. Aslında bu bir sınav değil, bir anket. Öyleyse doğru cevap, yanlış cevap da yok. Siz ne dersanız o doğru cevap sayılacak! Ancak kendinizi bize çok içtenlikle tanıtmınızı istiyoruz. Testi yanıtlamak da çok kolay. Çünkü bütün sorularda cevapseçenekleri aynı. Önce soruyu okuyunuz, sonra hemen karar veriniz ve kararınızı tıpkı diğer testlerde olduğu gibi cevap kağıdında soru numaralarını kaydırmadan isaretleyiniz. Hiç çekinmeden gerçekte nasıl davranıyorsanız öyle cevap veriniz! Teşekkür ederiz.

- 1- Sizden daha yüksek not alan arkadaşlarınızı kıskanıyor musunuz?  
a) Daima      b) Çoğunlukla      c) Bazen      d) Asla
- 2- Notlarınızı arkadaşlarınızın notları ile karşılaştırıyor musunuz?  
a) Daima      b) Çoğunlukla      c) Bazen      d) Asla
- 3- Sizce sınavlarda hep şanslı olanlar mı başarılı oluyorlar?  
a) Daima      b) Çoğunlukla      c) Bazen      d) Asla
- 4- Başkalarının aldıkları notları merak eder misiniz?  
a) Daima      b) Çoğunlukla      c) Bazen      d) Asla
- 5- Sınavlar yüzünden uykularınız kaçıyor mu?  
a) Daima      b) Çoğunlukla      c) Bazen      d) Asla

- 6- Sınav kazanabilmek için bütün eğlencelerden vazgeçebilir misiniz?  
a) Daima b) Çoğunlukla c) Bazen d) Asla
- 7- Sınavı kazanmak için hafta sonlarında bile ders çalışabilir misiniz?  
a) Daima b) Çoğunlukla c) Bazen d) Asla
- 8- Sınav yüzünden oyunlardan vazgeçmek zorunda oluşunuza kızıyor musunuz?  
a) Daima b) Çoğunlukla c) Bazen d) Asla
- 9- Ders çalışırken başka şeylerle ilginizi kesebiliyor musunuz?  
a) Daima b) Çoğunlukla c) Bazen d) Asla
- 10- Büyüyünce önemli bir kişi olmayı diliyor musunuz?  
a) Daima b) Çoğunlukla c) Bazen d) Asla
- 11- Seçme sınavları sonunda hayal kırıklığına uğramaktan korkuyor musunuz?  
a) Daima b) Çoğunlukla c) Bazen d) Asla
- 12- Sınavlara bir hafta önceden hazırlanmaya başlıyor musunuz?  
a) Daima b) Çoğunlukla c) Bazen d) Asla
- 13- Sınavlara hazırlanmak için çok zaman harcıyor musunuz?  
a) Daima b) Çoğunlukla c) Bazen d) Asla
- 14- Kendi yeteneklerinizle arkadaşlarınızın yeteneklerini karşılaştırıyor musunuz?  
a) Daima b) Çoğunlukla c) Bazen d) Asla
- 15- Ünlü kişilerin yaşam öykülerini okumaktan hoşlanır mısınız?  
a) Daima b) Çoğunlukla c) Bazen d) Asla
- 16- Öğretmenin sorduğu sorulara tek doğru cevap veren kişi olmak ister misiniz?  
a) Daima b) Çoğunlukla c) Bazen d) Asla

- 17- Arkadařlarınızla oynadıđınız oyunlarda mutlaka kazanmak ister misiniz?  
a) Daima b) ođunlukla c) Bazen d) Asla
- 18- Zor problemlerle ozünceye kadar uğrařır mısınız?  
a) Daima b) ođunlukla c) Bazen d) Asla
- 19- Birinci tercihinizi kazanamamaktan korkuyor musunuz?  
a) Daima b) ođunlukla c) Bazen d) Asla
- 20- Hergün bařkalarından daha ok alıřıyor musunuz?  
a) Daima b) ođunlukla c) Bazen d) Asla
- 21- Tatildeyken bile dersleri düşünüyor musunuz?  
a) Daima b) ođunlukla c) Bazen d) Asla
- 22- Ders alıřmak için ok sevdiđiniz televizyon programlarından bile vazgeçebiliyor musunuz?  
a) Daima b) ođunlukla c) Bazen d) Asla
- 23- Sınavlara alıřmayı en son güne bırakıyor musunuz?  
a) Daima b) ođunlukla c) Bazen d) Asla
- 24- Düşük not aldıđınız bir sınavdan sonra alıřmaktan vazgeiyor musunuz?  
a) Daima b) ođunlukla c) Bazen d) Asla
- 25- řanssızlık yüzünden düşük not alıyor musunuz?  
a) Daima b) ođunlukla c) Bazen d) Asla
- 26- Ders alıřırken bařka řeylerle meřgul oluyor musunuz?  
a) Daima b) ođunlukla c) Bazen d) Asla
- 27- Bir problemin özümü uzun sürerse sıkılıp bırakır mısınız?  
a) Daima b) ođunlukla c) Bazen d) Asla

28- Hafta sonlarında ders çalışmak zorunda kaldığınız için kızıyor musunuz?

- a) Daima      b) Çoğunlukla      c) Bazen      d) Asla

29- Çalışmadığınız zamanlarda da sınavı düşünüyor musunuz?

- a) Daima      b) Çoğunlukla      c) Bazen      d) Asla

30- Kazanmak için çalışmaktan çok şans mı gerekir?

- a) Daima      b) Çoğunlukla      c) Bazen      d) Asla

APPENDIX I

Statistical Calculations of Nonsignificant Items

Home Educational Environment

- ITEM 2) How much time does the father spare for the child's school work? (omit if no time is spared by the father)
- a) One or two hours a week
  - b) Three-five hours a week
  - c) Six-ten hours a week
  - d) A few hours nearly every day

Table I-1  
Item Statistics for Item 2

Alternatives	a	b	c	d	e
Frequency	321	135	22	59	383
Percentage	35	15	02	06	42
Mean ach.score	54.66	54.50	60.00	53.32	53.26
Standard dev.	15.46	16.74	18.27	17.68	16.65

Differences Between the Mean Achievement Scores  
for Item 2

Compared alternatives	Difference	
a-b	0.16	0.10
a-c	-5.34	-1.34
a-d	1.34	0.55
a-e	1.40	1.16
b-c	-5.50	-1.32
b-d	1.18	0.43
b-e	1.24	0.74
c-d	6.68	1.48
c-e	6.74	1.69
d-e	0.06	0.02

ITEM 5) To what degree does the expenditure your the child's education influence your monthly budget?

- a) Our budget is seriously influenced
- b) We have to restrict our savings
- c) We have to restrict our luxurious spendings.
- d) We don't have to make any restrictions on our savings.

Table I-2

Item Statistics for Item 5

Alternatives	a	b	c	d	e
Frequency	116	359	195	198	52
Percentage	13	39	21	22	06
Mean ach.score	53.30	54.48	56.29	52.96	49.28
Standard dev.	16.42	16.41	17.12	15.58	15.14

Differences Between the Mean Achievement Scores for Item 5

Compared alternatives	Difference	
a-b	-1.18	-0.67
a-c	-2.29	-1.53
a-d	0.34	0.18
a-e	4.02	1.55
b-c	-1.81	-1.21
b-d	1.52	1.08
b-e	5.20	2.29
c-d	3.33	2.02
c-e	7.01	2.88
d-e	3.68	1.55

ITEM 6) In what condition does the child frequently observe his mother?

