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CULTURAL MEDIATION AND COGNITIVE DEVELOPMENT IN TWO JEWISH COMMUNITIES

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A dissertation submitted to the Faculty of Arts, University of the Witwatersrand, Johannesburg, in fulfilment of the requirements for the degree of Master of Arts.

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DECLARATION

I hereby declare that this dissertation is my own work and has not been submitted, nor any part of it, for a degree at any other university.

K.J. Redhill

ABSTRACT

The aim of the present study was to compare two Judaic cultures, Neo-Orthodoxy and Ultra-Orthodoxy, in order to ascertain whether strength of affiliation to cultural practices and prescription results in cognitive differences in the children. The culture of Judaism was chosen since religious study is of a highly intellectual and abstract nature, and could conceivably enhance complex cognitive development.

The sample was obtained from a co-educational Neo-Orthodox school and separate male and female Ultra-Orthodox schools. Each school was divided into two levels: a junior level (Standards six and seven), and a senior level (Standards nine and ten). Inclusion of the children for testing was dependent on parental consent and the parents meeting certain control criteria. Parents were given a questionnaire to complete in order that an ethnographic profile of both groups could be compiled to specify the differences and similarities between the groups' religio-cultural values and practices. It was demonstrated that the groups followed similar patterns, but the Ultra-Orthodox group displayed a higher level of adherence to religious practices and values.

The results obtained in the tests revealed that the level of performance of the Ultra-Orthodox children was significantly higher than that of the Neo-Orthodox children. This difference was explained in terms of the differences in home environment and schooling in the two groups. The results were also explained

in terms of current cognitive theory, especially in terms of the process of the mediated learning experience developed by Reuven Feuerstein.

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Train up a child the way he should go, and when he is old he will not depart from it.

Proverbs, 22.

CHAPTER I

INTRODUCTION

The Nature of the Field

Intrinsic to the field of cognitive development is the controversial issue as to whether development is a universal phenomenon which follows the same pattern in every child, or whether it is relative to the particular environment in which a child is reared. There are two major theorists aligned with these alternate stances: Piaget, who maintained that all childrens' intellectual growth progresses through invariant stages; and Vygotsky, and his successor Luria, who postulated that growth is the product of social and material forces that shape internal processes in diverse ways.

Many cross-cultural research programmes have been undertaken to examine the proposition that diverse cultures produce differences in cognitive development; evidence both confirming (Bruner, 1974; Luria, 1976; Marjoribanks, 1973; Sattler, 1974) and refuting (Inbar and Adler, 1977; Opper, 1977; Piaget, 1977) this position has been advanced. In the light of these contradictory results, Cole and Scribner (1974) have concluded that

> there is no general theory or conceptual framework in psychology that would generate specific hypotheses about how culturally patterned experiences influence the development of cognitive processes in the individual (p. 6).

One of the reasons for this state of affairs seems to be that 'culture' has been used as a generic term, without a clearly defined set of referents. Merton (1967) noted that 'the term culture is frequently applied to groups both smaller and larger than a single society" (p. 267). According to him, the concept of culture can be applied at four distinct levels: it may refer to

> 1) ways of life or 'designs for living' common at any time to all mankind;
>
> 2) ways of living peculiar to a group of societies between which there is a greater or lesser degree of interaction;
>
> 3) the patterns of behaviour peculiar to a given society;
>
> 4) special ways of behaving, characteristic of the segments of a large and complexly organized society (1967, p. 267).

Merton maintained that the first level is all inclusive, and refers to the essence of 'humanness' (Merton, 1967, p. 267), or the common factors in all human societies; for example, language usage, marriage, the existence of taboos, and so forth. The second level refers to somewhat more circumscribed entities; for example, Western technological society, which comprises many different countries, as opposed to pre-literate technological society. The cultural elements subsumed under this conception include, formal education in schools, mechanisation,

electrification, and so forth. Merton's third level is even more restricted in that it refers to a particular social structure; for example, American society. However, societies may be broken down even further into groups which constitute the fourth level of Merton's hierarchy. This level refers to what is typically called "sub-culture". A sub-culture is often difficult to define, because it may have much in common with the majority culture. Beals and Hoiser (1965) define a sub-culture as

> a pattern that is in significant aspects distinctive, but has important continuities with a host or dominant culture ... a sub-culture has a general influence on a person and tends to give him a discernable identity, typically based on residual ethnic or social class criteria (p. 71).

Levi-Strauss (cited in Cole and Bruner, 1971) further describes a sub-culture as

> a fragment of culture which presents significant discontinuities in relation to the rest of that culture with respect to access of its major amplifying tools ... by an amplifying tool is meant a technological feature be it soft or hard that permits control by the individual of resources, prestige and deference within the cultures (p. 872).

Taking the above into account, the concept of culture, then, paradoxically refers both to the commonality and diversity between groups. The importance of Merton's hierarchy lies in its ability to range groups along a similarity - dissimilarity continuum. In

other words, two groups specified at level 1 may be maximally different from one another, whereas two groups specified at level 4 will be maximally similar in terms of cultural definition. In relation to cognitive development, it follows that "when we consider intellectual growth or style in different cultures ... we need to find the features of milieu that may account for the similarities and differences in skills" (Goodnow, 1969, p. 439). However, when examining two cultures that are similar in terms of the criteria given for level 2, it may be more difficult to find features that account for diversities in cognition than if the cultures are specified at level 4. In sum, the greater the difference between cultures, the more difficult it becomes to specify the aetiology of cognitive difference. Some properties of culture may have a direct influence on cognitive acquisitions, whereas others may be extrinsic to the process of development. Thus the greater the difference between groups, the more chance there will be that extrinsic factors will confound the search for the direct influences on cognition.

Feuerstein's (1979, 1980) model of distal and proximal determinants of cognitive development throws some light on this problem. He defined distal influences as those which affect cognition indirectly via the so-called proximal nces or mediated learning experience (MLE). Two cultures specified at level 2 of Merton's hierarchy are differentiated in terms of a vast number of distal factors; some of these may influence the mediated learning experiences received by the child, but others may be wholly irrelevant to the issue of cognitive development.

For instance, at level 2, in a comparison of a Western technological culture and a preliterate technological culture, the distal factor in Western technology that is known to affect cognition is formal schooling. Laurendeau-Bendavid (1977) has maintained that the educational environment a child is subjected to may help to speed up or slow down mental development. The more formal education a child receives, the more he or she is able to develop abstract and symbolic forms of thought (Greenfield, Reich and Olver, 1966; Luria, 1976; Olver, 1966; Oppe[illegible], 1977; Price-Williams, 1969). In an example of this type, Maccoby [illegible] Modiano (1966) found that rural Mexican children move [illegible]rds greater perceptual subtlety, and North American childr[illegible] towards more abstraction. When the Mexican children have formal schooling, the two groups show greater similarity in cognition. Although schooling is known to affect the mediation a child receives, there may be other distal factors which differentiate the two cultures, but which may not have a direct effect on cognition. For example, mechanisation and electrification may leave more time for children to attend school, since they would not have to do as many chores, however, these factors do not necessarily directly influence the mediation a child receives. It follows that when cognitive differences are observed between cultures specified at a high level of the hierarchy (for example, levels 1 or 2) the cultural antecedents for these differences are embedded within a set of distal factors, many of which are extraneous to cognition; as one moves down the hierarchy, extraneous factors are progressively excluded and the identification of the cause of the observed differences becomes more feasible. Further, specification of

cultures at a high level of the hierarchy allows for the intrusion of variables which may influence cognitive development, but which are not specifically cultural elements: socio-economic status falls into this category. As one moves down the hierarchy variables of this type are controlled for. A similar point has been made by Cole and Scribner (1974) albeit through the use of a different, and somewhat ambiguous, terminology:

> Intergroup comparisons seem to function more as hypothesis generators ... they should be made to help illuminate the factors that lead to the development of different organizations of cognitive functions. The kind of intergroup comparisons that are likely to be most helpful are comparisons of groups within the same culture (p. 198).

On the basis of this prescription, the aim of the present research was to study two groups from the same culture (Merton's fourtn level), wherein it would be possible to control for distal factors known to influence cognitive development. The culture chosen was Judaism. The commonality defining Judaism is difficult to specify:

> In South Africa ... being Jewish varies within wide limits; it may be little more than an accident of birth minimally affecting a person's behaviour, it may be expressed primarily in support of Jewish institutions and philanthropies, or it may have much the same connotations as it had in Eastern Europe ... where they lived in autonomous and isolated communities (Dubb, 1973, p. 1).

Nevertheless there can be little doubt that 'Jewishness' is a definite entity:

> Jews the world over today differ in social outlook, political citizenship, economic status and religious attitude. Yet the overwhelming majority are conscious of the fact that they are members of one people, sharing a common history and a sense of kinship from the past, a common tradition and a way of life in the present, and a common destiny and hope for themselves and for the world in the future (Gordin, 1966. p. 82).

> Being a Jew does not in itself mean belonging to a particular culture or a particular matrix or even to a particular religious denomination. Many and diverse 'racial' strains are to be found among Jews. Jews have the most varied natural origins, allegiances and culture. Even those Jews who renounce the Jewish religion in general, somehow remain Jews. Yet, though one must recognize that Jewishness is neither racial, nor a national, nor a cultural, nor a religious fact, we cannot deny that somehow each of these factors is in some way relevant to it (Herberg, 1951, p. 267).

Because of the subtlety of the concept of 'Jewishness' it is not surprising that there are different degrees of affiliation to Jewish tradition, culture and religiosity, making it possible to assess the influence of specific cultural differences on cognitive development, without moving beyond the limits of Judaism itself. In other words, Jewish culture provides a paradigm in which a fairly limited number of cultural elements can be varied against a broad background of socio-cultural constancy.

The particular relevance of Jewisn culture studies in the field of cognitive development lies in the fact that Jews as a group place a high value on education. Study is an inherent and vital part of the religion. Herberg and McClel'and elaborate on this point:

> Since Torah is 'teaching' and its acquisition 'learning', the study of Torah has, from early time, been the great and absorbing concern of the believing Jew ... It is a spiritual and intellectual exercise (Herberg 1951, p. 291).
>
> The emphasis on education is a shared Jewish value; Jews have traditionally placed a very high value upon education and intellectual attainment (McClelland, 1958, p. 149).

The majority of Jews in South Africa originated from Eastern European Jewry as little as two to three generations ago (Dubb, 1973). In Eastern European society the Jewish parent was expected to provide as much education as the sons showed themselves capable of absorbing. Learning gave the individual prestige, respect and authority. This value still exists in the present generation of Jews. However, in many Jewish groups the emphasis has shifted from religious to secular study.

The Present Study

In the present study two Jewish groups were chosen in accordance with the criteria for Merton's fourth level. The

first group will be referred to as the Neo-Orthodox group. Neo-Orthodoxy in this sense refers to " 'Torah* together with the conduct of life' meaning in this context secular culture" (Encyclopedia Judaica, 1971, Vol. 12, p. 956). In this group there is a certain adherence to Judaic learning and tradition, but the way of life is predominantly that of the majority culture, that is, secular.

The second group will be designated the Ultra-Orthodox group. This group endeavours to encapsulate itself as far as is practicable from the majority culture, and follows the Judaically prescribed way of life.

In terms of Merton's four criteria both groups:

1) automatically meet the criterion of human culture;
2) belong to a developed technological society;
3) are part of South African society, and may actively participate in the social, political, economic and educational systems of the country; and,
4) strongly identify with their Jewish heritage, their children attending Jewish parochial schools.

The major difference between the two groups to be studied is in terms of their relative degrees of relio-cultural affiliation.

*Underlined words will be explained in a glossary at the end.

The Neo-Orthodox group have a strong sense of Jewish identity, but their manner of life-style is predominantly secular. They attend plays and films, watch television and read secular books.

The life-style of the Ultra-Orthodox group is essentially Judaic in prescription; a great deal of time is spent in religious study. At this point the religious texts studied will be described briefly in order to reveal the degree of intellect involved in religious study of this nature. The books that are studied are the Sources (the Old Testament and the Apocrypha), and the Mishnah, which is an explanation of the Sources containing the religious laws and moral teachings. When the Mishnah was written down from oral tradition, there were many controversial issues regarding the laws and ethics. As many divergences in opinion as possible were included in the Mishnah, in order to make it representative and ensure its universal acceptance (Encyclopedia Judaica, Vol. 12). The Gemara (comment on the Mishnah), and further scholastic commentaries, generally called the Talmud, were written to discuss the anomalies and divergences in the Mishnah. The word 'Talmud' is sometimes used to refer to both the Mishnah and the Gemara. Thus, the Talmud contains the rules and regulations for the entire life of the Jew and Jewish people. The following quotation is an explication of the nature of Talmudic study:

> The Talmud is characterised by intellectual sharpness and ingenuity. In analysing the text, every word or phrase is carefully weighed and there is nothing superfluous in the Mishnah. If something appears superfluous, there must be a reason for it and that reason

> must be found. No e plicit statements were given in the Mishnah if these could be derived logically from what was contained implicitly in another statement (Encyclopedia Judaica, Vol. 15. p. 750).

Laws and moral teachings may be traced to the Sources, and then the various explanations, inferences, and divergences in opinion, may be followed through the Mishnah, Gemara, and later commentaries. Religious study of this type requires independent and critical thought in trying to solve age-old controversies and problems; many of the issues are abstract and existential in nature. Few of the Neo-Orthodox families study in this manner, whereas the majority of Ultra-Orthodox families do. It is precisely this difference between the groups that may create a difference in mediated learning experience, and, therefore, a difference in cognitive development.

CHAPTER 2

THE DEVELOPMENTAL THEORIES OF PIAGET AND VYGOTSKY

A fundamental aspect of this study is an examination of the role of socio-cultural pressures on cognitive development. Consequently, an evaluation of the cultural universality-relativity controversy, which underlies much of the thinking in cognitive development is necessary. The theories of Piaget and Vygotsky will be examined in this chapter, because they epitomize the universal approach to cognitive development, in the case of Piaget, and the relative approach, in the case of Vygotsky.

Historically, there have been two major lines of thought in the area of cognition. First, there are theories which have maintained that development is essentially the result of environmental influences, for example, Behaviourism. These theories eventually have had to acknowledge internal processes, but have reduced them to little more than internal stimulus-response linkages (Nagel, 1965; Ryle, 1980). In direct contradiction to the Behaviourist approach, there are theories which have attempted to explain development in purely biological

terms, for example, the approach of Jensen, but have denied or minimised the role of the environment (Feuerstein, 1980; Pervin and Lewis, 1978).

Despite their position at opposite ends of the universalist - relativist continuum, the major developmental theories of both Vygotsky and Piaget recognise that internal capacities and environmental forces contribute towards the development of complex intellectual systems. Bruner (1974) has maintained that a cognitive theorist is left with no alternative, since, "there is no psychological phenomenon without a biologically given organinsm, nor one that takes place outside an environment" (p. 368). This approach is known as interactionism, and "stresses the interrelationship between the knower and the known ... with each element making a more or less equal contribution" (Ginsberg and Opper, 1969, p. 217).