- a) Doing housework
- b) Watching TV
- c) Reading a book, newspapers etc.
- d) Busy with job-related work

Table I-3

Item Statistics for Item 6

Alternatives	a	b	c	d	e
Frequency	71	278	350	193	28
Percentage	08	30	38	21	03
Mean ach.score	53.38	53.38	55.44	53.21	52.28
Standard dev.	13.36	16.40	16,45	17.13	16.47

Differences Between the Mean Achievement Scores for Item 6

Compared alternatives	Difference (stated if at 0.01)	
a-b	1.18	0.52
a-c	-2.81	-1.49
a-d	-2.05	-0.96
a-e	-1.61	-0.47
b-c	-4.62	-1.20
b-d	-3.86	-0.97
b-e	-3.42	-0.71
c-d	0.76	0.28
c-e	1.20	0.31
d-e	0.44	0.11

ITEM 7) In what condition does the child frequently observe his father?

- a) Doing housework
- b) Watching TV
- c) Reading a book newspaper etc.
- d) Busy with job-related work

Table I-4

Item Statistics for Item 7

Alternatives	a	b	c	d	e
Frequency	29	270	365	178	78
Percentage	03	29	40	19	08
Mean ach.score	48.89	52.67	55.22	55.34	52.82
Standard dev.	14.64	16.34	16.58	15.94	16.58

Differences Between Mean Achievement Scores  
for Item 7

Compared alternatives	Difference	
a-b	-3.78	-1.13
a-c	-6.33	-2.21
a-d	-6.45	-2.17
a-e	-3.93	-1.19
b-c	-2.55	-1.93
b-d	-2.67	-1.72
b-e	-0.15	-0.07
c-d	-0.12	-0.08
c-e	2.40	1.16
d-e	2.52	1.13

ITEM 8) Which of your child's exam results do you closely follow?

- a) All of them without distinction
- b) Only the ones we consider as important
- c) Only the exams taken in the course
- d) Only the exams taken in the school

Table I-5

Item Statistics for Item 8

Alternatives	a	b	c	d	e
Frequency	856	36	7	8	13
Percentage	93	04	01	01	01
Mean ach.score	54.59	49.11	41.42	43.25	48.38
Standard dev.	16.15	17.34	23.03	15.72	18.43

Differences Between the Mean Achievement Scores for Item 8

Compared alternatives	Difference	
a-b	5.48	1.86
a-c	13.17	1.51
a-d	11.34	2.03
a-e	6.21	1.21
b-c	7.69	0.84
b-d	5.86	0.94
b-e	0.73	0.12
c-d	-1.83	-0.18
c-e	-6.96	-0.69
d-e	-5.13	-0.68

ITEM 9) Which one of the child's activities that you think would interfere with school work do you restrict?(omit if you make no restrictions)

- a) Indoors activities like TV-video-computer-
- b) Outdoor activities like sports-games-tours
- c) Cinema-theatre-parties
- d) We restrict considerably nearly all the activities.

Table I-6  
Item Statistics for Item 9

Alternatives	a	b	c	d	e
Frequency	174	46	43	350	370
Percentage	19	05	05	38	33
Mean ach.score	55.57	58.23	53.48	53.38	53.53
Standard dev.	16.07	14.45	15.34	16.50	16.74

Differences Between the Mean Achievement Scores for Item 9

Compared alternatives	Difference	
a-b	-2.66	-1.08
a-c	2.09	0.79
a-d	2.19	1.46
a-e	2.04	1.32
b-c	4.75	1.50
b-d	4.85	2.10
b-e	4.70	2.01
c-d	0.10	0.04
c-e	-0.05	-0.02
d-e	-0.15	-0.12

ITEM 14) What's the lowest achievement level you would tolerate in your child's future academic life?

- a) Very Good
- b) Good
- c) Average
- d) We are not concerned with this at the moment

Table I-7

Item Statistics for Item 14

Alternatives	a	b	c	d	e
Frequency	71	348	158	319	24
Percentage	08	38	17	35	03
Mean ach.score	56.84	53.76	51.75	55.05	53.50
Standard dev.	17.44	16.12	16.01	16.54	15.92

Differences Between the Mean Achievement Scores for Item 14

Compared alternatives	Difference	
a-b	3.05	1.37
a-c	5.09	2.09
a-d	1.79	0.79
a-e	3.34	0.87
b-c	2.01	1.31
b-d	-1.29	-1.02
b-e	0.29	0.08
c-d	-3.30	-2.10
c-e	-1.75	-0.50
d-e	1.55	0.46

## Child Rearing Practices

The alternatives in the related items are:

- a) very appropriate
- b) rather appropriate
- c) slightly appropriate
- d) not appropriate

### Democracy

ITEM 10) Home order will be more stable if adults laugh at children's jokes and tell them funny stories.

Table I-8

#### Item Statistics for Item 10

Alternatives	a	b	c	d	e
Frequency	365	298	189	50	18
Percentage	40	32	20	05	02
Mean ach. score	53.45	54.61	54.41	56.66	48.05
Standard dev.	16.38	16.47	16.22	16.06	16.44

#### Differences Between the Mean Achievement Scores for Item 10

Compared alternatives	Differences	
a-b	-1.16	-0.90
a-c	-0.96	-0.66
a-d	-3.21	-1.32
a-e	5.40	1.36
b-c	0.20	0.13
b-d	-2.05	-0.83
b-e	6.56	1.64
c-d	-2.25	-0.88
c-e	6.36	1.57
d-e	8.61	1.92

ITEM 13) Parents must not always expect their children to act according to their wishes but they must also act according to their children's wishes at times.

Table I-9

Item Statistics for Item 13

Alternatives	a	b	c	d	e
Frequency	435	315	130	21	19
Percentage	47	34	15	02	02
Mean ach.score	53.94	55.05	53.26	51.47	50.36
Standard dev.	16.40	16.15	17.28	12.20	17.34

Differences between the Mean Achievement Scores for Item 13

Compared alternatives	Difference	
a-b	-1.11	-0.92
a-c	0.68	0.40
a-d	2.47	0.89
a-e	3.58	0.88
b-c	1.79	1.01
b-d	3.58	1.27
b-e	4.69	1.15
c-d	1.79	0.58
c-e	2.90	0.68
d-e	1.11	0.23

ITEM 15) Parents must tolerate their children's oppositions concerning the rules in the family.

Table I-10

Item Statistics for Item 15

Alternatives	a	b	c	d	e
Frequency	475	263	82	21	79
Percentage	51	29	09	02	09
Mean ach. score	54.93	53.53	54.10	49.57	52.13
Standard dev.	16.19	16.50	16.72	17.41	16.31

Differences Between the Mean Achievement Scores for Item 15

Compared alternatives	Difference	
a-b	1.40	1.10
a-c	0.83	0.42
a-d	5.36	1.38
a-e	2.80	1.41
b-c	-0.57	-0.27
b-d	3.69	1.01
b-e	1.40	0.67
c-d	4.53	1.07
c-e	1.97	0.76
d-e	-2.56	-0.61

ITEM 27) It's not right to expect children to behave in line with their parents or to make frequent sacrifice.

Table I-11

Item Statistics for Item 27

Alternatives	a	b	c	d	e
Frequency	264	267	226	109	54
Percentage	32	29	25	12	06
Mean ach.score	53.96	54.47	55.41	51.81	52.44
Standard dev.	15.82	16.42	16.16	17.18	17.87

Differences Between the Mean Achievement Scores for Item 27

Compared alternatives	Difference	
a-b	-0.41	-0.29
a-c	-1.45	-1.00
a-d	2.15	1.12
a-e	1.52	0.58
b-c	-1.04	-0.71
b-d	2.56	1.33
b-e	1.93	0.73
c-d	3.60	1.83
c-e	2.97	1.12
d-e	-0.63	-0.21

ITEM 30) If parents joke and have fun together with their children, children will tend to listen to their advices.

Table I-12

Item Statistics for Item 30

Alternatives	a	b	c	d	e
Frequency	598	207	64	26	25
Percentage	65	23	07	03	03
Mean ach.score	54.60	53.94	52.53	49.76	51.72
Standard dev.	16.27	16.17	17.04	15.70	19.27

Differences Between the Mean Scores  
for Item 30

Compared alternatives	Difference	
a-b	0.66	0.51
a-c	2.07	0.93
a-d	4.84	1.54
a-e	2.88	0.74
b-c	1.41	0.59
b-d	4.18	1.28
b-e	2.22	0.55
c-d	2.77	0.74
c-e	0.81	0.18
d-e	-1.96	-0.40

ITEM 39) Parents who care about their children's friends and parties, bring them up more properly.

Table I-13

Item Statistics for Item 39

Alternatives	a	b	c	d	e
Frequency	427	296	145	35	17
Percentage	46	32	16	04	02
Mean ach.score	54.89	55.68	54.00	51.37	47.76
Standard dev.	16.11	16.89	15.80	17.28	16.23

Differences Between the Mean Achievement Scores for Item 39

Compared alternatives	Difference	
a-b	1.21	0.97
a-c	0.89	0.58
a-d	3.52	1.16
a-e	7.13	1.78
b-c	-0.32	-0.20
b-d	2.31	0.75
b-e	5.92	1.46
c-d	2.63	0.82
c-e	6.24	1.50
d-e	3.61	0.74

Overprotection

ITEM 1) A child must be protected from difficult and tiring tasks.

Table I-14

Item statistics for Item 1

Alternatives	a	b	c	d	e
Frequency	327	259	259	65	10
Percentage	36	28	28	07	01
Mean ach.score	52.44	54.93	55.11	55.23	52.80
Standard dev.	16.09	15,77	16.72	18.03	18.97

Differences Between the Mean Achievement Scores for Item 1

Compared alternatives	Difference	
a-b	-2.49	-1.88
a-c	-2.67	-1.95
a-d	-2.79	-1.16
a-e	-0.36	-0.06
b-c	-0.18	-0.13
b-d	-0.30	-0.12
b-e	2.13	0.35
c-d	-0.12	-0.05
c-e	2.31	0.38
d-e	2.43	0.38

ITEM 3) The sooner a child learns not to waste his time the better it is.

Table I-15

Item Statistics for Item 3

Alternatives	a	b	c	d	e
Frequency	601	211	73	20	15
Percentage	65	23	08	02	02
Mean ach.score	53.44	55.76	55.73	51.25	52.40
Standard dev.	16,39	16.07	17.03	14.28	17.97

Differences Between the Mean Achievement Scores  
for Item 3

Compared alternatives	Difference	
a-b	-2.32	-1.79
a-c	-2.29	-1.09
a-d	2.19	0.65
a-e	1.04	0.22
b-c	0.03	0.01
b-d	4.51	1.29
b-e	3.36	0.70
c-d	4.48	1.16
c-e	3.33	0.66
d-e	-1.15	-0.20

ITEM 4) Parents must do their best to keep the child away from dissappointments.

Table I-16

Item Statistics for Item 4

Alternatives	a	b	c	d	e
Frequency	481	222	135	68	14
Percentage	52	24	15	07	02
Mean ach.score	52.95	54.00	57.08	57.22	50.92
Standard dev.	15.91	16.54	16.72	16.96	19.56

Differences Between the Mean Achievement Scores for Item 4

Compared alternatives	Difference	
a-b	-1.05	-0.79
a-c	-4.13	-2.56
a-d	-4.27	-1.96
a-e	2.03	0.38
b-c	-3.08	-1.69
b-d	-3.22	-1.38
b-e	3.08	0.58
c-d	-0.14	-0.06
c-e	6.16	1.14
d-e	6.30	1.12

ITEM 9) An active child will most probably be a happy adult.

Table I-17

Item Statistics for Item 9

Alternatives	a	b	c	d	e
Frequency	85	197	267	333	38
Percentage	10	21	29	36	04
Mean ach. score	50.07	55.15	53.92	54.95	51.31
Standard dev.	16.77	16,13	14.93	16.24	16.99

Differences Between the Mean Achievement Scores for Item 9

Compared alternatives	Difference	
a-b	-5.08	-2.33
a-c	-3.85	-1.84
a-d	-4.88	-2.39
a-e	-1.24	-0.39
b-c	1.23	0.80
b-d	0.20	0.14
b-e	3.84	1.36
c-d	-1.03	-0.77
c-e	2.61	0.95
d-e	3.64	1.34

ITEM 19) Careful parents try to learn all that their children think.

Table I-18

Item Statistics for Item 19

Alternatives	a	b	c	d	e
Frequency	246	247	197	191	39
Percentage	27	27	21	21	04
Mean ach.score	52.24	55.03	55.44	54.63	50.43
Standard dev.	16.11	16.52	16.71	15.75	17.53

Differences Between the Mean Achievement Scores for Item 19

Compared alternatives	Difference	
a-b	-2.79	-1.90
a-c	-3.20	-2.04
a-d	-2.39	-1.56
a-e	1.81	0.61
b-c	-0.41	-0.26
b-d	0.40	0.26
b-e	4.60	1.53
c-d	0.81	0.49
c-e	5.01	1.64
d-e	4.20	1.39

ITEM 26) A child must not keep any of his secrets  
from his family.

Table I-19

Item Statistics for Item 26

Alternatives	a	b	c	d	e
Frequency	491	204	143	56	26
Percentage	53	22	16	06	03
Mean ach.score	54.21	53.21	55.41	56.53	46.21
Standard dev.	16.40	16.90	15.14	15.90	17.60

Differences between the Mean Achievement Scores  
for Item 26

Compared alternatives	Differences	
a-b	1.00	0.72
a-c	-1.20	-0.82
a-d	-2.32	-1.03
a-e	7.95	2.25
b-c	-2.20	-1.27
b-d	-3.32	-1.37
b-e	6.95	1.91
c-d	-1.12	-0.45
c-e	9.15	2.49
d-e	10.27	2.53

ITEM 22) Strict discipline results in favourable character.

Table I-20

Item Statistics for Item 22

Alternatives	a	b	c	d	e
Frequency	15	30	147	695	33
Percentage	02	03	16	75	04
Mean ach.score	52.13	50.30	53.43	54.50	52.84
Standard dev.	17.62	16.79	16.50	16.28	16.94

Differences between the Mean Achievement Scores for Item 22

Compared alternatives	Differences	
a-b	1.83	0.33
a-c	-1.30	-0.27
a-d	-2.37	-0.52
a-e	-0.71	-0.13
b-c	-3.13	-0.93
b-d	-4.20	-1.34
b-e	-2.54	-0.60
c-d	-1.04	-0.72
c-e	0.59	0.18
d-e	1.66	0.55

ITEM 25) A child must be taught to view his parents superior to anyone else.

Table I-21

Item Statistics for Item 25

Alternatives	a	b	c	d	e
Frequency	53	73	194	561	39
Percentage	06	08	21	61	04
Mean ach. score	49.26	52.63	53.71	55.10	50.84
Standard dev.	18.78	16.04	16.15	16.06	17.92

Differences between the Mean Achievement Scores for Item 25

Compared alternatives	Differences	
a-b	-3.37	-1.06
a-c	-4.45	1.57
a-d	-5.84	-2.19
a-e	-1.58	-0.41
b-c	-1.08	-0.49
b-d	-2.47	-1.24
b-e	1.79	0.52
c-d	-1.39	-1.03
c-e	2.87	0.93
d-e	4.26	1.45

ITEM 38) Children are content under strict  
disciplinarian conditions

Table I-22

Item Statistics for Item 38

Alternatives	a	b	c	d	e
Frequency	8	25	125	737	25
Percentage	01	03	14	80	03
Mean ach.score	53.50	58.08	54.84	54.05	47.92
Standard dev.	13.55	16.79	16.22	16.39	16.26

Differences between the Mean Achievement Scores  
for Item 38

Compared alternatives	Differences	
a-b	-4.58	-0.78
a-c	-1.34	-0.27
a-d	-0.55	-0.11
a-e	5.58	0.96
b-c	3.24	0.89
b-d	4.03	1.18
b-e	10.16	2.17
c-d	0.79	0.50
c-e	6.92	1.94
d-e	6.13	1.85

Marital Compliance

ITEM 41) If fathers were more affectionate, mothers could better shape their children.