The standpoint of the present author, and indeed the standpoint of a number of major cognitive theorists (Bruner, 1974; Feuerstein, 1979 and 1980; Piaget, 1977) is that an interactionist stance is inevitable in cognitive theory, and should be able to explain

1. external influences on the development of intellectual skills (Drakes, 1978; Kasdan, 1976; Levinson and Block, 1977; Sattler, 1976; Wozney, 1974);
2. the nature of internal functions;
3. the interaction of the external and internal factors; and
4. the process of development.

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4. the process of development.

The theories of Piaget and Vygotsky will be evaluated in terms of this viewpoint.

Vygotsky's theory of Cognitive Development

Ideological and Theoretical Background

Vygotsky worked in post-revolutionary Russia, and consequently his theory was based on Marxian philosophy. Marx believed that the individual did not have a universal nature, but that it evolved as the individual worked to transform nature. As changes took place in social and material life, changes in human nature were produced. Vygotskian theory is an explanation of the manner in which societal values and modes of functioning are internalised, and become part of the cognitive structure of the individual. The central feature of Vygotsky's theory (1965, 1978) is that social agents, for example, teachers and parents, mediate the culture to the child, who then internalizes the structures of society (values, modes of operation, systems of thought, and behaviour). However, the individual is able to transcend these societal structures since he or she can transform society by changing traditional forms of labour (complexity in technology), social relations, and thus, processes of thought. In other words, there is a continual dialetic between the individual and society which forms the basis of learning and change. Vygotsky (1965) has stated that

> the internalization of culturally produced sign systems brings about behaviour transformations and forms the

> bridge between earlier and later forms of individual development. Therefore, the mechanism of individual change is rooted in society and cultures (p. 6).

External Influences on Cognition

The hallmark of Vygotsky's contribution to cognitive theory is his formulation of the primary role of social agents in the development of the child. According to Cole, John-Steiner, Scribner and Souberman (1978) Vygotsky's position consists of two aspects: first, the sign system of language which is the mode of transformation in cognitive growth; second, the idea that intellectual development is an internalization of social action. Thus, the main postulate of the theory is that growth is dependent on the continuous dialectic between child and adult through the process of linguistic internalization.

Internal Processes of Cognition

According to Brown and Desforges (1979), Luria explained this dialectic process in neuropsychological terms by suggesting that, broadly, the human brain comprises two independent mechanisms: one of these is relatively primitive, related to simple reflex actions, whereas the other is complex, allowing for the elaboration of conceptual systems derived from experience. "The relationship between the two systems is envisaged as a dynamic one in which activation of the two leads to constant adaptation and modification" (Brown and Desforges, 1979, p. 66). Luria (1965)

examined the interplay of these two systems in a series of experiments, which demonstrated that the young child is unable to use language to direct action in the presence of competing sensory stimu[illegible] of the lower system:

> The directive role of the word at an early age is maintained only if the word does not conflict with the inert connection which arose at an earlier instruction or which began with the child's own activity (Luria, 1965, p. 353).

However, from the age of four years, the semantic aspect of speech becomes more dominant, and begins to direct the action of the child (Luria, 1965). This transpires when the linguistic system has made sufficient neural connections; its function then changes, becoming directive, and starts to modulate the lower system's activity. It follows that the child develops the semantic aspects of language well after he or she has learned to speak.

Brown and Desforges (1979) have criticized Luria's theory by maintaining that his model has not been substantiated. Miller, Shelton and Flavell (1970) tested the hypothesis that three year old children should best perform motor tasks in silence and that subsequent overt verbalisations should have an impulsive effect, and later a regulatory effect. They failed to confirm this hypothesis, as did Wilder (1968), and concluded that motor and verbal tasks appeared to operate independently. Bloor (1977) has maintained that many studies undertaken to replicate Luria's

model have not in fact understood its underlying nature, and thus, have devised their hypotheses on the basis of fundamentally incorrect premises. However, at a philosophical level, further inconsistencies inherent in the model of linguistic internalization have been advanced.

Luria's research suggested that language only became directive between the ages of four to five years. Vygotsky gives approximately the same age range for children's initial use of the semantic aspect of words. According to Vygotsky (1965), "word meanings evolve ... are dynamic rather than static formulations ... they change as the child develops" (p. 124). This statement implies that tne types of conceptions that a child has at any point in time are characteristic of his or her level of development, and these will eventually evolve to an adult level of conceptualization. Thus the child's conceptual systems are not seen as simple versions of the adult's mode of conceptualization.

Vygotsky explains the communication between adult and child by maintaining that the child's "usage of words coincides with that of the adult's in its objective reference, but not in its meaning" (1965, p. 130). Fodor (1972) has argued against the Vygotskian idea that adult-child communication proceeds in extensional terms only:

> Consider the case of witches, ghosts, goblins and elves. Since these objects have the same extension (namely, the null set) and discussion with children about which of them, e.g. rides on a broomstick, cannot be mediated by a merely extensional consensus. Analogously, we can hardly teach a child that Lenin was the father of the revolution, if you agree on who the terms refer to, but not on what they mean (1972, p. 92).
>
> If the conceptualizations of children are radically different from those of adults, it is extremely difficult to imagine how children and adults could ever manage to understand one another (1972, p. 87).

In the light of Fodor's statements, the centrality of adult to child mediation in Vygotsky's model must be questioned, since mediation necessarily implies effective adult-child communication. If, however, the difference between the language systems of adults and children are seen as quantitative, then the concept of mediation would be more defensible. Again in the words of Fodor (1972),

> suffice it to remark upon the increasing body of evidence that very complicated cognitive processes are in fact to be found in the young child if you look in the right places ... the moral seems to be that the young child differs from the adult not in the kind of conceptual integrations it can effect, but rather in the areas in which it can effect them (p. 93).

Another difficulty associated with Vygotsky's theory is its implication that socio-cultural influences are primary determinants

of cognitive development.

Luria and Vygotsky maintained that complex cognitive processes remain socio-historical in nature, but the structure of mental activity changes in the course of historical development (Luria, 1976). Mental activity is directly linked to the level of development of a culture in which an individual is raised:

> Because the historical conditions which determine to a large extent the opportunities for human experiences are constantly changing, there can be no universal schema that adequately represents the dynamic relation between internal and external aspects of development. Therefore, the learning system of one child may be different from another (Vygotsky, 1978, p. 125).

By maintaining that socio-cultural determinants are primary causative factors in cognitive development, Vygotsky seems to imply that biological factors are secondary, and therefore, that socio-cultural determinants operate outside biological constraints. As an antidote to this extreme version of socio-cultural determinism, Luria and Vygotsky have maintained that the individual is able to transcend societal modes of operation, and thus, manipulate and change the environment. Vygotsky added the idea that, although thought processes and conceptual systems are a product of socio-historical and cultural conditions, humans are able to transcend these strictures and monitor, reflect and restructure the world according to their own conception of reality. The exact means of transcendence is not fully

elaborated in Vygotsky's theory, but it does imply that he recognises a universal component in higher order thinking. The fact that this idea was not fully developed may have been due to the Marxian milieu in which Vygotsky worked; the concept of separate human consciousness is, in essence, antithetical to Soviet thought.

Vygotsky's fundamental proposition related to cognitive development is based on linguistic internalization. Theories of linguistic internalization have followed two paths. First, linguistic determinism (Whorf being a prime proponent of this theory), which maintains that differences in language cause differences in cognition. However, this extreme view has been discredited for some time (Bruner, 1974; Cole and Scribner, 1974). Second, there have been linguistic arguments that have substantiated linguistic relativism, which necessarily includes the concept of cognitive universals. Vygotsky does not directly align himself with either linguistic determinism or universalism, although the former is more implicit in his theory; language is internalized and becomes directive in thought processes. However, he also implicitly recognises a universal component in higher order thinking. It appears that the following argument for linguistic relativism would in fact be compatible with the rather paradoxical Vygotskian thesis of linguistic internalization.

Lenneberg (1967) has elaborated on the concept of linguistic relativity, maintaining that a language may provide ways of

encoding and storing information into established cognitive modes, which then increase facility in these modes. However, this does not mean that these modes are not available to those who do not know the language. This proposition is corroborated by research that indicates that there are cognitive modes that go beyond linguistic encoding (Cole and Scribner, 1974; Opper, 1979). Ryan (1970) has stated:

> that two cultures might be literally unintelligible to each other seems beyond the bounds of logical possibility, in that there are a great many a priori constraints on what a language could be like, and hence, on what human beings would have to communicate to each other (p. 153).

Ryan further maintained, that all conceptions of reality must have points of commonality which allows for communication between cultures. This supports the idea of cultural relativity rather than cultural determinism; a culture may induce an individual to see the world in a particular manner, but does not preclude the individual from learning to perceive in ways that are unfamiliar to the culture. Russel's view (1959) can be used to expand this argument, since he maintained that it is difficult to separate an object from its semantic meaning. Russel (1959) wrote that

> one mans act of thought is necessarily a different thing from another man's ... hence if whiteness were the thought as opposed to its object, no two different men could think of it twice. That which many different thoughts of whiteness have in common is their object, and this object is different from all of them.

encoding and storing information into established cognitive modes, which then increase facility in these modes. However, this does not mean that these modes are not available to those who do not know the language. This proposition is corroborated by research that indicates that there are cognitive modes that go beyond linguistic encoding (Cole and Scribner, 1974; Opper, 1979). Ryan (1970) has stated:

> that two cultures might be literally unintelligible to each other seems beyond the bounds of logical possibility, in that there are a great many a priori constraints on what a language could be like, and hence, on what human beings would have to communicate to each other (p. 153).

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> Thus universals are not thoughts,
> though when known they are the objects
> of thoughts (p. 59).

The argument summarized, is that all people necessarily have access to universals which are the underlying objects of reality. According to Pears (1971), Wittgenstein reiterates this point by suggesting that for a universal language to exist, there must be a common structure not containing alternatives. Since people may have different concepts associated with the same word, one cannot maintain simply that language is the centre of universality; the source of this must be outside the domain of language, although this commonality may be reflected in language. The factor of universality may possibly exist in the actual structure of language. Since an object and its linguistic referent are not isomorphic, but the cause for this is likely to be in the realm of preexisting cognitive structures that are not based on language. This is a reversal of Vygotsky's conclusion that thought is based on the directive role of language. It seems more likely that complex cognitive structures are necessary in order that language may be learned at a semantic level, and it is also this factor that allows for the transcendence of the individual over his or her environmental strictures.

Piaget's Theory of Cognitive Development: an Interactionary Approach

One of the basic postulates of Piagetian theory is that the development of the child is largely dependent upon universal

bio-genetic functions, with environmental influences acting within the constraints of these biological functions. This is in opposition to Vygotsky, who maintained that the basis of cognitive development is mediation from the external social environment.

Piaget's Theoretical and Ideological Background

Piaget was an adherent of the structural approach to cognitive development (Piaget, 1968). Runciman (1972) defined Structuralism as an attempt to explain a system primarily in terms of its process, using the content in a secondary manner to elucidate the process. Within this paradigm a system is seen as whole, transforming, and self-regulatory (Brown and Desforges, 1979). The individual child is viewed as a separate and independent organism whose cognitive functioning is embedded in universal biological processes. Following from this basic postulate, Piaget (1968, 1977) maintained that the roots to cognitive acquisitions are universal and innate in every child. These universal operations he called functions, which consist of the processes of organization and adaptation; the second process contains the functions of assimilation and accommodation. He used the concept of equilibration to explain the mechanism by which interaction takes place between the internal, innate functions, and the external content of the environment. The actual equilibrium states are the cognitive structures. It is through the process of equilibration that an organism is able to transform and remain interconnected.

Piaget also postulated a stage theory, whereby intellectual

growth occurs through an invariant hierarchy of stages (Brown and Desforges, 1979). He maintained that it is a necessary condition that one stage is attained before the next can be tackled. He also held, in keeping with the Structuralist position, that each stage has an underlying unity of operations. This proposition implies that the equilibrium states or cognitive structures achieved by children within a certain age range, should show some level of homogeneity. However, it is also maintained by Piaget that cognitive structures are dependent to a large extent on external environmental forces. These factors of influence are consistent with Piaget's interactionist position; he maintained that there were three factors which influence cognitive development:

a) the influence of the physical environment; the external experience of objects,

b) innateness, the heredity programme, and,

c) social transmission - the effect of social influences.

> It is clear that all three are important in cognitive development ... each one of them implies a fundamental factor of equilibration ... There must be some co-ordination between them (Piaget, 1977, p. 838).

Piaget (1977) elucidated further on this interactionary process:

> The organization of formal structures must depend on the social milieu as well. Far from being a source of fully

> elaborated 'innate ideas', the maturation of the nervous system can do no more than determine the totality of the possibilities at a given stage. A particular social environment is indispensable for the realization of these possibilities ... formal structures are forms of equilibrium which generally settle in the system of exchanges between individuals, the physical milieu, and in the system of exchanges between the individuals themselves (p. 435).

On the surface it might appear that Piaget contradicted himself. He maintained on the one hand, that stages are universal and have an underlying unity of operation, and on the other hand, that a particular social environment is necessary for the realization of cognitive structures.

However, Piaget always maintained an interactionist stance, and on examination of the theory, the so-called antimony between environmental influences and innate functions is not clear. Piaget explained the means of interaction between these forces using the biological concept of homeorhesis. According to Piaget (1971)+ the extent to which the environment can influence cognition is biologically determined; this is the universal aspect of development. Piaget developed this aspect of 'homeorhesis' from Waddington (1977). Homeorhesis, in short, ensures the continuation of a given type of change. According to Waddington (1977), the pathway of change is canalized and he maintained that there is a species-typical path, called a creod, along which the majority of individuals in a species develop; this development can only occur as long as environmental situations favourable to the species-typical development prevail. When development is

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highly canalized, individuals will follow the creod under a wide range of environmental conditions. When development is less canalized, individuals do not follow a common developmental path as uniformly, and individual variation can be noted. Piaget also used this conceptualization to support his idea of the universal progression of stages.

McCall (1981) utilized the same framework and maintained that until approximately 18 months of age, infants followed the biological creod closely; this stage is characterized by highly canalized development. After 18 - 24 months of age canalization gradually weakens. "Stages characterizing the species-general developmental function become more widely spaced, and traits emerge (e.g.symbolism, verbal fluency) for which proficiency levels will ultimately vary widely between individuals" (McCall, 1981, p. 8). With the decline of canalization, individual cognitive development shows higher correlation with genetic and environmental factors. It appears from recent research (McCall, 1981), that universality in cognitive development is more evident in the early, than the later stages. McCall's proposition is compatible with research that will be cited, which indicates greater divergences in functioning at the concrete and formal operation stages.

It has been argued by Brown and Desforges (1977, 1979) that different environmental contingencies may result in the production of different equilibrium states, therefore, universality of operation could be restricted to specific environmental groups.