Table I-23

Item Statistics for Item 41

Alternatives	a	b	c	d	e
Frequency	242	225	222	204	27
Percentage	20	18	18	17	02
Mean ach.score	52.85	55.02	54.44	55.00	47.81
Standard dev.	16.60	15.70	16.23	16.46	19.25

Differences between the Mean Achievement Scores for Item 41

Compared alternatives	Differences	
a-b	-2.17	-1.45
a-c	-1.59	-1.04
a-d	-2.15	-1.37
a-e	5.04	1.31
b-c	0.58	0.38
b-d	0.02	0.01
b-e	7.21	1.87
c-d	-0.56	-0.35
c-e	6.63	1.72
d-e	7.19	1.85

ITEM 42) If the mothers knew that their wishes were to become true, they would want fathers to be more sensitive.

Table I-24

Item Statistics for Item 42

Alternatives	a	b	c	d	e
Frequency	207	216	258	192	47
Percentage	17	18	21	16	04
Mean ach. score	53.16	55.40	52.77	55.59	53.29
Standard dev.	16.42	16.47	16.17	15.96	18.14

Differences between the Mean Achievement Scores for Item 42

Compared alternatives	Differences	
a-b	-2.24	-1.40
a-c	0.39	0.26
a-d	-2.43	-1.50
a-e	-0.13	-0.05
b-c	2.63	1.75
b-d	-0.19	-0.12
b-e	2.11	0.73
c-d	-2.82	-1.84
c-e	-0.52	-0.18
d-e	2.30	0.80

ITEM 43) A mother may fail to bring up her children properly , because of the father fails to do what he should.

Table I-25

Item Statistics for Item 43

Alternatives	a	b	c	d	e
Frequency	256	221	236	174	33
Percentage	21	18	19	14	03
Mean ach.score	52.17	56.08	53.90	55.00	52.30
Standard dev.	16.29	17.11	15.75	16.19	16.28

Differences between the Mean Achievement Scores for Item 43

Compared alternatives	Differences	
a-b	-3.91	-2.54
a-c	-1.73	-1.20
a-d	-2.83	-1.77
a-e	-0.13	-0.04
b-c	2.18	1.41
b-d	1.08	0.64
b-e	3.78	1.24
c-d	-1.10	-0.69
c-e	1.60	0.53
d-e	2.70	0.87

ITEM 44) Sometimes a woman must oppose her husband in order to stand up for her own rights.

Table I-26

Item Statistics for Item 44

Alternatives	a	b	c	d	e
Frequency	447	240	141	51	41
Percentage	37	20	12	04	03
Mean ach.score	54.49	54.70	51.88	56.01	51.36
Standard dev.	16.61	16.81	15.43	15.64	14.78

Differences between the Mean Achievement Scores for Item 44

Compared alternatives	Differences	
a-b	-0.21	-0.16
a-c	2.61	1.72
a-d	-1.52	-0.65
a-e	3.13	1.28
b-c	2.82	1.67
b-d	-1.31	-0.54
b-e	3.34	1.31
c-d	-4.13	-1.62
c-e	0.52	0.20
d-e	4.65	1.46

ITEM 45) If fathers were less selfish, they would do what they should on their part.

Table I-27

Item Statistics for Item 45

Alternatives	a	b	c	d	e
Frequency	211	192	162	202	153
Percentage	17	16	13	17	13
Mean ach.score	54.27	53.85	53.45	56.00	52.30
Standard dev.	16.99	16.63	16.53	15.71	15.79

Differences between the Mean Achievement Scores for Item 45

Compared alternatives	Differences	
a-b	0.42	0.25
a-c	0.82	0.47
a-d	-1.73	-1.07
a-e	1.97	1.14
b-c	0.40	0.23
b-d	-2.15	-1.32
b-e	1.55	0.88
c-d	-2.55	-1.50
c-e	1.15	0.63
d-e	3.70	2.19

ITEM 46) Certain conflicts between the parents cannot be settled with small discussions.

Table I-28

Item Statistics for Item 46

Alternatives	a	b	c	d	e
Frequency	68	67	110	305	370
Percentage	06	05	09	25	30
Mean ach.score	57.88	54.52	55.24	55.09	52.16
Standard dev.	17.06	16.44	16.02	16.36	16.19

Differences between the Mean Achievement Scores for Item 46

Compared alternatives	Differences	
a-b	3.36	1.17
a-c	2.64	1.03
a-d	2.79	1.23
a-e	5.72	2.56
b-c	-0.72	-0.29
b-d	-0.57	-0.26
b-e	2.36	1.08
c-d	0.15	0.08
c-e	3.08	1.77
d-e	2.93	2.33

## Parent Socialization

### Demands & Age

The alternatives of the Demands & Age questionnaire specify the age until which the behaviours expected from the child are to be learned. The age limits are:

- a) until 7 years of age
- b) until 11 years of age
- c) until 15 years of age
- d) after 15 years of age

ITEM 1) To stand up for his own rights with other children.

Table I-29

### Item Statistics for Item 1

Alternatives	a	b	c	d	e
Frequency	652	213	22	3	30
Percentage	71	23	02	00	03
Mean ach.score	54.12	54.47	53.27	45.00	52.40
Standard dev.	16.43	16.01	18.88	16.46	16.29

Differences between the Mean Achievement Scores  
for Item 1

Compared alt.	Differences	
a-b	-0.35	-0.28
a-c	0.85	0.21
a-d	9.12	0.96
a-e	1.72	0.57
b-c	1.20	0.29
b-d	9.47	0.99
b-e	2.07	0.65
c-d	8.27	0.80
c-e	0.87	0.17
d-e	-7.40	-0.74

ITEM 2) To know his way in the neighbourhood, so that he can play where he wants without getting lost.

Table I-30

Item Statistics for Item 2

Alternatives	a	b	c	d	e
Frequency	466	374	40	6	34
Percentage	51	41	04	00	04
Mean ach.score	54.86	53.97	51.82	44.00	49.41
Standard dev.	16.32	16.39	14.93	10.64	18.35

Differences between the Mean Achievement Scores for Item 2

Compared alternatives	Differences	
a-b	0.89	0.78
a-c	3.04	1.23
a-d	10.86	2.46
a-e	5.45	1.68
b-c	2.15	0.86
b-d	9.97	2.25
b-e	4.56	1.40
c-d	7.82	1.58
c-e	2.41	0.61
d-e	-5.41	-1.01

ITEM 6) To make his own friends among children his own age.

Table I-31

Item Statistics for Item 6

Alternatives	a	b	c	d	e
Frequency	697	158	24	9	32
Percentage	76	17	03	01	03
Mean ach.score	54.22	54.53	55.83	50.66	50.21
Standard dev.	16.42	16.06	15.99	18.10	17.06

Differences between the Mean Achievement Scores for Item 6

Compared alternatives	Differences	
a-b	-0.31	-0.22
a-c	0.39	0.12
a-d	3.56	0.59
a-e	4.01	1.30
b-c	0.70	0.20
b-d	3.87	0.63
b-e	4.32	1.32
c-d	3.17	0.46
c-e	3.62	0.81
d-e	0.45	0.07

ITEM 7) To do well in school on his own

Table I-32

Item Statistics for Item 7

Alternatives	a	b	c	d	e
Frequency	674	201	11	3	31
Percentage	73	22	01	00	03
Mean ach.score	54.04	55.20	48.36	58.33	49.74
Standard dev.	16.15	16.78	17.25	10.21	18.15

Differences between the Mean Achievement Scores  
for Item 7

Compared alternatives	Differences	
a-b	-1.16	-0.87
a-c	5.68	1.08
a-d	-4.29	-0.72
a-e	4.30	1.30
b-c	6.84	1.28
b-d	-3.13	-0.52
b-e	5.46	1.57
c-d	-9.97	-1.27
c-e	-1.38	-0.22
d-e	8.59	1.27

ITEM 8) To earn his own spending money.

Table I-33

Item Statistics for Item 8

Alternatives	a	b	c	d	e
Frequency	12	51	149	586	122
Percentage	01	06	16	64	13
Mean ach.score	49.16	54.15	54.03	54.84	51.06
Standard dev.	16.27	16.46	17.08	16.26	15.82

Differences between the Mean Achievement Scores  
for Item 8

Compared alternatives	Differences	
a-b	-4.99	-0.95
a-c	-4.87	-0.99
a-d	-5.68	-1.20
a-e	-1.90	-0.39
b-c	0.12	0.04
b-d	-0.69	-0.29
b-e	3.09	1.14
c-d	-0.81	-0.52
c-e	2.97	1.48
d-e	3.78	2.39

ITEM 9) To have interests and hobbies on his own.

Table I-34

Item Statistics for Item 9

Alternatives	a	b	c	d	e
Frequency	277	447	140	27	29
Percentage	30	49	15	03	03
Mean ach.score	55.28	54.04	51.97	54.03	53.79
Standard dev.	17.20	16.14	15.65	13.62	17.78

Differences between the Mean Achievement Scores  
for Item 9

Compared alternatives	Differences	
a-b	1.24	0.94
a-c	3.31	1.97
a-d	1.25	0.44
a-e	1.49	0.44
b-c	2.07	1.36
b-d	0.01	0.00
b-e	0.25	0.08
c-d	-2.06	-0.70
c-e	-1.82	-0.52
d-e	0.24	0.06

ITEM 10) To do some regular tasks around the house.

Table I-35

Item Statistics for Item 10

Alternatives	a	b	c	d	e
Frequency	125	530	194	33	38
Percentage	14	57	21	04	04
Mean ach.score	54.91	54.28	54.54	51.42	48.86
Standard dev.	16.65	16.38	16.04	16.61	16.46

Differences between the Mean Achievement Scores  
for Item 10

Compared alternatives	Differences	
a-b	0.63	0.38
a-c	0.37	0.20
a-d	3.49	1.07
a-e	6.05	1.98
b-c	-0.26	-0.19
b-d	2.86	0.96
b-e	5.42	1.96
c-d	3.12	1.00
c-e	5.68	1.95
d-e	2.56	0.65

ITEM 12) To compete to achieve in sports and games.

Table I-36

Item Statistics for Item 12

Alternatives	a	b	c	d	e
Frequency	210	511	143	18	38
Percentage	23	55	15	02	04
Mean ach.score	55.12	54.56	51.32	50.61	54.28
Standard dev.	16.29	16.47	15.33	16.53	18.56

Differences between the Mean Achievement Scores  
for Item 12

Compared alternatives	Differences	
a-b	0.56	0.42
a-c	3.80	2.23
a-d	4.51	1.11
a-e	0.84	0.26
b-c	3.24	2.20
b-d	3.95	1.00
b-e	0.28	0.09
c-d	0.71	0.17
c-e	-2.96	-0.90
d-e	-3.67	-0.75

ITEM 13) To be able to assert himself in children's groups.

Table I-37

Item Statistics for Item 13

Alternatives	a	b	c	d	e
Frequency	382	440	68	6	24
Percentage	41	48	07	01	02
Mean ach.score	55.38	53.77	51.66	44.66	48.83
Standard dev.	16.41	16.67	13.27	16.34	16.55

Differences between the Mean Achievement Scores for Item 13

Compared alternatives	Differences	
a-b	1.61	1.39
a-c	3.72	2.05
a-d	10.72	1.59
a-e	6.55	1.88
b-c	2.11	1.18
b-d	9.11	1.36
b-e	4.94	1.42
c-d	7.00	1.02
c-e	2.83	0.76
d-e	-4.17	-0.56

ITEM 14) To hang up his own clothes and to look after his own possessions.

Table I-38

Item Statistics for Item 14

Alternatives	a	b	c	d	e
Frequency	600	274	19	2	25
Percentage	65	30	02	00	03
Mean ach.score	54.55	53.17	57.63	62.50	49.88
Standard dev.	16.70	15.47	17.58		17.12

Differences between the Mean Achievement Scores for Item 14

Compared alternatives	Differences	
a-b	1.38	1.19
a-c	-3.08	-0.75
a-d	-7.95	0.00
a-e	4.67	1.34
b-c	-4.46	-1.08
b-d	-9.33	0.00
b-e	3.29	0.93
c-d	-4.87	0.00
c-e	7.75	1.47
d-e	12.62	0.00

ITEM 15) To be able to go out and play by himself.

Table I-39

Item Statistics for Item 15

Alternatives	a	b	c	d	e
Frequency	213	583	82	17	25
Percentage	23	63	09	02	03
Mean ach.score	53.88	54.23	54.39	52.52	52.72
Standard dev.	16.25	16.39	17.13	15.30	17.20

Differences between the Mean Achievement Scores  
for Item 15

Compared alternatives	Differences	
a-b	-0.35	-0.27
a-c	-0.51	-0.23
a-d	1.36	0.40
a-e	1.16	0.32
b-c	-0.16	-0.08
b-d	1.71	0.52
b-e	1.51	0.43
c-d	1.87	0.50
c-e	1.67	0.43
d-e	-0.20	-0.04

## Demands & Rewards

The alternatives of the Demands and Rewards questionnaire specify the type of reward presented to the child in cases when the behaviour expected from the child is actualized. The types of rewards presented are:

- a) We kiss and hug him/her
- b) We verbally state we appreciate his/her success
- c) We reward him/her with a present he/she likes
- d) We advise ways for improving

ITEM 1) To stand up for his own rights with other children.

Table I-40  
Item Statistics for Item 1

Alternatives	a	b	c	d	e
Frequency	71	462	3	228	156
Percentage	08	50	00	25	17
Mean ach.score	54.21	54.95	61.00	52.01	54.40
Standard dev.	17.58	16.49	8.72	16.27	15.56

Differences between the Mean Achievement Scores  
for Item 1

Compared alt.	Differences	
a-b	-0.74	-0.33
a-c	-6.79	-1.25
a-d	2.20	0.94
a-e	-0.19	-0.08
b-c	-6.05	-1.19
b-d	2.94	2.22
b-e	0.55	0.38
c-d	8.99	1.75
c-e	6.60	1.27
d-e	-2.39	-1.45

ITEM 3) To be willing to try new things on his own  
without depending on his mother for help.

Table I-41

Item Statistics for Item 3

Alternatives	a	b	c	d	e
Frequency	132	417	24	249	98
Percentage	14	45	03	27	11
Mean ach.score	53.95	55.30	49.91	52.45	54.34
Standard dev.	16.22	16.57	15.31	15.91	16.90

Differences between the Mean Achievement Scores  
for Item 3

Compared alternatives	Differences	
a-b	-1.35	-0.83
a-c	4.04	1.18
a-d	1.50	0.86
a-e	-0.39	-1.18
b-c	5.39	1.67
b-d	2.85	2.20
b-e	0.96	0.51
c-d	-2.54	-0.77
c-e	-4.43	-1.24
d-e	-1.89	-0.95

ITEM 5) To try hard things for himself without asking for help.