Brown and Desforges (1977) have high-lighted the supposed paradox in Piaget's theory by suggesting that if there are universal stages of development, children within a particular stage should present certain homogeneity of cognitive functioning for the greater part of each stage. If this is not the case, and there appears to be heterogeneity of cognitive functioning, then the construct of stages may be questioned for its validity. Brown and Desforges (1977) have stated:

> Considerable numbers of studies have been accumulating casting doubt upon the integrity of stages. Some refer to the surprisingly low correlation between behaviours at a given time, others to the absence of expected operations, and yet others to the presence of operations commonly taken as representations of much later stages (p. 11).

Other researchers have questioned the similtaneous development of cognitive structures. Wason and Johnson-Laird (1972) saw evidence of heterogeneity being more impressive than homogeneity in tests involving logical problems. Neimark (1975) brought to light that there was little evidence of concurrent development of formal operation skills. Gelman (1972) found that children under the age of four years were able to conserve numerically, which is contrary to Piagetian findings. Miller (1971) maintained that stages based on concrete and abstract thinking were not wholly valid, and that adults and children use similar amounts of abstract and concrete concepts.

According to Brown and Desforges (1979) the criticisms

levelled at the stage theory in no way deny that cognitive development may take place in a coherent and systematic way, but the postulation of an invariant system of development is doubtful. Many studies conducted on Western children have indicated that there is some kind of sequential progression in cognition, but contrary evidence has been high-lighted in research on Somali and Australian Aborigine children (Brown and Desforges, 1977). It is clear from the evidence presented, that children display diverse cognitive skills across and within cultures, therefore, it does not appear that development is necessarily invariant and universal. Brown and Desforges (1979) emphasize this point:

> There is nothing implicit in the study of cognitive development which necessitates that at any particular time, an individual's various cognitive act will be characterized by some unified underlying structure. Indeed, a theorist with environmental inclinations might be very hard pressed to justify such a notion. For him, the cognitive behaviour manifest within a given context, would be dependent upon previous experience of the context, and there would be no reason to expect it to share a common structure with behaviours eliciting other contents (p. 99).

In Piaget's defence, he did maintain that although the cognitive structures that constitute the various stages are universal, biological potentials, the social environment is important in manifesting these potentials. It appears that social influences are particularly important in the concrete operations stage, and even more so with regard to formal operations, since a great many divergences are noted in these stages by researchers

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(adduced previously in this chapter). Since canalization is less definite in these stages (McCall, 1981), development seems to be influenced to a greater extent by environmental and genetic factors. The major criticism that may be levelled at Piaget, is not that his theory does not integrate internal and external influence on cognition, since his theory of interactionism is thoroughly dealt with, but rather, the paucity of Piaget's theory lies in the fact that he did not elaborate on the properties or effects of the social environment. Kwabena (1977) has stated this criticism as follows:

> It is surprising that an elaborate theory like Piaget's should lag behind other cognitive theories in adducing evidence in support of, or against, the importance of social anticedents of cognition (p. 229).

The conclusion reached in this chapter, is that the theories of Piaget and Vygotsky, which on initial analysis appear to be diametrically opposed, both allow for the inclusion of universal and relative influences on cognition. Although these two aspects are not well integrated in their theories, they prevent extremism on either side of the universalism - relativism continuum. It was also noted, that development does not appear to be the result of qualitative leaps: it was argued that the child does not seem to conceptualize in a manner that is radically different from the adult, and that stages are not that discrete or identifiable. Rather, it appears that cognitive progression is quantitative and continuous, and depends to a large extent on genetic and environmental contingencies.

CHAPTER 3

CULTURAL RELATIVITY: THE THEORIES OF BRUNER AND FEUERSTEIN

The conclusion drawn in Chapter 2 was that intellectual growth is dependent, to some extent, on the environmental influences to which a child is subjected. Growth must be viewed as quantitative in order for environmental factors to impinge on cognition. To a large extent, the theories of Bruner and Feuerstein are based on those of Piaget and Vygotsky, but their particular contribution to cognitive theory has been in the area of cultural relativity.

The thesis of cultural relativity maintains that a particular environment may favour the development of certain cognitive functions above others, without necessarily precluding the growth of any one intellectual function, since the potential for all cognitive functioning is present in all people. Bruner and Feuerstein have concentrated on the manner in which cultures may elicit differential cognitive abilities in their members.

Bruner's Theory of Cognitive Development and the Role of Schooling in Cognitive Development

In accordance with the principles of cultural relativity, Bruner (1974) saw culture as an influence on, rather than a determinant of, cognition.

> A culture is among other things, a system of techniques for giving shape and power to human capacities. The values, tools and ways of knowing of a culture equip its members. Yet the danger of this view is that it can be converted into a cheap cultural relativism, that elevates to significance all instances of cultural difference and overlooks the many deep universals in both human nature and in all cultures (Bruner, 1974, p. 315).

Thus, Bruner acknowledges both the universality in human cognition, as well as the influences of culture. According to Bruner (1974), the actual manner in which culture affects cognition, is to provide amplification systems to individuals, which become internalized intellectual tools. He maintained that there were three types of amplification systems; amplifiers of action (for example, hammers, levers and wheels); amplifiers of the senses (ranging from smoke signals to diagrams and microscopes); and amplifiers of thought processes (language being a prime example). Continuing from this premise, Bruner postulated that growth depends upon a "mastery of techniques" (1974, p. 480), the skills transmitted by a particular culture. An important component of intelligence, therefore, is the internalization of tools provided by a given culture. However, Bruner is careful to avoid falling

into the trap of determinism by conferring primacy to biological development:

> Some cultures push cognitive growth better and earlier than others. What does not seem to happen is that different cultures produce completely divergent and unrelated modes of thought. The reason for this must be the constraints of our biological heritage (Bruner, 1974, p. 370).

Bruner's research was largely based on cross-cultural contexts, comparing technologically developed and illiterate societies. With reference to Merton (1967) vastly different cultures were compared, and the results lead Bruner to maintain that:

> it is always the schooling variable that makes the qualitative differences in direction of growth. School separates word and thing and destroys verbal realism by presenting for the first time a situation where words are systematically and continually there without their referents (Bruner, 1974, p. 388).

Thus, it appears that schooling equips an individual with powerful abstracting tools, but whether the difference in cognition it creates is a qualitative leap or a quantitatively graded progression is a moot point. Luria (1976) opted for the idea that schooling induces a qualitative change. He studied illiterate Slavic groups in Siberia and found that individuals did not differentiate word from object. For example, if asked to name a mixture of white and yellow, they did not say pale-yellow,

but simply named a pale yellow object. However, after undergoing a literacy programme lasting for one year, subjects were able to start thinking abstractly. These results led Luria to postulate that schooling creates the difference between graphic-situational thinking and conceptual-categorical thinking (Luria, 1976).

However, the assertion that schooling produces abstract modes of thought is not universally accepted. Greenfield, Reich and Olver (1966) found that the conceptual development of lower-class schooled American children resembled that of unschooled Wolof children, and similarly, Laurendeau-Bendavid (1977) has maintained that school attendance does not guarantee the acquisition of formal thinking. Other factors also play a role in cognitive development and may inhibit or support the schooling experience. Factors such as parental encouragement (Kondel and Lesser, 1969; Mundy and Singhal, 1981), and the occupational and educational levels of parents (Drakes, 1978; Shah, 1971; Wozney, 1974) are important modifiers of cognition.

One of the limitations of Bruner's model is that it does not specify how environmental agencies influence cognition. Feuerstein's model, which will be considered next, is more explicit in this respect.

Feuerstein's Theory of Cognitive Development

Feuerstein (1979, 1980) maintained that broadly speaking, cultures are not in themselves depriving, but children may be

deprived of cultural learning experiences by more knowledgeable agents in their culture. It is evident on examination of Feuerstein's theory, that he was influenced a great deal by Vygotsky's theory, but part of his unique contribution was his elaboration of the process of mediation.

He hypothesized that individuals learn through two modalities: first, by direct exposure to stimuli, and second, by means of mediated learning experiences (MLE):

> MLE is defined as the interactional process between the developing human organism and an experienced, intentioned adult, who, by interposing himself between the child and external sources of stimulation 'mediates' the world to the child by framing, selecting, focussing and feeding back environmental experiences in such a way as to produce in him appropriate learning sets and habits .... the more and earlier an individual has benefitted from mediated learning, the greater will be his capacity to become modified through direct exposure learning (Feuerstein, 1979, p. 71).

Individuals can be distinguished at various levels of cognitive development by the extent to which they are modifiable, that is, learn by direct exposure to stimuli. "MLE can therefore be considered as the ingredient that determines differential cognitive development" (Feuerstein, 1980, p.15). It follows that a child who has been exposed to a level of MLE consistent with the functioning of the culture in which she or he is reared, will function adequately within that environmental

framework.

According to Feuerstein (1980), an interaction that provides mediated learning is characterized by two requirements: first, the mediator intends to impart information to the child, and second, the mediation transcends the immediate needs of the recipients "by venturing beyond here and now in time and space" (p. 20). An important component of MLE is that knowledge is transmitted to the individual which may be outside his or her direct experience. Thus, MLE is "responsible for all functions that transcend the biological needs of the individual" (Feuerstein, 1980, p. 26).

In addition to the role of representing the environment to the child, MLE also enables the child to acquire the flexibility to deal with new situations:

> The individual who has learned to function within his own culture has learned to adapt and become modified. This modifiability, while developed and expressed within the context of a particular culture, is of great adaptive value because it has established the prerequisites for learning and for continued modifiability (Feuerstein, 1979, p. 39).

The Present Research: Development of a Hypothesis

The process and contents of mediation are themselves cultural elements. The objective of the present research is to study a culture in which a large component of its mediation is directed towards the solution of complex and highly abstract arguments, in order to assess whether this particular mode of mediation has an effect on cognitive development. In terms of Feuerstein's terminology, the MLE that the Ultra-Orthodox and Neo-Orthodox children receive is different. Both types of schooling demand a high level of performance from their students and in fact cater for the academically superior child. The difference between the two groups is in terms of subtle differences in mediation. In the Ultra-Orthodox group children are taught abstract religious concepts from an early age, and their religious study at school is of an abstract intellectual nature. The religious culture dictates the content that is mediated to the child. In the Neo-Orthodox group, the cultural content is predominantly secular in nature and follows the trend of the majority culture. In this group specific modes of mediation are not an inherent part of the culture as they are in prescriptive Judaism, therefore, there is a greater possibility of a wider range in methods of mediation.

There are two effects of the differential mediation of the two groups. The first is rather circular and refers to content; the different content of each group dictates a differential MLE, but also, the different MLE leads to different content being mediated to the children. The second effect is that this

differential MLE leads to different levels of flexibility and modifiability in the two groups. It is hypothesized that the Ultra-Orthodox children will be more flexible in their reasoning, as a result of their abstract, intellectual mediation, than the Neo-Orthodox children who do not especially receive this type of mediation, and that the former group are modified in such a manner that they will use this mode of conceptualization not only in tasks of pure reason, but in their secular subject matter as well. Conversely, since the Neo-Orthodox children have not had mediation of this qualitative type, they will not be as modified as the Ultra-Orthodox children and this factor will be reflected in their ability to solve abstract problems.

Hypothesis

The Ultra-Orthodox students will show greater proficiency in tests of figural relational reasoning than the Neo-Orthodox students. In tests of particular secular content, that is, tests of verbal and numerical relational reasoning, a similar difference will be reflected.

Since Ultra-Orthodox males receive more intensive MLE than the Ultra-Orthodox females, they will perform at a higher level in the areas of figural, verbal and numerical relational thinking. This difference will not be evident between the Neo-Orthodox males and females since their MLE is essentially similar.

CHAPTER 4

METHODOLOGY

This chapter describes the characteristics of the samples that were studied, and gives a description of the cognitive tests used, and the procedural aspects of the present research.

Subjects

Selection Criteria

The criteria for inclusion of subjects in the present study were based on the following:

a) the family consisted of a biological mother and father, with both parents residing in the same household;

b) the parents were both Jewish;

c) the child had no record of learning disabilities;

d) they belonged either to the Neo-Orthodox or Ultra-Orthodox communities;

e) the parents consented to the testing of the child (see Appendix A).

Subject Characteristics

Subjects were chosen from two types of Jewish parochial schools; one Neo-Orthodox and the other Ultra-Orthodox. The former type was co-educational and the latter was divided into a boys' and girls' school. There were two levels of age distribution within each group; a junior level which consisted of Standards six and seven, and a senior level containing Standards nine and ten. Specific ages were not taken into account, however, children who had failed a year of schooling were not included in the sample. Therefore, it was assumed that the standard levels consisted of a normal distribution of ages for those standards. Since the subjects were not chosen randomly, there was unavoidably an unequal distribution of males and females in each group. The home language of each child, and the medium of instruction at school was English. In Table 1 the number of subjects that were obtained for each cell is indicated.

TABLE 1

Number of Subjects Obtained for each Cell

	Juniors		Seniors		
	Males	Females	Males	Females	
Neo-Orthodox	19	7	9	12	n=47
Ultra-Orthodox	11	12	3	12	n=38

It is noted that the Ultra-Orthodox male cell contained only three subjects; this was due to the fact that there is only one school of this nature in South Africa with few males at senior level.

Nature of the Religious Study of the Two Groups at School

Both groups have religious study at school, but there is a difference in the quantity and quality of this study. In all of the schools the day starts with prayer. In the Neo-Orthodox group, which is co-educational, the children are taught Hebrew, Jewish History, Tanach (the Bible) and certain of the religious laws and ethics. This takes up approximately two to three hours of the school day, and the emphasis is on learning rather than independent study. The majority of the school day is devoted to secular subjects.

In the Ultra-Orthodox group, males and females attend different schools. Girls are taught for approximately two to three hours each day on Jewish history; they study some Mishnah on the laws and moral teachings, and learn some of the commentaries on these laws. In addition to this, they have a separate period devoted to learning Hebrew. The emphasis on religious study is less on the intellectual side, than on the practice of the rituals and laws, the reason for them, and the assimilation of the ethical and moral teachings.

In the boys' school the entire morning is spent in religious study. The boys study the Sources, Mishnah, Gemara and

commentaries. They are encouraged to work out solutions to certain of the age-old controversies and problems. Afterwards they spend some time with the Rabbi discussing the points in fine detail. This method of educating is especially designed to teach the boys to think in an independent and critical manner, since the community requires that they continue religious study on completion of their schooling. Less time is in fact devoted to secular subjects than to religious study. The different emphasis on education in the two groups, both at home and at school, was taken as the independent variable.

Educational Status of the Parents

It has been noted previously in this dissertation (p.33) that the educational level of parents plays a role in the cognitive development of their children. In Feuerstein's terms, it could be maintained that level of education determines the quality of MLE a child receives. Data concerning the level of secular education of the mothers and fathers in both groups was gathered from the questionnaire parents were requested to fill in, and the results in tabulated form are given in Table 2.