Table I-42

Item Statistics for Item 5

Alternatives	a	b	c	d	e
Frequency	160	403	76	193	88
Percentage	17	44	08	21	10
Mean ach.score	55.69	55.23	52.60	52.18	51.50
Standard dev.	16.23	16.49	15.94	15.53	17.73

Differences between the Mean Achievement Scores for Item 5

Compared alternatives	Differences	
a-b	0.46	0.30
a-c	3.09	1.38
a-d	3.51	2.06
a-e	4.19	1.83
b-c	2.63	1.31
b-d	3.05	2.20
b-e	3.73	1.81
c-d	0.42	0.20
c-e	1.10	0.42
d-e	0.68	0.31

ITEM 9) To have interests and hobbies on his own.

Table I-43

Item Statistics for Item 9

Alternatives	a	b	c	d	e
Frequency	95	445	69	195	116
Percentage	10	48	07	21	13
Mean ach.score	56.34	54.56	53.71	52.55	53.27
Standard dev.	15.56	16.94	16.28	15.81	15.73

Differences between the Mean Achievement Scores  
for Item 9

Compared alternatives	Differences	
a-b	1.78	1.00
a-c	2.63	1.04
a-d	3.79	1.94
a-e	3.07	1.42
b-c	0.85	0.40
b-d	2.01	1.45
b-e	1.29	0.77
c-d	1.16	0.51
c-e	0.44	0.18
d-e	-0.72	-0.39

ITEM 10) To do some regular tasks around the house.

Table I-44

Item Statistics for Item 10

Alternatives	a	b	c	d	e
Frequency	261	309	58	135	157
Percentage	28	34	06	15	17
Mean ach.score	54.12	55.09	52.87	51.58	54.70
Standard dev.	16.47	15.58	16.85	17.56	16.79

Differences between the Mean Achievement Scores  
for Item 10

Compared alternatives	Differences	
a-b	-0.97	-0.72
a-c	1.25	0.51
a-d	2.54	1.39
a-e	-0.58	-0.34
b-c	2.22	0.93
b-d	3.51	2.01
b-e	0.39	0.24
c-d	1.29	0.48
c-e	-1.89	-0.71
d-e	-3.12	-1.54

ITEM 14) To hang up his own clothes and to look after his own possessions.

Table 45

Item Statistics for Item 14

Alternatives	a	b	c	d	e
Frequency	216	231	55	128	290
Percentage	23	25	06	14	31
Mean ach.score	55.43	54.91	51.78	53.14	53.30
Standard dev.	15.98	16.76	16.57	16.05	16.44

Differences between the Mean Achievement Scores for Item 14

Compared alternatives	Differences	
a-b	0.52	0.34
a-c	3.65	1.47
a-d	2.29	1.28
a-e	2.13	1.47
b-c	3.13	1.26
b-d	1.77	0.99
b-e	1.61	1.10
c-d	-1.36	-0.51
c-e	-1.52	-0.62
d-e	-0.16	-0.09

ITEM 15) To be able to go out and play by himself.

Table 46

Item Statistics for Item 15

Alternatives	a	b	c	d	e
Frequency	22	102	2	117	677
Percentage	02	11	00	13	73
Mean ach.score	50.54	56.37	49.00	52.75	54.11
Standard dev.	14.76	16.96		17.52	16.13

Differences between the Mean Achievement Scores  
for Item 15

Compared alternatives	Differences	
a-b	-5.83	-1.63
a-c	1.54	0.00
a-d	-2.21	-0.62
a-e	-3.57	-1.11
b-c	7.37	0.00
b-d	3.62	1.55
b-e	2.26	1.26
c-d	-3.75	0.00
c-e	-5.11	0.00
d-e	-1.36	-0.78

## Restrictions & Age

The alternatives of Restrictions and Age questionnaire specify the age until which the behaviours are restricted from the child. The age limits are :

- a) until 7 years of age
- b) until 11 years of age
- c) until 15 years of age
- d) permanently

ITEM 1) To fight with children to get his own way.

Table I-47

### Item Statistics for Item 1

Alternatives	a	b	c	d	e
Frequency	182	86	49	448	155
Percentage	20	09	05	49	17
Mean ach. score	55.42	55.11	51.24	54.02	53.63
Standard dev.	15.96	16.27	17.01	16.77	15.54

### Differences between the Mean Achievement Scores for Item 1

Compared alt.	Differences	
a-b	1.31	0.62
a-c	4.18	1.55
a-d	1.40	0.98
a-e	1.79	1.04
b-c	2.87	0.96
b-d	0.09	0.05
b-e	0.48	0.22
c-d	-2.78	-1.09
c-e	-2.39	-0.87
d-e	0.39	0.26

ITEM 2) To play away from home without telling his  
 parents where he is.

Table I-48

Item Statistics for Item 2

Alternatives	a	b	c	d	e
Frequency	87	117	292	359	65
Percentage	09	13	32	40	07
Mean ach.score	53.62	55.05	53.46	54.39	54.23
Standard dev.	15.19	17.13	17.13	16.09	14.84

Differences between the Mean Achievement Scores  
 for Item 2

Compared alternatives	Differences	
a-b	-1.43	-0.63
a-c	0.16	0.08
a-d	-0.77	-0.42
a-e	-0.61	-0.25
b-c	1.59	0.85
b-d	0.66	0.37
b-e	0.82	0.34
c-d	-0.93	-0.71
c-e	-0.77	-0.37
d-e	0.16	0.08

ITEM 3) To be noisy and boisterous in the house.

Table I-49

Item Statistics for Item 3

Alternatives	a	b	c	d	e
Frequency	145	142	49	410	174
Percentage	16	15	05	44	19
Mean ach.score	52.35	53.95	54.51	53.59	56.74
Standard dev.	17.09	16.87	18.55	15.88	15.71

Differences between the Mean Achievement Scores  
for Item 3

Compared alternatives	Differences	
a-b	-1.60	-0.80
a-c	-2.16	-0.72
a-d	-1.24	-0.76
a-e	-4.39	-2.37
b-c	-0.56	-0.19
b-d	0.36	0.22
b-e	-2.79	-1.51
c-d	0.92	0.33
c-e	-2.23	-0.77
d-e	-3.15	-2.21

ITEM 4) To be cautious in trying new things on his own when his parents aren't around.

Table I-50

Item Statistics for Item 4

Alternatives	a	b	c	d	e
Frequency	59	67	103	635	56
Percentage	06	07	11	69	06
Mean ach.score	52.81	53.83	51.17	54.84	52.71
Standard dev.	15.80	16.59	16.37	16.43	15.83

Differences between the Mean Achievement Scores for Item 4

Compared alternatives	Differences	
a-b	-1.02	-0.35
a-c	1.64	0.63
a-d	-2.03	-0.94
a-e	0.10	0.03
b-c	2.66	1.03
b-d	-1.01	-0.47
b-e	1.12	0.38
c-d	-3.67	-2.11
c-e	-1.54	-0.58
d-e	2.13	0.96

ITEM 6) To try to do things himself that his parents can do better.

Table I-51

Item Statistics for Item 6

Alternatives	a	b	c	d	e
Frequency	77	158	409	158	118
Percentage	08	17	44	17	13
Mean ach.score	54.55	55.34	53.50	52.83	55.85
Standard dev.	17.23	16.16	16.47	16.65	15.33

Differences between the Mean Achievement Scores for Item 6

Compared alternatives	Differences	
a-b	-0.79	-0.34
a-c	1.05	0.49
a-d	1.72	0.73
a-e	-1.30	-0.54
b-c	1.84	1.21
b-d	2.51	1.36
b-e	-0.51	-0.27
c-d	0.67	0.43
c-e	-2.35	-1.44
d-e	-3.02	-1.56

ITEM 7) To play with children he doesn't know or his parents don't approve.

Table I-52

Item Statistics for Item 7

Alternatives	a	b	c	d	e
Frequency	47	104	269	417	83
Percentage	05	11	29	45	09
Mean ach.score	50.55	56.68	53.46	54.59	52.42
Standard dev.	15.11	16.22	16.86	16.38	15.29

Differences between the Mean Achievement Scores for Item 7

Compared alternatives	Differences	
a-b	-6.13	-2.25
a-c	-2.91	-1.20
a-d	-4.04	-1.72
a-e	-1.87	-0.67
b-c	3.22	1.70
b-d	2.09	1.17
b-e	4.26	1.84
c-d	-1.13	-0.87
c-e	1.04	0.53
d-e	2.17	1.17

ITEM 8) To leave his clothes lying around or his room untidy.

Table I-53

Item Statistics for Item 8

Alternatives	a	b	c	d	e
Frequency	204	143	54	409	110
Percentage	17	12	04	33	09
Mean ach.score	52.33	55.60	55.68	54.29	53.90
Standard dev.	16.64	17.12	16.57	15.58	17.58

Differences between the Mean Achievement Scores for Item 8

Compared alternatives	Differences	
a-b	-3.27	-1.77
a-c	-3.35	-1.32
a-d	-1.96	-1.40
a-e	-1.57	-0.77
b-c	-0.08	-0.03
b-d	1.31	0.81
b-e	1.70	0.77
c-d	1.39	0.58
c-e	1.78	0.63
d-e	0.39	0.21

ITEM 9) To fail at school work.

Table I-54

Item Statistics for Item 9

Alternatives	a	b	c	d	e
Frequency	89	96	81	563	91
Percentage	10	10	09	61	10
Mean ach.score	50.57	54.71	56.06	54.15	54.75
Standard dev.	16.20	17.19	14.57	16.38	16.96

Differences between the Mean Achievement Scores  
for Item 9

Compared alternatives	Differences	
a-b	-4.14	-1.69
a-c	-5.49	-2.33
a-d	-3.58	-1.93
a-e	-4.18	-1.69
b-c	-1.35	-0.57
b-d	0.56	0.30
b-e	-0.04	-0.02
c-d	1.91	1.09
c-e	1.31	0.54
d-e	-0.60	-0.31

ITEM 10) To stay out after dark

Table I-55

Item Statistics for Item 10

Alternatives	a	b	c	d	e
Frequency	45	87	416	288	84
Percentage	05	09	45	31	09
Mean ach.score	51.97	55.55	54.97	52.37	55.29
Standard dev.	13.83	17.26	16.66	15.74	17.11

Differences between the Mean Achievement Scores  
for Item 10

Compared alternatives	Differences	
a-b	-3.58	-1.29
a-c	-3.00	-1.35
a-d	-0.40	-0.18
a-e	-3.32	-1.19
b-c	0.58	0.29
b-d	3.18	1.54
b-e	0.26	0.10
c-d	2.60	2.10
c-e	-0.32	-0.16
d-e	-2.92	-1.40

ITEM 11) To try to do things in the house where he  
will be in the way.

Table I-56

Item Statistics for Item 11

Alternatives	a	b	c	d	e
Frequency	288	160	53	159	260
Percentage	31	17	06	17	28
Mean ach.score	54.84	54.05	48.83	52.23	55.51
Standard dev.	16.51	16.19	18.08	15.87	16.06

Differences between the Mean Achievement Scores  
for Item 11

Compared alternatives	Differences	
a-b	0.79	0.49
a-c	6.01	2.25
a-d	2.61	1.64
a-e	-0.67	-0.48
b-c	5.22	1.87
b-d	1.82	1.01
b-e	-1.46	-0.90
c-d	-3.40	-1.22
c-e	-6.68	-2.50
d-e	-3.28	-2.04

ITEM 13) To act against parental decisions concerned  
with how he should spend his pocket money.

Table I-57

Item Statistics for Item 13

Alternatives	a	b	c	d	e
Frequency	84	263	253	144	176
Percentage	09	29	27	16	19
Mean ach.score	54.03	54.00	52.54	54.43	56.23
Standard dev.	16.51	16.25	16.22	16.55	16.48

Differences between the Mean Achievement Scores  
for Item 13

Compared alternatives	Differences	
a-b	0.03	0.01
a-c	1.49	0.72
a-d	-0.40	-0.18
a-e	-2.20	-1.01
b-c	1.46	1.02
b-d	-0.43	-0.25
b-e	-2.23	-1.40
c-d	-1.89	-1.10
c-e	-3.69	-2.30
d-e	-1.80	-0.97

ITEM 14) To try to be the center of attention.

Table I-58

Item Statistics for Item 14

Alternatives	a	b	c	d	e
Frequency	164	125	76	226	329
Percentage	18	14	08	25	36
Mean ach.score	53.90	53.95	52.67	53.95	54.68
Standard dev.	17.08	16.85	17.74	16.28	15.61

Differences between the Mean Achievement Scores  
for Item 14

Compared alternatives	Differences	
a-b	-0.05	-0.02
a-c	1.23	0.51
a-d	-0.05	-0.03
a-e	-0.78	-0.49
b-c	1.28	0.51
b-d	0.00	0.00
b-e	-0.73	-0.42
c-d	-1.28	-0.56
c-e	-2.01	-0.91
d-e	-0.73	-0.53

ITEM 15) To cause trouble while playing with friends  
because of his will to win.

Table I-59

Item Statistics for Item 15

Alternatives	a	b	c	d	e
Frequency	133	122	63	477	125
Percentage	14	13	07	52	14
Mean ach.score	53.67	52.90	55.20	54.74	52.68
Standard dev.	17.69	16.19	16.16	16.23	15.80

Differences between the Mean Achievement Scores  
for Item 15

Compared alternatives	Differences	
a-b	0.77	0.36
a-c	-1.53	-0.60
a-d	-1.07	-0.63
a-e	0.99	0.47
b-c	-2.30	-0.92
b-d	-1.84	-1.12
b-e	0.22	0.11
c-d	0.46	0.21
c-e	2.52	1.02
d-e	2.06	1.29

## Restrictions & Punishments

The alternatives in the Restrictions & Punishments questionnaire specify the alternatives to be given when the restrictions put by the parents are violated. The alternatives are:

- a) we may spank him
- b) we shout at him
- c) we deprive him of something he likes
- d) we explain the reason for restricting that behaviour and advise

ITEM 1) To fight with children to get his own way.

Table I-60

### Item Statistics for Item 1

Alternatives	a	b	c	d	e
Frequency	17	121	39	669	74
Percentage	02	13	04	73	08
Mean ach.score	55.52	52.85	50.46	54.67	52.52
Standard dev.	16.52	14.85	16.55	16.54	17.02

Differences between the Mean Achievement Scores for Item 1

Compared alt.	Differences	
a-b	2.67	0.63
a-c	5.06	1.05
a-d	0.85	0.21
a-e	3.00	0.67
b-c	2.39	0.80
b-d	-1.82	-1.22
b-e	0.33	0.14
c-d	-4.21	-1.54
c-e	-2.06	-0.62
d-e	2.15	1.03

ITEM 2) To play away from home without telling his parents where he is.

Table I-61

Item Statistics for Item 2

Alternatives	a	b	c	d	e
Frequency	43	265	107	462	43
Percentage	05	29	12	50	05
Mean ach.score	51.34	53.70	54.23	54.60	53.53
Standard dev.	14.41	15.84	16.37	16.75	17.59

Differences between the Mean Achievement Scores  
for Item 2

Compared alternatives	Differences	
a-b	-2.36	-0.98
a-c	-2.89	-1.07
a-d	-3.26	-1.40
a-e	-2.19	-0.63
b-c	-0.53	-0.29
b-d	-0.90	-0.72
b-e	0.17	0.06
c-d	-0.37	-0.21
c-e	0.70	0.22
d-e	1.07	0.38

ITEM 3) To be noisy and boisterous in the house.