TABLE 2

Level of Secular Education Achieved by Parents

	Ultra-Orthodox		Neo-Orthodox	
	Mother	Father	Mother	Father
Standard 8	4.5%	4.5%	5.5%	-
Standard 9	-	-	5.5%	-
Matric	12.5%	16.5%	61%	38.8%
Tertiary Education	83%	79%	33%	61.2%

Ultra-Orthodox: n = 24

Neo-Orthodox: n = 18

As Table 2 shows, a large majority of the Ultra-Orthodox parents had undergone tertiary education. The distribution of mothers and fathers in the group was similar, both could be illustrated by a positively skewed leptokurtic graph. There was a slight difference between mothers and fathers, which revealed that more mothers had had tertiary education. In the Neo-Orthodox group the pattern of mothers and fathers differed in that the mode of the mothers was at matric level and that of the fathers at tertiary level. Twice as many Neo-Orthodox fathers have had tertiary education than the mothers. It can be seen that the fathers and particularly the mothers in this group, have had considerably less secular education proportionally, than the mothers and fathers in the Ultra-Orthodox group.

Cultural Profiles of the Ultra-Orthodox and Neo-Orthodox Groups

In order to make further differences between the two groups more explicit, a questionnaire was developed as a device for the post hoc characterization of the Neo-Orthodox and Ultra-Orthodox children and their parents. It should be noted that the profiles generated were used as selection criteria, and do not form a part of the substantive findings of the present study. Rather, the profiles should be regarded as a formal description of the two groups.

Backstrom and Hursh (1965), stated that:

> The model questionnaire is designed in four parts, the introduction, warm-up questions, the body of the study and demographic questions (p. 33).

However, for this questionnaire, the schema of Simon (1979) has been followed, wherein the covering letter is an introduction to the questionnaire, followed by the demographic questions. The reason Simon gives for this divergence from the Backstrom and Hursh model is that demographic questions placed after the introduction are inoffensive and may promote the completion of the questionnaire. In the present questionnaire these questions included the name and address of the child, the number of children in the family, position of birth order of the child to be tested and the educational level of the parents. The warm-up questions

were included to tap the frequency of synagogue attendance, extent of past and present religious study of the parents,and the degree of contact with the media of the majority culture. The fourth part of the questionnaire was the body of the study and was largely modelled on a questionnaire drawn up by Dubb (1973). It was necessary to modify the questionnaire in order to elicit information pertaining directly to the present research groups, since Dubb's questionnaire was aimed at the general Jewish population. The aim of his research was to describe patterns of Jewish identification among Johannesburg Jews. He based his questionnaire on an intensive interview programme of Johannesburg Jews. The interview questions were statistically analysed and divided into sub-scales, which all loaded on a factor which he called Jewish Identification. Six of his scales were used in the present questionnaire; social relations, religious beliefs, ethnocentricism, anti-semitism, intermarriage and religious observances.

Two scales, Cultural Values and Educational Values, were devised by the present researcher in order to tap cultural and educational values, since Dubb did not include these aspects in his questionnaire. The scale of cultural values contained some of the questions included in Dubb's interview schedule, however, some of the questions the present researcher included in this scale, since the information they would elicit pertained directly to the groups being evaluated. The scale of educational values was an entirely original scale. Questions of a contradictory nature were included within five of the scales in order to assess

strength of conviction, since questions in direct contradiction should show opposite scores.

A detailed description of the scales follows. The answers given to the questions were in the form of a Lickert scale ranging from 1 - strongly disagree, to 5 - strongly agree (see Appendix B for the questionnaire and format, and Appendix C for the items on each scale).

The Social Relations sub-scale requires respondents to indicate their preference for interacting either with Jews or non-Jews in social situations. A score of 4 or 5 on the scale as a whole would indicate a positive preference for interacting with other Jews, whilst a low sub-scale total of 1 or 2 would suggest the absence or weakness of such a desire.

The Religious Beliefs sub-scale covers what may be regarded as some of the basic tenets of the Jewish religion. The sub-scale as a whole reflects the extent to which the respondents accept or reject Judaism as a belief system. A high score indicates a positive attitude towards these beliefs and a low score reflects non-acceptance of the belief system.

Ethnocentricism is the belief that the group one belongs to is superior to other groups. Therefore, in this scale high scores reflect the feeling that Jews are superior to non-Jews; a low score suggests the absence of this belief.

The Anti-semitism scale evaluates the extent to which Jews accept well-known non-Jewish stereotypes of themselves. A high score indicates agreement with the stereotypes; a low score reveals disagreement with the statements, as well as indifference to 'undesirable' behaviour by individual Jews.

The Intermarriage sub-scale indicates approval or disapproval of children mixing with or marrying non-Jews. A high score reflects disapproval of such relationships and a low score shows approval.

The sub-scale of Cultural Values was intended to express values that are purely Judaic in nature as opposed to more assimilated majority-culture values. A high score affirms Jewish values, life-style and culture, whilst a low score is a devaluation of these aspects of Judaic religion and culture.

The scale of Religious Educational Values contains only two questions relating to the belief of the importance of religious education. A high score indicates the belief that Judaic study is an academic and intellectual exercise, whilst a low score points to disagreement with this percept.

The last scale, Religious Observances is an assessment of the percentage of major observances to which the family adhere. The higher the percentage, the greater the number of observances that are upheld.

The statements that comprise the scales where placed in a mixed order in the questionnaire so that respondents could not easily guess the nature of the scales. The completed questionnaire was given to ten sets of parents to peruse, in order to ascertain that the questions were comprehendable and unambiguous. Where applicable, changes were made.

Only those parents whose children were to be tested were requested to fill in the questionnaire. The parents were asked to complete the questionnaire together and seal it in an attached envelope to ensure confidentiality. The children were then required to return the envelope to school. The researcher was the only person who had access to the contents of the questionnaire.

The results of Tables 3 - 7 will be examined first. These reflect the extent of religious education, synagogue attendance and exposure to the majority culture media.

TABLE 3

Cheder Attendance of Parents when Children

	Ultra-Orthodox		Neo-Orthodox	
	Mothers	Fathers	Mothers	Fathers
None	20.8%	8.3%	16.7%	11.1%
1 - 2 Years	-	-	22.2%	11.1%
2 - 4 Years	8.3%	4.2%	44.4%	11.1%
6 Years	4.2%	4.2%	11.2%	16.7%
More	66.7%	83.3%	5.5%	50.0%

It can be seen in Table 3 that in the Ultra-Orthodox group, the majority of mothers and fathers had attended cheder for more than six years. However, the difference between the two was in favour of the fathers, with approximately twenty per cent more, having had more than six years attendance at cheder. A fifth of the mothers had had no cheder experience. In the Neo-Orthodox group the fathers followed a similar pattern to the Ultra-Orthodox group, although the distribution was less skewed and peaked. This was due to the fact that there was a greater distribution in the other levels of cheder attendance, although half the fathers had attended for more than six years. The distribution of the Neo-Orthodox mothers' attendance differed from the others in that the mode lay at the '2 - 4 year' level, and was negatively skewed. This pattern indicated that the majority of the mothers had attended cheder for shorter periods of time.

TABLE 4

Shiur Attendance of Parents

	Ultra-Orthodox		Neo-Orthodox	
	Mothers	Fathers	Mothers	Fathers
Weekly	52.2%	78.3%	22.2%	22.2%
Monthly	17.2%	4.3%	-	-
None	30.4%	17.4%	77.8%	77.8%

The above distributions depart from the patterns of the previous one in that the distributions of the Neo-Orthodox mothers and fathers were identical, but dissimilar to those of the Ultra-Orthodox. In the latter group the mothers and fathers

had a fairly similar, negatively skewed distribution, with the mode of attendance at the weekly level. However, there was a difference between the two, in that approximately twenty-five per cent more fathers attended shiurim weekly. In the Neo-Orthodox group, the large majority of parents did not go to shiurim. The percentage that attended weekly was far lower than that of the mothers and fathers in the Ultra-Orthodox group.

TABLE 5

Amount of Time Spent by Parents on Religious Study

	Ultra-Orthodox		Neo-Orthodox	
	Mothers	Fathers	Mothers	Fathers
Daily	39%	78.3%	16.7%	22.3%
Weekly	21.7%	8.7%	-	5.5%
Monthly	26.3%	4.3%	-	5.5%
None	13%	8.7%	83.3%	66.7%

In Table 5 it is revealed that the distribution of Ultra-Orthodox mothers and fathers differed. The distribution of the mothers was fairly platykurtic and negatively skewed, with the mode of study at the daily level. This indicated that somewhat more mothers studied at the daily, than the weekly or monthly levels, although there is a fair percentage of study at these levels. A minority of the mothers do not study. Nearly four-fifths of the fathers study religious texts daily, with far fewer cases at the other levels. In the Neo-Orthodox group the majority of mothers and fathers never study religious texts. Mothers, and to a greater extent, fathers did some religious

study, however, this was considerably less in both cases than in the Ultra-Orthodox group.

TABLE 6

Synagogue Attendance of Parents

	Ultra-Orthodox		Neo-Orthodox	
	Mothers	Fathers	Mothers	Fathers
Daily	-	79.4%	-	22.2%
Weekly	73.9%	16.7%	27.8%	27.8%
Monthly	21.7%	-	16.7%	5.5%
1 - 2 Times per year	4.4%	6.9%	44.4%	33.3%
Never	-	-	11.1%	11.2%

Once again the Ultra-Orthodox group showed a higher level of attendance. A large majority of the Ultra-Orthodox fathers go to synagogue daily, with approximately a quarter of that number attending weekly. A different pattern was reflected in the distribution of the mothers, the majority of whom attended synagogue weekly, with about a third of that number going monthly. The Neo-Orthodox mothers and fathers had a fairly similar distribution, although that of the fathers' was more platykurtic, which indicated in this instance, that the fathers attended synagogue more frequently than the mothers. However, the mode for both lay at the '1 - 2 times per year' level which revealed that they attended synagogue far more infrequently than the Ultra-Orthodox group.

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TABLE 6

Synagogue Attendance of Parents

	Ultra-Orthodox		Neo-Orthodox	
	Mothers	Fathers	Mothers	Fathers
Daily	-	79.4%	-	22.2%
Weekly	73.9%	16.7%	27.8%	27.8%
Monthly	21.7%	-	16.7%	5.5%
1 - 2 Times per year	4.4%	6.9%	44.4%	33.3%
Never	-	-	11.1%	11.2%

Once again the Ultra-Orthodox group showed a higher level of attendance. A large majority of the Ultra-Orthodox fathers go to synagogue daily, with approximately a quarter of that number attending weekly. A different pattern was reflected in the distribution of the mothers, the majority of whom attended synagogue weekly, with about a third of that number going monthly. The Neo-Orthodox mothers and fathers had a fairly similar distribution, although that of the fathers' was more platykurtic, which indicated in this instance, that the fathers attended synagogue more frequently than the mothers. However, the mode for both lay at the '1 - 2 times per year' level which revealed that they attended synagogue far more infrequently than the Ultra-Orthodox group.

TABLE 7

Exposure of the two Groups to the Majority Culture Media

	Ultra-Orthodox		Neo-Orthodox	
	Yes	No	Yes	No
Radio	100%	-	100%	-
Television	37.5%	62.5%	100%	-
Newspapers	79.2%	20.8%	100%	-
Plays/Films	45.8%	54.2%	72.2%	27.8%

Table 7 gives an indication of exposure to majority culture media. In both groups, all families had radios. However, 62.5% more Neo-Orthodox families had exposure to television and more Neo-Orthodox families subscribed to newspapers and attended films and plays on the circuit, than those in the Ultra-Orthodox group. The Neo-Orthodox group therefore, has had more exposure to a broader range of media than the Ultra-Orthodox group.

In overview, certain trends can be seen clearly. The majority of mothers and fathers in the Ultra-Orthodox group have had tertiary education. It is interesting to note the high percentage of mothers in this group with tertiary education, since it is well documented that higher secular is generally discouraged in Ultra-Orthodox groups (particularly in the case of women) in other parts of the world (Rabinowitz, 1960; Poll, 1962; Kahana, 1970). As would be expected, Ultra-Orthodox parents have had more religious education in the form of cheder, shiur attendance and

independent religious study, than the Neo-Orthodox group. In the Ultra-Orthodox sample, the wives' level of religious education is lower than the husbands', yet higher than the Neo-Orthodox men. The Ultra-Orthodox group have had less exposure to the broad range of majority culture media, therefore it could be inferred that they are more encapsulated as a group than the Neo-Orthodox sample.

Table 8 provides the mean scores obtained for both groups on each of the ethnographic sub-scales.

TABLE 8

ETHNOGRAPHIC SCALES

Mean Scores obtained on a Scale of
1 - 5 for each Sub-scale

	Ultra-Orthodox		Neo-Orthodox	
	Agree	Disagree	Agree	Disagree
Social Relations	4.49 SD=.49	1.04 SD= .21	4.23 SD= .49	2.5 SD=1.15
Religious Beliefs	4.84 SD=.32	1.16 SD= .65	3.8 SD= .8	4.05 SD= .89
Ethnocentricism	4.06 SD=.97	1.70 SD=1.0	3.45 SD=1.01	1.88 SD=1.37
Anti-Semitism	2.79 SD=.69	-	2.77 SD= .89	
Intermarriage	3.5 SD=.45	1.7 SD= .87	2.98 SD= .63	3.36 SD= .81
Cultural Values	4.4 SD=.56	1.79 SD=1.15	3.4 SD= .43	3.6 SD=1.98
Religious Educational Values	4.27 SD=.76	-	3.02 SD=1.02	-
Religious Observances		96.4%		67%

In terms of the Social Relations scale, both groups indicated a preference for interacting with other Jews. The mean scores of 4.49 (SD=0.49) for the Ultra-Orthodox group and 4.23 (SD=0.49) for the Neo-Orthodox group ranged between moderately agree to strongly agree. Thus, both groups were fairly similar in their views on this scale. However the Ultra-Orthodox sample strongly disagreed with interaction with non-Jews (M=1.04; SD=0.21), which was compatible with their high score of preference for

interacting with fellow Jews. The Neo-Orthodox mean score of 2.5 (SD=1.15) indicated a moderate disagreement with interaction with non-Jews.

On the Religious Beliefs sub-scale, the Ultra-Orthodox group strongly accepted Judaism as a belief system with a mean score of 4.84 (SD=0.32) which lies close to the strongly agree point. Accordingly, they strongly rejected non-acceptance of Judaism (M=1.16; SD=0.65). The Neo-Orthodox group accepted Judaism with a score of 3.8 (SD=0.80) which lies close to the moderately agree point. Paradoxically they reflected a high mean score of 4.05 (SD=0.89) for non-acceptance of this belief system.

Both groups indicated similar scores with regard to ethnocentricism. They moderately accepted the premiss of Jews being superior to other groups (Ultra-Orthodox: M=6.06; SD=0.79, Neo-Orthodox: M=3.45, SD=1.01). Both were consistent in their disagreement of the equality of Jews with other groups (Neo-Orthodox: M=1.88; SD=1.37, Ultra-Orthodox: M=1.70; SD=0.87).

The mean scores on the Anti-semitism scale revealed a slight disagreement on the part of both groups with the negative stereotypes of Jews. The Ultra-Orthodox score of 2.79 (SD=0.69) and the Neo-Orthodox mean score of 2.77 (SD=0.89) lie between the moderately disagree to indifferent points.

On the Intermarriage sub-scale, the Ultra-Orthodox group moderately disagreed (M=3.5; SD=0.45) with the interrelating and

intermarriage of Jews and non-Jews, while the Neo-Orthodox groups revealed a slightly more positive feeling regarding mixing, (M=2.98; SD=0.63). The contradictory questions within the scale were consistent in both groups; the Ultra-Orthodox disagreed with mixing (M=1.7; SD=0.87), and the Neo-Orthodox accepted mixing with non-Jews (M=3.36; SD=0.81).

As could be expected, the Ultra-Orthodox group expressed their agreement with Judaic cultural values to a stronger degree (M=4.4; SD=0.56) than the Neo-Orthodox group (M=3.4; SD=0.43). The former group's mean score of 1.79 (SD=1.15) on the contradictory question, indicated a disagreement with the devaluing of cultural practices, which was compatible with their general score on this scale. However, in the Neo-Orthodox group there was an inconsistency, in that while they accepted Judaic values, they also devalued aspects of Judaic religion (M=3.6; SD=1.98).

In accordance with their general principles, the Ultra-Orthodox group believed that religious education was an academic and intellectual exercise (M=4.27; SD=0.76). The Neo-Orthodox expressed an indifferent opinion (M=3.20; SD=1.02). It is interesting to note that the Ultra-Orthodox parents regarded religious education as not only a spiritual, but intellectual exercise, since the intellectual ramifications of this type of study are known to this group.

With regard to religious practices, the Ultra-Orthodox group adhere to 29.4% more religious observances, than do the Neo-Orthodox group.

Figure 1 gives an indication of the difference in degrees between the two groups' view-points.

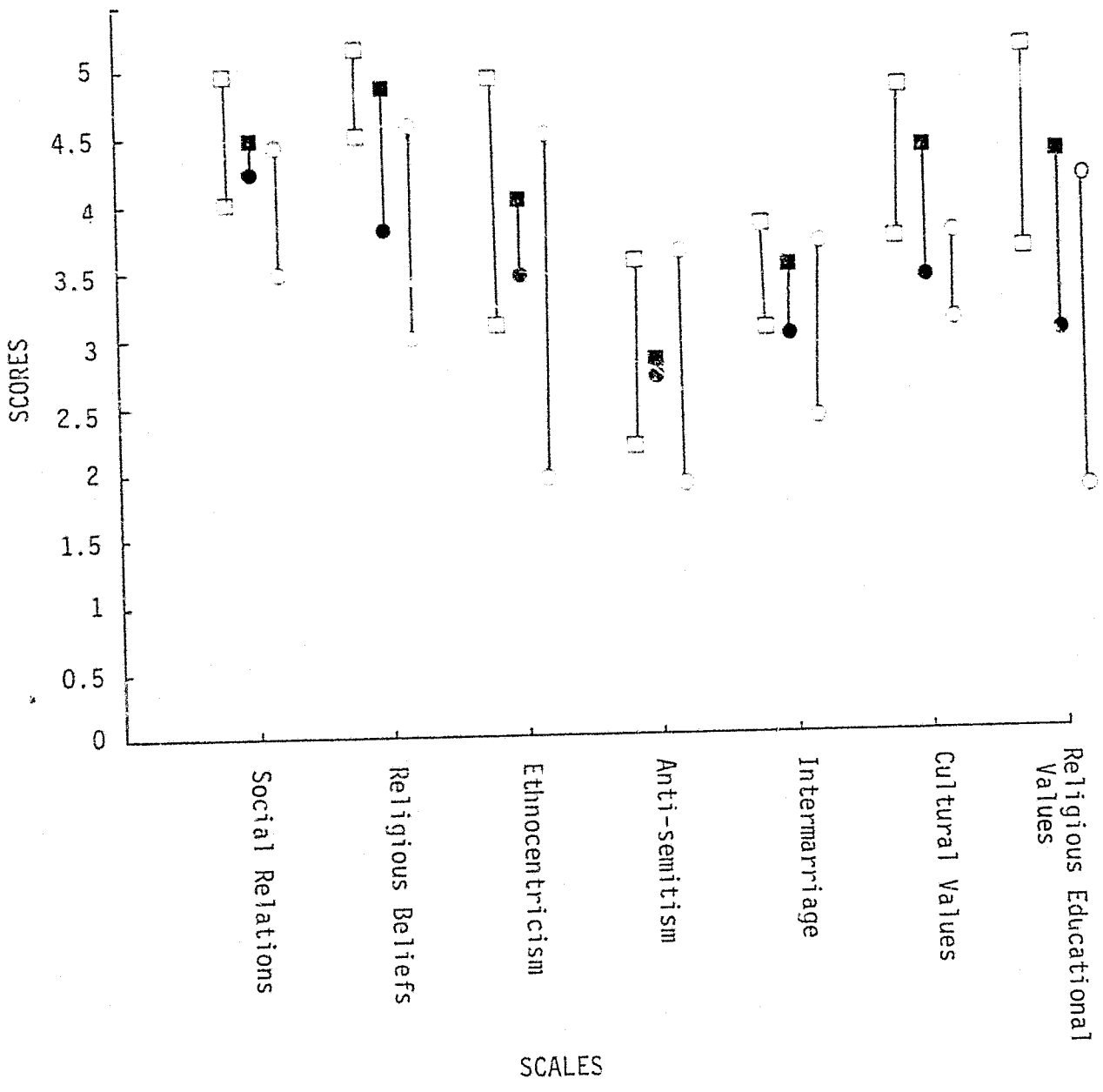


Figure 1: Degree of Difference Between the Groups on the Ethnographic Scales.

On examination of the results of the questionnaire it can be seen clearly that overall it appears that the Ultra-Orthodox group have had more religious education. In a comparison of the two groups, more of the Ultra-Orthodox parents had attended cheder (religious afternoon school for children), for longer periods of time, partook in shiurim (lecture-cum-discussion groups on religious matters), and spend more time in studying religious texts. Thus, the Ultra-Orthodox groups have had, and continue to receive, more religious education than the Neo-Orthodox parents.

In terms of the two social communities, the Ultra-Orthodox group belongs to a more encapsulated community, since they ensure that they have less exposure to majority culture media, attend synagogue more frequently than the Neo-Orthodox group, and adhere to a greater number of religious observances. In contradistinction, the Neo-Orthodox appear to be more assimilated into the majority culture; they have far less exposure to a Judaic way of life in the form of religious study and practice, and more exposure to the majority culture.

However, it appears that the two groups are not totally different in kind, but rather in degree. Figure 1 gives a representation of the similarity in the profiles of the groups; they follow the same general pattern, but there are differences in terms of intensity of belief. In an evaluation of the contradictory questions on the scales, it can be seen that the Neo-Orthodox group are less committed to Judaic prescriptions. In this group on two of the scales (Religious Beliefs and

Cultural Values) the contradictory questions did not show the opposite values, thus, indicating both agreement and paradoxically disagreement with religious cultural values. This high-lights an uncertainty in belief, which may be due to the fact that issues are not seen as categorical since the group is heterogeneous in its views, not necessarily ascribing to one system.

Test Material

The Cognitive Abilities Test, Form 1, devised by Thorndike and Hagen (1971) was used to test the children. The test was chosen first, because it is a multi-level test and can therefore be used on different age groups, second, due to the fact that it requires the use of sopnisticated abstract and symbolic modes of operation and does not rely totally upon learned intellectual skills.

> The Cognitive Abilities Test provides a set of measures of the individual's ability to use and manipulate abstract and symbolic relationships. Three main types of symbols play substantial roles in the thinking of students and adults; symbols representing words, symbols representing quantities and symbols representing geometric, spatial or figural patterns. In this test three separate batteries have been provided to assess competence in working with each of the three types of symbols (Thorndike and Hagen, 1971, p. 3).

Although the Verbal and Quantitative Batteries deal with abstract relations, they depend a great deal upon learned

vocabulary and arithmetical concepts. However, the authors maintain that the non-Verbal Battery "bears little relation to formal schooling". Therefore, if the quantity of secular education has an effect on the outcome of the scores of the first two batteries, the Ultra-Orthodox children will not be at a disadvantage on the non-Verbal Battery, thus their true ability may be assessed.

There are ten sub-tests in the Cognitive Abilities Test, four in the Verbal Battery and three respectively in the other two batteries. Each sub-test is arranged on a multi-level format, the items beginning at a simple level and progressing to more sophisticated levels. Eight different test levels are achieved in the test by varying the point at which the subject starts the test and the point at which she stops. This gradation makes it possible to use the test at any school form level, at the appropriate level of difficulty. The answers are in multiple choice format and can be marked by means of a printed mask.

The authors, Thorndike and Hagen, ran a Factor Analysis on the test. The results indicated that there was a common factor running through all the sub-tests which they called "general relational thinking". They maintained ? verbal and non-verbal factors are well defined, but evidence for a distinctive quantitative factor is virtually absent due to the fact that the variation in quantitative reasoning is largely accounted for by the general reasoning factor running through the test. On examination of Table 9, it is clear that there is

a common factor. However it is difficult to justify the last factor as a separate factor since it accounts for a relatively small amount of variance.

It is recognised in this study that there is no direct evidence that all the batteries constitute distinct factors. However, if particularly different results are obtained between the groups on the separate batteries, the heterogeneity of the batteries may be indicated.

TABLE 9

Factor Analysis

Tests	Factors			
	I General Relational Thinking	II Verbal	III Figural Non-Verbal	IV Quantitative
Vocabulary	.67	.51	-.02	.12
Sentence Completion	.73	.51	.03	.07
Verbal Classification	.70	.42	.10	-.07
Verbal Analogies	.80	.29	.03	-.05
Quantitative Relations	.74	.01	-.04	.25
Number Series	.82	.02	.00	.06
Equation Building	.79	-.02	.00	.21
Figure Classification	.67	-.01	.39	-.05
Figure Analogies	.77	.00	.40	-.07
Figure Synthesis	.62	-.07	.39	.13
Percent of Variance	53.8	7.9	4.8	1.6

Thorndike and Hagen, 1971, p. 103

Procedure

Since each battery of the Cognitive Abilities Test takes approximately forty to fifty minutes to administer, it was decided that no more than two batteries would be given on any one day, so that fatigue would not influence the results. In the Neo-Orthodox school, Standards 6, 7, 9 and 10 were tested separately, but in the Ultra-Orthodox schools, because of the smaller numbers, Standards 6 and 7 were tested together as were Standards 9 and 10. At the outset of each sub-test, instructions were read to the children from the instructor's manual, queries were answered and it was ascertained by the tester that each child understood the requirements of each test. The children were supplied with printed test forms, booklets, pencils and erasers.

Data Analysis

The questionnaire was analysed in terms of the descriptive data it would yield, in order to obtain a profile of both groups. However, the data obtained from the questionnaire on parental education was used as an independent variable in the analyses of variance (ANOVA) performed on the three batteries. It was decided that the differences between the Neo-Orthodox and Ultra-Orthodox groups would be assessed separately in terms of the Verbal, Quantitative and Figural Batteries, since they supposedly test somewhat different skills. A summation of all the scores could lead to confounding of the results and a loss of information.

Only the raw scores were used as the tests were not standardised for this country.

Two sets of analyses were computed on the scores of the Verbal, Quantitative and Figural Batteries. In the first, the independent variables used were Parent Education and Schooling.

A 4x2 factor analysis of variance was computed on each of the three batteries as shown in Table 10. A 2x2x2 factor analysis of variance was computed on each of the three batteries as shown in Table 11.

TABLE 10

General Design of the 4 x 2 Factor Analysis of Variance

Independent Variables	Levels
Parent Education	Mother tertiary; Father secondary
	Father tertiary; Mother secondary
	Both tertiary
	Both secondary
Schooling	Neo-Orthodox
	Ultra-Orthodox

In the second set of analyses, (see Table 11), the independent variables were: Schooling, Sex and Standard.

TABLE 11

General Design of the 2 x 2 x 2 Independent Factor Analysis of Variance

Independent Variables	Levels
Schooling	Ultra-Orthodox
	Neo-Orthodox
Sex	Male
	Female
Standard	Junior
	Senior

CHAPTER 5

RESULTS

In the present chapter the results obtained from the various ANOVAs are given. Two types of analyses were computed on the same set of three dependent variables (the Verbal, Quantitative and Figural Batteries). The first analysis, a 4x2 factorial design, was aimed at examining the contributions of Parent Education and Schooling, whereas the second analysis, a 2x2x2 factorial design, was concerned with the contributions of Schooling, Sex and Standard on the test batteries.

Parent Education

The aim of the analyses reported in this section was to examine the effects of Parent Education on the three cognitive scores. These are essentially subsidiary analyses. Interest was also centred on the Parent x Schooling interaction.

The Two-way ANOVAs performed on the Verbal, Quantitative and Figural Batteries are shown in Tables 12 - 14.

TABLE 12

Source Table for the Analysis of Variance of Parent Education and Schooling on the Verbal Battery

Source	SS	df	MS	F	p
Parent Education	645.05	3	645.05	2.48	0.079
Schooling	282.16	1	282.16	3.25	0.080
Parent Education x Schooling	93.38	2	93.38	0.54	0.589
Error	2863.80	33	86.78		

TABLE 13

Source Table for the Analysis of Variance of Parent Education and Schooling on the Quantitative Battery

Source	SS	df	MS	F	p
Parent Education	188.90	3	188.90	0.63	0.601
Schooling	255.57	1	255.57	2.56	0.119
Parent Education x Schooling	162.18	2	162.18	0.81	0.453
Error	3300.10	33	100.00		

Neither the main effects of Parent Education and Schooling, nor the two-way interactions influenced the verbal or quantitative scores.

TABLE 14

Source Table for the Analysis of Variance of Parent Education and Schooling on the Figural Battery

Source	SS	df	MS	F	p
Parent Education	454.71	3	454.71	0.98	0.416
Schooling	677.26	1	677.26	4.36	0.045
Parent Education x Schooling	117.52	2	117.52	0.38	0.688
Error	4971.52	33	150.65		

As far as the Figural Battery was concerned, Parent Education was not a significant contributor. However, the main effect of Schooling influenced Figural Battery scores significantly, $F(1; 32) = 4.36$; $p = 0.045$. This effect was produced by the fact that the Ultra-Orthodox group obtained higher figural scores (Mean (M) = 80.14; Standard Deviation (SD) = [illegible]). The interaction between Parent Education and Schooling was not significant.

In sum, the results obtained indicated that Parent Education did not influence the scores on any of the batteries.

The following set of analyses constitute the central component of the present study.

Schooling, Sex and Standard

Tables 15 - 17 present the results of the ANOVAs computed on the Verbal, Quantitative and Figural Batteries.