Table I-62

Item Statistics for Item 3

Alternatives	a	b	c	d	e
Frequency	21	291	115	416	77
Percentage	02	32	13	45	08
Mean ach.score	47.80	54.48	54.73	53.25	57.94
Standard dev.	17.40	16.20	17.59	15.81	17.31

Differences between the Mean Achievement Scores  
for Item 3

Compared alternatives	Differences	
a-b	-6.68	-1.71
a-c	-6.93	-1.68
a-d	-5.45	-1.41
a-e	-10.14	-2.37
b-c	-0.25	-0.13
b-d	1.23	1.00
b-e	-3.46	-1.58
c-d	1.48	0.82
c-e	-3.21	-1.25
d-e	-4.69	-2.21

ITEM 4) To make dangerous experiments when nobody is home.

Table I-63

Item Statistics for Item 4

Alternatives	a	b	c	d	e
Frequency	88	178	58	553	43
Percentage	09	19	06	60	05
Mean ach.score	54.71	53.70	54.60	54.21	52.27
Standard dev.	16.02	16.71	16.75	16.15	18.42

Differences between the Mean Achievement Scores for Item 4

Compared alternatives	Differences	
a-b	1.01	0.48
a-c	0.11	0.04
a-d	0.50	0.27
a-e	2.44	0.74
b-c	-0.90	-0.36
b-d	-0.51	-0.36
b-e	1.43	0.46
c-d	0.39	0.17
c-e	2.33	0.65
d-e	1.94	0.67

ITEM 5) To oppose or interfere with adults.

Table I-64

Item Statistics for Item 5

Alternatives	a	b	c	d	e
Frequency	18	145	41	628	88
Percentage	02	16	04	68	10
Mean ach.score	49.77	53.05	54.53	54.19	55.81
Standard dev.	17.19	15.71	18.87	16.22	17.18

Differences between the Mean Achievement Scores  
for Item 5

Compared alternatives	Differences	
a-b	-3.28	-0.77
a-c	-4.76	-0.95
a-d	-4.42	-1.08
a-e	-6.04	-1.36
b-c	-1.48	-0.46
b-d	-1.14	-0.78
b-e	-2.76	-1.23
c-d	0.34	0.11
c-e	-1.28	-0.37
d-e	-1.62	-0.83

ITEM 6) To try to do things on his own that his  
 parents can do better.

Table I-65

Item Statistics for Item 6

Alternatives	a	b	c	d	e
Frequency	5	66	37	687	125
Percentage	00	07	04	75	14
Mean ach.score	55.00	52.60	50.05	54.09	56.06
Standard dev.	16.17	16.71	16.36	16.29	16.57

Differences between the Mean Achievement Scores  
 for Item 6

Compared alternatives	Differences	
a-b	2.40	0.32
a-c	4.95	0.64
a-d	0.91	0.13
a-e	-1.06	-0.14
b-c	2.55	0.75
b-d	-1.49	-0.69
b-e	-3.46	-1.36
c-d	-4.04	-1.46
c-e	-6.01	-1.96
d-e	-1.97	-1.23

ITEM 8) To leave his clothes lying around or his room untidy.

Table I-66

Item Statistics for Item 8

Alternatives	a	b	c	d	e
Frequency	5	264	209	347	95
Percentage	00	29	23	38	10
Mean ach.score	50.20	53.78	54.32	54.08	54.71
Standard dev.	16.04	16.10	17.07	16.09	16.88

Differences between the Mean Achievement Scores for Item 8

Compared alternatives	Differences	
a-b	-3.58	-0.49
a-c	-4.12	-0.57
a-d	-3.88	-0.54
a-e	-4.51	-0.61
b-c	-0.54	-0.35
b-d	-0.30	-0.23
b-e	-0.93	-0.47
c-d	0.24	0.16
c-e	-0.39	-0.19
d-e	-0.63	-0.33

ITEM 9) To fail at school work.

Table I-67

Item Statistics for Item 9

Alternatives	a	b	c	d	e
Frequency	14	157	199	496	54
Percentage	02	17	22	54	06
Mean ach.score	49.50	52.71	52.51	55.34	53.62
Standard dev.	20.22	17.40	14.79	16.46	16.49

Differences between the Mean Achievement Scores  
for Item 9

Compared alternatives	Differences	
a-b	-3.21	-0.58
a-c	-3.01	-0.55
a-d	-5.84	-1.07
a-e	-4.12	-0.70
b-c	0.20	0.11
b-d	-2.63	-1.67
b-e	-0.91	-0.34
c-d	-2.83	-2.21
c-e	-1.11	-0.45
d-e	1.72	0.73

ITEM 10) To stay out after dark.

Table I-68

Item Statistics for Item 10

Alternatives	a	b	c	d	e
Frequency	35	198	68	527	92
Percentage	04	21	07	57	10
Mean ach.score	51.51	52.47	52.38	55.07	54.21
Standard dev.	14.19	15.88	15.82	16.77	16.10

Differences between the Mean Achievement Scores  
for Item 10

Compared alternatives	Differences	
a-b	-0.96	-0.36
a-c	-0.87	-0.28
a-d	-3.56	-1.42
a-e	-2.70	-0.92
b-c	0.09	0.04
b-d	-2.60	-1.93
b-e	-1.74	-0.86
c-d	-2.69	-1.31
c-e	-1.83	-0.72
d-e	0.86	0.47

ITEM 12) To disobey parental decisions concerned with his clothing.

Table I-69

Item Statistics for Item 12

Alternatives	a	b	c	d	e
Frequency	2	42	45	566	265
Percentage	00	05	05	61	29
Mean ach.score	36.00	49.90	49.06	54.37	55.16
Standard dev.		16.39	16.64	16.22	16.45

Differences between the Mean Achievement Scores for Item 12

Compared alternatives	Differences	
a-b	-13.90	0.00
a-c	-13.06	0.00
a-d	-18.37	0.00
a-e	-19.16	0.00
b-c	0.84	0.24
b-d	-4.47	-1.71
b-e	-5.26	-1.93
c-d	-5.31	-2.06
c-e	-6.10	-2.28
d-e	-0.79	-0.65

ITEM 13) To act against parental decisions concerned  
with how he should spend his pocket money.

Table I-70

Item Statistics for Item 13

Alternatives	a	b	c	d	e
Frequency	3	29	117	562	209
Percentage	00	03	13	61	23
Mean ach.score	46.00	50.03	53.66	53.72	56.02
Standard dev.	26.23	16.31	18.34	16.20	15.44

Differences between the Mean Achievement Scores  
for Item 13

Compared alternatives	Differences	
a-b	-4.04	-0.26
a-c	-7.66	-0.50
a-d	-7.72	-0.51
a-e	-10.02	-0.66
b-c	-3.63	-1.05
b-d	-3.69	-1.19
b-e	-5.99	-1.86
c-d	-0.06	-0.03
c-e	-2.36	-1.18
d-e	-2.30	-1.18

ITEM 14) To try to be the centre of attraction.

Table I-71

Item Statistics for Item 14

Alternatives	a	b	c	d	e
Frequency	1	36	29	373	481
Percentage	00	04	03	41	52
Mean ach.score	68.00	55.33	52.72	54.65	53.62
Standard dev.		18.02	14.96	17.00	15.85

Differences between the Mean Achievement Scores  
for Item 14

Compared alternatives	Differences	
a-b	12.67	0.00
a-c	15.28	0.00
a-d	13.35	0.00
a-e	14.38	0.00
b-c	2.61	0.64
b-d	0.68	0.22
b-e	1.71	0.55
c-d	-1.93	-0.66
c-e	-0.90	-0.31
d-e	1.03	0.90