TABLE 15

Source Table for the Analysis of Variance of Schooling and Sex on the Verbal Battery

Source	SS	df	MS	F	p
Schooling	402.32	1	402.32	5.45	0.02
Sex	9.45	1	9.45	0.13	0.72
Schooling x Sex	114.70	1	114.70	1.55	0.22
Schooling x Standard	200.68	1	200.68	2.72	0.10
Standard x Sex	53.20	1	53.20	0.72	0.40
Schooling x Standard x Sex	25.97	1	25.97	0.35	0.55
Error	5610.44	76	73.82		

Examination of Table 15 reveals that Schooling exerted a significant influence on Verbal Battery scores $F(1; 76) = 5.45$; $p = 0.02$). This main effect was produced by the fact that the Ultra-Orthodox group obtained higher Verbal Battery scores ($M = 75.57$; $SD = 10.93$) than did the Neo-Orthodox group ($M = 71.23$; $SD = 8.25$). There were no other significant contributions to the Verbal scores.

TABLE 16

Source Table for the Analysis of Variance of Schooling and Sex on the Quantitative Battery

Source					
Schooling	6074.17	1	6074.17	6.77	0.011
Sex	7150.51	1	7150.51	7.96	0.006
Schooling x Sex	881.61	1	881.61	0.98	0.325
Schooling x Standard	188.33	1	188.33	0.21	0.648
Standard x Sex	11.55	1	11.55	0.01	0.910
Schooling x Standard x Sex	6759.22	1	6759.22	7.53	0.007
Error	66441.67	74	897.86		

The main effects of Schooling ($F(1, 74) = 6.77$; $p = 0.011$) and Sex ($F(1, 74) = 7.96$; $p = 0.006$) contributed to the Quantitative scores. The Ultra-Orthodox children obtained higher quantitative scores ($M = 77.18$; $SD = 9.53$) than did the Neo-Orthodox children ($M = 79.13$; $SD = 10.34$). Further, males obtained higher scores ($M = 79.13$; $SD = 6.44$) than the females ($M = 72.00$; $SD = 11.17$). None of the two-way interactions were Significant. However, the three-way interaction, Schooling x Sex x Standard, reached significance ($F(1, 74) = 7.53$; $p = 0.007$). This interaction is represented in Figures 2a and 2b.

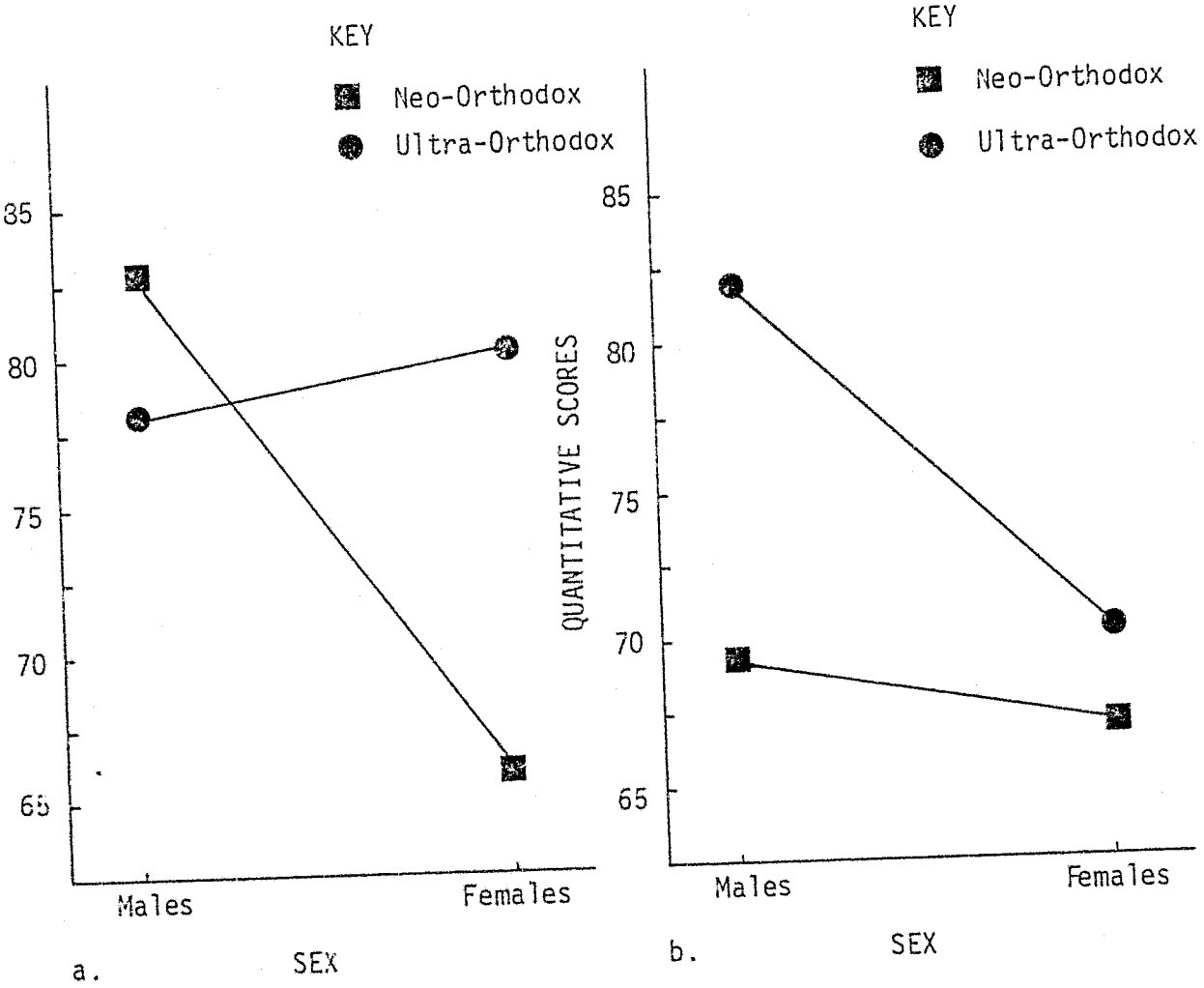


Figure 2.The effects of sex on quantitative scores in the Junior standard (a) and the Senior standard (b) samples.

The interaction was attributable to the following effects: At the junior standard level, Ultra-Orthodox males (M = 78.82; SD = 7.07) and females (M = 80.92; SD = 11.95) obtained similar quantitative scores. However, at the same level, the quantitative scores of the Neo-Orthodox females (M = 66.00; SD = 4.24) was considerably lower than that of the Neo-Orthodox males (M = 83.00; SD = 8.96). At senior standard level this pattern changed; there was a sex difference in the performance

of the Ultra-Orthodox children, since females (M = 70.75; SD = 9.75) obtained lower scores than the males (M = 82.00; SD = 4.41). For the Neo-Orthodox children, the sex difference was reduced with the males (M = 69.75; SD = 7.41) and females (M = 67.66; SD = 12.34) obtaining comparable scores.

TABLE 17

Source Table for the Analysis of Variance of Schooling and Sex on the Figural Battery

Source	SS	df	MS	F	p
Schooling	38482.27	1	38482.27	41.75	0.0001
Sex	3375.33	1	3375.33	3.66	0.0598
Schooling x Sex	3340.53	1	3340.53	3.62	0.0611
Schooling x Standard	10772.87	1	10772.87	11.69	0.0011
Schooling x Sex	796.69	1	796.69	0.86	0.3558
Schooling x Standard x Sex	9277.29	1	9277.29	7.89	0.0064
Error	63609.57	69	921.88		

Yet again, Schooling exerted a significant effect on Battery scores (F (1,69) = 41.75; p = 0.001). The Ultra-Orthodox children performed at a higher level (M = 81.14; SD = 13.27) than the Neo-Orthodox children (M = 69.93; SD = 11.15). The main effect of Sex and the interaction between Schooling and Sex fell just short of signficance (P = 0.06). The two-way interaction between Schooling and Standard was significant (Schooling x Standard: F (1,69) = 11.69; p = 0.0011), and is represented in Figure 3.

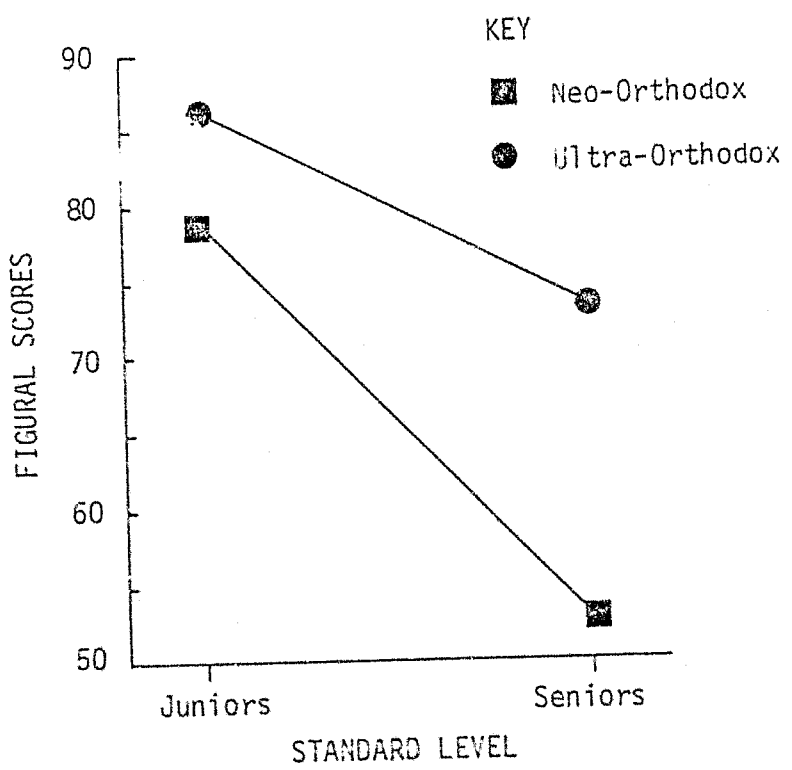


Figure 3. The effects of the interaction of Schooling and Standard on figural scores.

From Figure 3, it is evident that the Ultra-Orthodox groups perform at a higher level than the Neo-Orthodox groups. However, the difference between the Neo-Orthodox and the Ultra-Orthodox is more marked at the senior level (Ultra-Orthodox: M = 73.14; SD = 13.78 and Neo-Orthodox: M = 52.93; SD = 13.50) than at the junior level (Ultra-Orthodox: M = 86.00; SD = 7.29 and Neo-Orthodox: M = 79.08; SD = 7.29).

The three-way interaction (Figure 4) was also significant (Schooling x Standard x Sex; $F(1,69) = 7.89$; $p = 0.0064$).

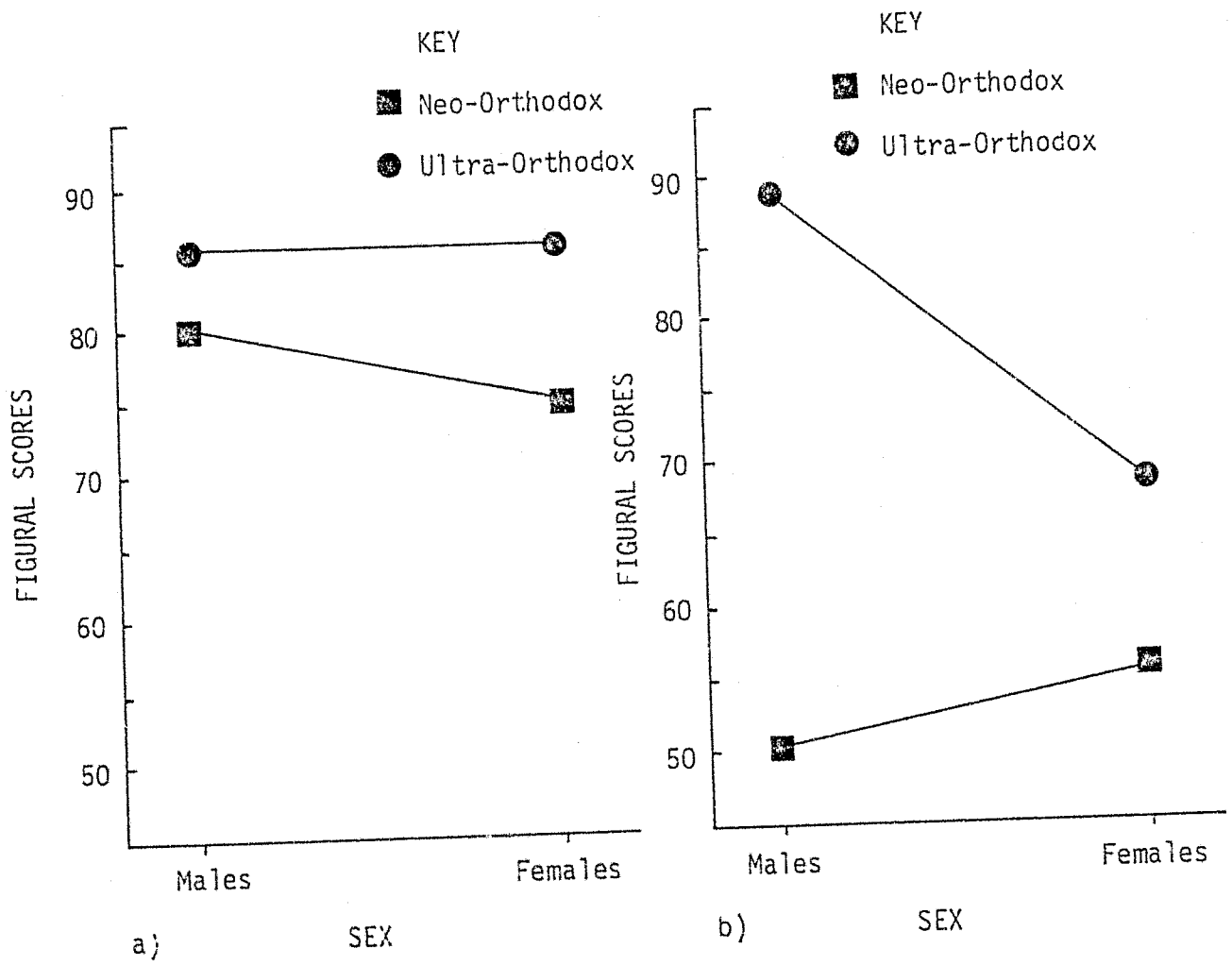


Figure 4. The effects of sex on figural scores on the Junior Standard (a) and Senior Standard (b) samples.

Figures 4a and 4b reveal that at junior standard level there was no sexual differentiation in the Ultra-Orthodox group (males: M = 86.00; SD = 4.24 and females: M = 86.00; SD 7.96). However, at this level the Neo-Orthodox females (M = 75.43; SD = 7.66) scored somewhat lower than the Neo-Orthodox males (M = 80.42; SD = 7.04). This pattern changed at senior standard level. The Ultra-Orthodox group showed a marked sex difference, with the male scores (M = 89.00; SD = 4.36) far greater than the female scores (M = 68.82; SD = 10.31). The Neo-Orthodox pattern was reversed

when males (M = 50.43; SD = 13.50) obtained slightly lower scores than the females (M = 55.43; SD = 19.09).

CHAPTER 6

DISCUSSION AND CONCLUSION

The results of the present study will be discussed and compared first, with other related research findings, and second, with current cognitive theories.

In overview, Schooling influenced performance levels on all three batteries, with the Ultra-Orthodox children obtaining higher scores than the Neo-Orthodox children. These results support the hypothesis of the present research. Not only were the scores of the Ultra-Orthodox students superior on the Figural Battery, which bears little relation to formal schooling, testing so-called fluid intelligence (Thorndike and Hagen, 1971), but also on the Verbal and Quantitative Batteries, which rely on academically learned concepts, although they spent far less time on secular studies than did the Neo-Orthodox children.

These results are in concordance with those of Gross (1970) and Himmelfarb (1974) whose research revealed that Talmudic study over a number of years had a significant impact on cognitive ability, and that Talmudic students were superior reasoners. Silverman (1954) also demonstrated that children who attended

all-day Yeshivas (Jewish religious academies), did not suffer academically as a result of their heavier programme and shorter amount of time devoted to secular study. Rather, the rigorous religious curriculum appeared to improve academic performance.

With regard to the second aspect of the hypothesis, the following trend was discernable in the interactions on the Figural and Quantitative Batteries: the differences between the Ultra-Orthodox males and females was far more marked at senior than junior level. The differences between the males and females in the Neo-Orthodox group tended to even out at senior level. These trends indicate that the second part of the hypothesis is a correct supposition.

Traditional religious Orthodoxy is characterized by sex role stereotypy. Seller and Hilton (1972) demonstrated that religious Orthodox Jewish children adhered more strongly to traditional male-female role stereotypes than did non-traditional Jewish children. Judaism is a male-oriented, patriarchal religion and culture (Klein, 1977). The intensive and systematic tuition of the males is required by traditional Judaic law, and the boy is expected to become a learned man (Kahana, 1970; Poll, 1962). The girls' instruction does not necessarily emphasize scholarliness or intellectual acquisitiveness, but concentrates more on the practical application of Judaic precepts on life-style (Poll, 1962). This pattern was observable in the Ultra-Orthodox schools, since religious tuition in the female school was of a lower intellectual standard than that of the males. The girls do not study the

Gemara independently as do the boys, which is an intellectual, logical and abstract exercise, but simply learn many of the laws and their derivations. This difference in mediation seems to account for the differences in the scores between the boys and girls. The fact that the divergences in Ultra-Orthodox male and female scores is far greater at senior than junior level, lends support to the proposal that the intense, intellectual mediation the males receive, increases cognitive performance over time. The fact that more intense mediation leads to an increment in cognitive ability, is further substantiated by the fact that the Neo-Orthodox males and females receive similar mediation, and their scores show greater similarity at senior, than junior level. In sum, the sex difference in the Ultra-Orthodox group is a result of differential mediational processes. However, since mediational practices in the home environment per se were not examined, these factors in all probability also contribute towards the differences between, first, the Ultra-Orthodox males and females, and second, the Ultra-Orthodox and Neo-Orthodox groups as a whole.

It must be stressed that although difference in Schooling was the independent variable, home environmental factors are continuous with schooling in the mediation of the child; the specific influences of these two factors cannot be specified in this study, and therefore, the influence of the milieu as a whole will be assessed.

Particular aspects of the home environment were examined, namely, the level of parental education and religio-cultural

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It must be stressed that although difference in Schooling was the independent variable, home environmental factors are continuous with schooling in the mediation of the child; the specific influences of these two factors cannot be specified in this study, and therefore, the influence of the milieu as a whole will be assessed.

Particular aspects of the home environment were examined, namely, the level of parental education and religio-cultural

practices and values. The analyses of variance computed on Parent Education established that the level of parent education did not influence the scores on any of the batteries. These results contradict certain studies which have proposed that the level of parental education and children's achievement are significantly related (Garon, 1971; Shah, 1971). However, the results obtained in the present study are compatible with an increasing number of studies, that demonstrate that cognitive development is the result of a complex interrelationship of parental attitude, parent involvement in children and general home environment, over and above factors of socio-economic status and parental education, although the latter two factors do play a role (Hautamäki, 1981; Kondal and Lesser, 1969; Nundy and Singhal, 1981). Schooling was shown in the present study to be a highly influential factor in cognitive development, however, the differences in schooling per se, are not sufficient explanation for the differential scores. The other difference that was explored, was the religio-cultural milieu of both groups. On examination of the ethnographic profiles of each group, parents in the Ultra-Orthodox group indicated a greater degree of cohesiveness and strength of belief, than the Neo-Orthodox parents. Both mothers and fathers in the former group attended shiurim and studied religious texts independently, to a greater degree than the Neo-Orthodox parents. They also believed that religious education is an academic and intellectual exercise, whereas the Neo-Orthodox parents were indifferent to this precept. The former, therefore, encourage religious education, not only of a practical, but intellectual nature. Talmudic study is

essentially an example of abstract, relational thought, since it is an examination of complex networks of explanation of abstract and existential problems (see the introductory chapter). It is thus an acceptable posit that this type of study has an effect on cognitive structures. Not only are Ultra-Orthodox children subject to this type of thought at school, but they are raised in this intellectual milieu, since a large proportion of their parents study religious texts, and conceivably transmit this manner of thinking to their children. Most of the Neo-Orthodox children do not have this kind of input. This factor appears to be the most likely explanation for the divergences in scores. There are a number of research cases that substantiate the strong influences that the family environment has on intellectual development (Hahler, 1972; Marjoribanks, 1973 and 1974; Sattler, 1974; Wozney, 1974), and it is now a reasonably well established fact that the particular familiar milieu in which a child is raised affects his or her cognitive and academic ability (Firkowska, 1981). Further studies have revealed that Jewish children from religious homes are taught abstract concepts from an early age, and may presumably be quite familiar with this mode of thinking. Kousalis (1973) demonstrated that Orthodox Jewish children had more abstract concepts of God than Catholic or Protestant children. Kahana (1970) noted that the non-material nature of God and general concepts of spirituality were taught to Ultra-Orthodox children at an early age. Gross (1970) found that Talmudic students were superior reasoners. The results of the present study will now be discussed with reference to the major cognitive development theories.

Discussion of the Results in terms of Cognitive Theory.

Piaget described human cognitive development in terms of developmental stages that are species-general in nature. He developed the concept of cognitive schemes within the general parameters of stages, and did not expand on the phenomenon of individual variation in development. Piaget (1971b) described these parameters of development in terms of canalization, which is the genetic limitation of phenotypic development to a few possible phenotypes rather than an infinite variety (Scarr-Salapatek, 1976a, p. 34). Therefore, development in each stage hinges on the genetic restriction of phenotypes. Thus, environmental factors can only influence development so far as the restricted phenotypes allow. These patterns of development which are essentially similar to Waddington's (1971) behavioural creods (Piaget 1971b), are organized pathways of behaviour that develop in characteristic ways. They represent the means by which individuals acquire some, rather than other, forms of cognitive functioning. In terms of the present study, both groups demonstrated the attainment of certain formal operations, such as the formation of relationships through a variety of symbolic modalities. Therefore, in Piagetian terms, both groups have reached the species-specific stage of formal operations, which is a genetic predisposition available to all humans. However, Piagetian theory per se is unable to explain the significant differences in level of performance of the two groups. This deficiency in the theory is a result of Piaget's concentration on genetic predisposition, to the relative neglect of description of factors that allow for the manifestation of these possible

functions. It will be argued that individual or group differences become more manifest as the organism matures, and accordingly, the range of differences within later stages increases.

The following lengthy quotation by Scarr-Salapatek (1976b) elaborates on the process of developmental adaptation, or environmental influence:

> What kinds of human behavioural characteristics are likely to show developmental adaptation more than genetic preadaptation? Amenn and Motulsky (1972) proposed that older (in the evolutionary sense) forms of adaptation are more likely to have limited genetic variability and a higher degree of canalization. Specifically, the brain stem, the midbrain and the limbic structures that evolved earlier are less polymorphic than cortical areas of the brain. Behavioural characteristics associated with higher cortical centres are newer evolutionary phenomena and are likely to develop more variable phenotypes. Behaviours associated with older areas of the brain, those we share with other primates, are genotypically and phenotypically less variable. Their development is more highly canalized. This hypothesis has clear implications for infant intelligence, as contrasted with later forms of intelligence. (p. 176).

Therefore, as cognitive development becomes more complex and integrated, it is likely to become more variable and weakly canalized. This conclusion is corroborated by McCall (1981) who has maintained that early development is highly canalized for the first 18 months, but thereafter becomes less strongly canalized. Individuals proceed along the broad parameters of species-typical paths but are more susceptible to environmental and individual

genetic differences within the broad confines of the path. In the present study, the two groups may be identified with the species-typical path of formal operations, but the variations in performance may be explained in terms of ranges within the stage produced by the different socio-cultural environments of the groups. However, the manner in which the environment influences development has no theoretical precedent in Piagetian theory, and therefore, the other theories of cognitive development will be explored for a more adequate explanation of this phenomenon. However, in terms of the broad framework of canalization, the present results lend weight to the proposition of McCall (1981) and Scarr-Salapatek (1976a, 1976b), that development becomes less canalized, and thus, becomes more susceptible to environmental and individual genetic influences. The fact that the Ultra-Orthodox culture is prescriptive and strongly adhered to by its members, may influence developmental pathways or creeds in this later period of development in a way that is different from the less uniform environmental influence of the Neo-Orthodox group, and this may explain differences in performance.

Within the Vygotskian paradigm, the differences between the two groups could be explained in terms of social mediation. Social mediating agents, in this case parents and teachers, mediate to the child in such a manner that the values and modes of operation are internalized as higher order processes. Vygotskian theory was not sufficiently well developed to explain the process of different types of mediation, but since Feuersteinian theory is an elaboration on the mediating process, that framework will be used

as a more adequate explanation for the differences.

The theories that extensively elucidate on the cultural influences on cognition, are those of Bruner and Feuerstein. As Piaget has maintained, one could conceptualize cognitive processes as being biological potentials. However, if the child is not educated in specific ways, certain potentials may not be actualized. For example, if language is not taught to a child, even though he or she has the potential to speak, he or she may never do so. Thus, a greater or lesser number of cognitive processes will be actualized in a child, given certain favourable, or conversely, unfavourable conditions. As Bruner (1974) has maintained, "some environments push cognitive growth better and earlier than others" (p. 391). Thus, in the present study it has been indicated that certain aspects of a culture may directly be related to specific, differential skills exhibited by its members. In Brunerian terms, the particular amplification systems of a culture may become the predominant tools of operations of its members. Talmudic study may be viewed as an amplification system of thought in the Ultra-Orthodox group. Thus, this abstract, logical and reasoning manner of study is passed on to the children at a young age and is reinforced by formal religious education. The fact that this type of thought pervades the entire milieu and is accessible to all its members, could account for the fact that even though the Ultra-Orthodox females receive less intensive and qualitative religious tuition than the males, they still operate at a superior level to the Neo-Orthodox females. Although the concept of amplification systems is useful, Bruner did not explain

the manner in which the so-called tools arising from these systems were passed on and internalized in the individual.

The present results have the most implication for Feuersteinian theory, and are best explained within this paradigm. Within the framework of Feuerstein's theory (1979, 1980), it is possible to explain the manner in which the specific modalities of cognitive operation in a culture may be transmitted to the young. In Feuerstein's terminology, the higher level of functioning in the Ultra-Orthodox children could be explained in terms of the differential mediation this group receives. Many of the distal aetiological factors which Feuerstein gives as influencing mediation were controlled for in this study; there were no records of organicity or learning disabilities in the children tested, parents were of the same religion and not divorced, and the secular educational level of both sets of parents did not differentially effect the children's level of performance. The remaining factors not controlled for, were those of culture and environment. The differences in the religio-cultural environments of the two groups have been specified in this chapter. The intense and intentional mediation the Ultra-Orthodox children receive is gained at an early age from abstract concepts of God and religion, and progresses to abstract, intellectual study. This process appears to have laid the groundwork for a superior level of abstract, relational thought. According to Feuerstein, once early mediation has been of this qualitative type, the child becomes his or her own mediator, and is able to use the culturally mediated patterns of cognition unaided, when exposed to stimuli. MLE is a group supported

behaviour, and Feuerstein (1980) has stated that the greater the cultural difference of a specified group is from the majority culture, the stronger will be the cultural transmission of that group. This factor has been high-lighted in the present study. The Ultra-Orthodox group require abstract, relational thinking from their children, in order to study religious texts in the requisite manner. This intentional, qualitative mediation begins at an early age, and as it becomes internalized, the students exhibit high levels of modifiability as seen by their high levels of functioning on the more secular tests, although they spend less time on secular work in school. It is important to note, that the Neo-Orthodox children are high functioners in comparison to the general norm; this factor is evident in their matric results, which are ten to twenty per cent above the norm. However, in terms of Judaism, they may be said to be culturally deprived. Although Feuerstein only spoke of cultural deprivation in terms of retarded performers, the Neo-Orthodox children do not have the same quality of intense, intellectual MLE, as do the Ultra-Orthodox. These aspects of Judaism, which the latter group receives, enables them to function at a higher level than the Neo-Orthodox children.

The pattern of tuition in the Ultra-Orthodox education system is one that teaches the child how to think. In religious study, particularly in the case of the boys, the children are required to solve problems, and then discuss their methods of analysis with the teacher. This process enables them to internalize successful modes of operation, and they conceivably then apply similar processes to secular study; this process indicates a high level of

flexibility. This particular mediation is instituted well before school-going age, with both males and females, which explains the superior functioning of the females. In overview, this study has brought to light the fact that specific cultural variations may directly effect cognitive skills and the course of development. This effect is dependent upon the strength of cultural affiliation, and the intentionality of parents and other social agents to transmit these values and ways of operating to their children.

Conclusion

The cultural differences between the Neo-Orthodox and Ultra-Orthodox groups were subtle, as the groups were both identified at Merton's fourth level, which excluded extraneous and confounding variables to a large extent. Both groups were found to function at a sophisticated symbolic level, and thus, the difference between the two can be viewed as a subtle quantitative difference. The difference cannot be construed as qualitative since both groups utilized complex modes of formal operations; it was simply their level of performance within this specific set of operations tested, that differed. Since extraneous variables were controlled for, the subtle quantitative differences were explained in terms of differences in the cultural patterns of mediated learning experience of the two groups.

As the effect of cultural difference on cognition becomes understood to a greater degree, we can but hope, as Bruner (1974)

has so eloquently stated, that

> insofar as man's powers are expressed and amplified through the instruments of culture, the limits to which he can attain excellence of intellect must surely be as wide as are the cultures combined capabilities. We do not know in any deep sense as yet, how we shall in future, better empower man. Insofar as sciences of knowing can throw light on the growth of the mind, the efficacy of the culture in fulfilling its responsibility to the individual, can likely be increased to levels higher than ever before imagined (p. 326).

GLOSSARY

CHEDER: Religious elementary school, usually attached to a synagogue, where children go after school to learn the teachings of Judaism.

GEMARA: The traditions, discussions and rulings of scholars who commented on, and supplemented the Mishnah; forms part of the Babylonian Talmud and Palestinian Talmud.

HOMEORHESIS: A homeorhetic system ensures the continuation of a given type of change, by means of a stabilized biological pathway of development, along which most individual's develop.

MEDIATED LEARNING EXPERIENCE: A process that sensitizes the human organism to specific characteristics of stimuli and establishes in him or her sets and modalities which form cognitive structures and allow for learning from direct exposure situations.

MISHNAH: Earliest codification of Jewish Oral Law.

TALMUD: Means teaching. The collection of discussions on the Mishnah by generations of scholars and jurists in many academies over a period of several centuries.

TORAH: The Pentateuch, or five books of Moses. Also refers to the entire body of traditional Jewish teachings and literature.

SHIUR(IM): Informal lecture and discussion session on religious matters.

SOURCES: The Old Testament and the Apocrypha.

APPENDIX A

Consent Form for Testing of Children Given to Parents

Dear Parents,

At present I am doing research for a Masters Degree, at the University of the Witwatersrand, in the School of Psychology. My field of research is cognitive development, which is the development of thought over time, from thought entirely based upon concrete objects, to thought which is abstract in nature and thus free from concrete and situational factors (e.g. logical and problem-solving ability). This developmental process may take many years and is greatly affected by formal education. For the purposes of this research I would like to test your child because he/she is undergoing a unique type of education. These tests assess cognitive ability and are not standard I.Q. tests. Testing time will be minimal and has been arranged in such a way that it will hardly interfere with the normal curriculum. .....* has given this project his full support. Test results will be treated in the strictest of confidence, and results will not be given to parents. However, if you wish for a record of the results to be kept by the school, you may indicate this preference below. If you have no objection to your child being tested, it would be appreciated if you would sign this form. The parental signature must be witnessed by another adult - the spouse may be the witness.

* Name of the particular principal of that school typed in.

I do/do not wish a record of the test results to be kept by the school.

Name of child .....

Standard in School .....

Parent's Signature .....

Witness .....

Thank you for your co-operation.

K.J. Redhill

APPENDIX B

QUESTIONNAIRE

University of the Witwatersrand

School of Psychology

Applied Division

Dear Parents,

At present I am doing research for a Masters degree, in Psychology. Some Jewish research workers at the University, including myself, have been interested in the nature of Jewish Education. We are presently conducting research in this interesting and valuable area, and would appreciate it if you could fill in this questionnaire. It is essential for us to obtain a detailed description of the thoughts, attitudes and opinions of Jewish parents, because these are thought to influence education and cognitive development in children. Cognitive development is the development of thought over time, from thought entirely based upon concrete objects, to abstract thought (e.g. logical and problem-solving ability) which is freed from concrete and situational factors.

You may find the questions are of a somewhat sensitive nature, however your answers will be treated in the strictest of confidence according to the ethical principles laid down by the Professional Board for Psychology of the South African Medical and Dental Council. Your name will not be used and no-one, except the researchers directly involved,

will have access to the questionnaire. The information gathered will be used for no purpose other than pure research. In addition .....* will be tested at school. Mr Feinberg, Mrs Bloch, Rabbi Levy and Rabbi Sternstein have all agreed to this research and give it their full support. Your co-operation will be highly valued, and will add greatly to the field of Jewish Education. It would be appreciated if both partners would fill in the questionnaire together.

Thank you

K J Redhill

*Name of child.

QUESTIONNAIRE

SON'S/DAUGHTER'S FULL NAME .....

DATE OF BIRTH .....

ADDRESS .....

.....

.....

TELEPHONE NUMBER .....

HOME LANGUAGE ENGLISH ..... OTHER .....

1) How many children do you have? ....

2) How many children were born before .....? .....

3) What are your present occupations? Please tick where appropriate.

	PROFESSIONAL E.G. DOCTOR LAWYER	ADMINISTRATIVE	BUSINESS E.G. DIRECTOR	CLERICAL
Mother	.....	.....	.....	.....
Father	.....	.....	.....	.....

	SALES	TECHNICAL	VOLUNTARY WORKER	HOUSEKEEPER
Mother	.....	.....	.....	.....
Father	.....	.....	.....	.....

4) What is the highest level of secular education you have reached? Please tick where appropriate.

	STD 8	MATRIC	DIPLOMA	DEGREE	UNDER/POST GRADUATE
Mother	.....	.....	.....	.....	.....
Father	.....	.....	.....	.....	.....

5) Please indicate the type of religious education you have had, or are currently receiving, by placing a tick where appropriate.

CHEDER:	NONE	2 YEARS	4 YEARS	6 YEARS	MORE
Mother	....	.....	.....	.....	....
Father	....	.....	.....	.....	....

SHIUR ATTENDANCE:	NONE	WEEKLY	MONTHLY
Mother	....	.....	.....
Father	....	.....	.....

TIME SPENT IN: RELIGIOUS STUDY	NONE	DAILY	WEEKLY	MONTHLY
Mother	....	.....	.....	.....
Father	....	.....	.....	.....

6)a. Mother, do you work? Yes ..... No .....

b. If 'Yes' to 6a. what are your hours?

2 Hours Daily .... Mornings/Afternoons only .... All Day ....

7) If your child has not always attended the High School he/she now attends, give the name(s) of the other school(s).

.....

.....

.....

(PLEASE TICK WHICHEVER ANSWER IS APPROPRIATE).

8) Do you have a radio? Yes .... No ....

9) Do you have a television? Yes .... No ....

10) Do you get a daily newspaper? Yes .... No ....

11) Do you attend films or plays on the circuit?

Yes .... No ....

12) Please indicate how often you attend synagogue?

	DAILY	WEEKLY	MONTHLY	TWICE YEARLY	NEVER
Mother	.....	.....	.....	.....	.....
Father	.....	.....	.....	.....	.....
Sons/ Daughter	.....	.....	.....	.....	.....

PLEASE INDICATE YOUR REACTION TO EACH OF THE FOLLOWING STATEMENTS, WITH THE NUMBER CORRESPONDING TO THE ATTITUDE SET OUT BELOW. FOR EXAMPLE, IF YOU STRONGLY AGREE WITH A STATEMENT, PLACE A '5' IN THE SPACE PROVIDED. IF YOU STRONGLY DISAGREE, PLACE A '1' IN THE SPACE.

Strongly Disagree .... 1 Moderately Disagree 2
Indifferent .... 3 Moderately Agree 4
Strongly Agree 5

1) I feel more at home living in a Jewish neighbourhood than a non-Jewish one. .....

2) G-d is the creator of the universe and continues to guide its destiny. .....

3) A Jew is more sensitive to his fellow men's feelings than is a non-Jew. .....

4) I feel personally ashamed when I see Jews making themselves conspicuous in public places. .....

5) It is good for my son/daughter to mix socially with non-Jews as it gives insight into other ways of life. .....

6) I regard myself as a Jew first and a South African second. .....

7) My child attends a Jewish school specifically so that he/she mixes with Jewish children. .....

8) I am happy with whatever my child decided to do after matriculating. .....

9) I feel more at home among Jews than non-Jews. .....

10) The Torah is the word of G-d given to the Jews through Moses on Mount Sinai and may not be changed. .....

11) A young Jewish male who really loves a gentile girl should give up his Jewishness if this is the only way he can marry her. .....

12) It is more important for a child to learn via studying the Torah then by working out for themselves what is right and wrong. .....

13) The Jewish group would get along much better if many Jews were not so clannish. .....

14) I do not mind if my child has gentile friends of the same sex. .....

15) It is more important for my child to know about Judaism than world affairs. .....

16) Secular education prepares one morally for life. .....

17) Anti-semitism is directed more against Jews with obvious Jewish ways and mannerisms, than against the more assimilated Jews. .....

18) It is better for my child to avoid mixing with non-Jews so that trouble may be averted in the future. .....

19) It is important that one's life-style should reflect one's religious beliefs. .....

20) Religious education prepares one spiritually for life. .....

21) It is important to participate in Jewish communal affairs. .....

22) G-d has chosen the Jewish people as a nation of priests to the rest of mankind. .....

23) Jews have higher moral and ethical code than non-Jews. .....

24) Children learn more by listening to the guidance of their parents than by their own mistakes. .....

25) Too many Jews try to intrude into areas where they are not wanted. .....

26) I would disown by daughter/son if she/he married a gentile. .....

27) In order to be aware of current world affairs, it is important to have a television in the home. .....

28) Secular education prepares one vocationally for life. .....

29) It is essential to be a member of a Synagogue. .....

30) G-d is concerned with each one of us and can be reached through Prayer. .....

31) As a whole Jews are intellectually superior to other groups. .....

32) The secular education my child is receiving will get him/her further in the future than his/her religious education. .....

33) I believe that being born a Jew means that you are at a handicap in most professions and occupations. .....

34) I would be prepared to accept my son/daughter's gentile spouse if the latter was prepared to convert. .....

35) It is vitally important for a Jewish child to be exposed to Jewish literature and the Torah to grow up to be a Jew. .....

36) Religious education prepares me intellectually for life. .....

37) In general, I would prefer to shop at Jewish-owned stores. .....

38) G-d will reward the good and punish the wicked. .....

39) Intermarriage undermines Jewish community. .....

40) My daughter/son gets more religious input at school than at home. .....

41) Jewish fathers spend more time with their children than non-Jewish fathers. .....

42) One should try to observe all the Mitzvoth. .....

43) Television programmes introduce into the home an element which undermines the Judaic way of life. .....

44) Secular education prepares one intellectually for life. .....

45) Jews should join mixed clubs in preference to Jewish ones. .....

46) A young Jewish male who really loves a gentile girl should marry her, despite religious reasons, if it makes him happy. .....

47) Jews are more hospitable than non-Jews. .....

48) I think tnat children should follow their parents' vocation. .....

49) Religious education at school teaches my child to think in an independent and critical way. .....

50) I would prefer my child to spend leisure time in religious study rather than seeing a film or play. .....

51) If a Jew is handicapped in getting a job because of his Jewish sounding name, he is justified in changing his name. .....

52) It is through Torah study and way of life that Jews rise to the top of any society in which they live. .....

53) Kashruth is one of the cornerstones of Judaism and must be observed. .....

54) A religious home offers a child a better upbringing and means of developing than a non-religious one. .....

55) Religious education prepares one morally for life. .....

56) It is not necessary to observe all the Mitzvoth; one should only observe those that are personally meaningful. .....

57) I would prefer a Jewish attorney handled my affairs than a non-Jew. .....

PLEASE INDICATE WHICH OF THE FOLLOWING OBSERVANCES YOU ADHERE TO.

1) Do you observe Kashruth. Yes .... No ....

2) Do you use a head covering (men only). Yes .... No ....

3) Do you say Brochoth. Yes .... No ....

4) Do you say Grace after meals. Yes .... No ....

5) Do you eat leaven on Passover. Yes .... No ....

6) Do you observe mortuary and mourning rites. Yes .... No ....

8)	Do you observe Sabbath rites and prohibitions.	Yes	No ....
9)	Do you observe Pesach, Savuoth and Succoth.	Yes	No ....
10)	Do you observe New Year and the Day of Atonement.	Yes	No ....
11)	Do you light Sabbath candles.	Yes	No ....
12)	Do you recite Sabbath Kiddush.	Yes	No ....
13)	Do you participate in seders on Passover.	Yes	No ....
14)	Do you light Channuka candles.	Yes	No ....

To ensure confidentially, could you please seal this questionnaire in the envelope provided.

Thank you for your co-operation.

APPENDIX C

ETHNOGRAPHIC SCALES*

Social Relations

1) I feel more at home living in a Jewish neighbourhood than a non-Jewish one.
2) I feel more at home among Jews than non-Jews.
3) It is important to participate in Jewish communal affairs.
4) It is essential to be a member of a synagogue.
5) In general I prefer to shop at Jewish-owned stores.
6) Jews should join mixed clubs in preference to Jewish ones.+

Religious Beliefs

1) G-d is the creator of the universe and continues to guide it's destiny.
2) The Torah is the word of G-d given to the Jews through Moses on Mount Sinai and may not be changed.
3) G-d has chosen the Jewish people as a nation of priests to the rest of mankind.
4) G-d is concerned with each one of us and can be reached through Prayer.
5) G-d will reward the good and punish the wicked.
6) One should try to observe all the Mitzvoth.
7) Kashruth is one of the cornerstones of Judaism and must be observed.
8) It is not necessary to observe all the Mitzvoth; one should only observe those that are personally meaningful.+

* Adapted from Dubb (1973).

Ethnocentricism

1) A Jew is more sensitive to his fellowmen's feelings than is a non-Jew.
2) Jews have higher moral and ethical codes than non-Jews.
3) As a whole Jews are intellectually superior to other groups.
4) Jewish fathers spend more time with their children than non-Jewish fathers.
5) Jews are more hospitable than non-Jews.
6) A young Jewish male who really loves a gentile girl should give up his Jewishness if this is the only way he can marry her.+

Anti-Semitism

1) I feel personally ashamed when I see Jews making themselves conspicuous in public places.
2) The Jewish group would get along much better if many Jews were not so clannish.
3) Anti-semitism is directed more against Jews with obvious Jewish ways and mannerisms, than against the more assimilated Jews.
4) Too many Jews try to intrude into areas where they are not wanted.
5) I believe that being born a Jew means that you are at a handicap in most professions and occupations.

Intermarriage

1) It is better for my child to avoid mixing with non-Jews so that trouble may be averted in the future.
2) I would disown my son/daughter if he/she married a gentile.

3) Intermarriage undermines the Jewish community.

4) I would be prepared to accept my son/daughter's gentile spouse if the latter was prepared to convert.

5) It is good for my son/daughter to mix socially with non-Jews as it gives insight into other ways of life.+

6) I do not mind if my child has gentile friends of the same sex.+

7) A young Jewish male who really loves a gentile girl should marry her despite religious reasons, if it really makes him happy.+

Cultural Values

1) I regard myself as a Jew first and a South African second.

2) It is more important for my child to know about Judaism than world affairs.

3) It is important that one's life-style should reflect one's religious beliefs.

4) It is vitally important for a Jewish child to be exposed to Jewish literature and the Torah to grow up to be a Jew.

5) Television programmes introduce into the home an element which undermines the Judaic way of life.

6) I would prefer my child to spend leisure time in religious study rather than seeing a film or a play.

7) It is through Torah study and way of life that Jews rise to the top of any society in which they live.

8) A religious home offers a child a better upbringing and means of developing than a non-religious one.

9) In order to be aware of current world affairs, it is important to have a television in the home.+

Education

1) Religious education prepares one intellectually for life.

2) Religious education at school teaches my child to think in an independent and critical way.

+ Oppositional questions.

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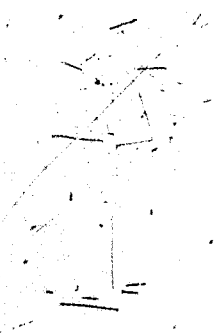
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