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THE TIME EXPERIENCE AND ITS ROLE IN  
CARETAKING.

The City University of New York  
Ph.D., 1976  
Psychology, clinical

**Xerox University Microfilms**, Ann Arbor, Michigan 48106

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THE TIME EXPERIENCE AND ITS ROLE IN CARETAKING

by

MELVIN W. CROSBY

A dissertation submitted to the Graduate  
Faculty in Psychology in partial ful-  
fillment of the requirements for the  
degree of Doctor of Philosophy, The  
City University of New York

1975

This manuscript has been read and accepted for the Graduate Faculty in Psychology in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

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Abstract

THE TIME EXPERIENCE AND ITS ROLE IN CARETAKING

by

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The time experience of 40 Black mothers of 14 month old first born infant sons was investigated. Previous research and speculation has identified the experience of time as an important component of how a person understands and orients himself in his life. However, the time experience has often been discussed globally with little specification as to the relative importance of the different aspects of time experience. Since the life of a mother and child is intimately bound to time through daily routines and schedules, the development of the child might be related to how the mother experiences time. Beyond this, the mother's experience of time might be related to other aspects of her life; psychological mindedness, language usage, psychopathology, and demographic variables.

Rating scales assessing ten aspects of time experience were developed and applied to interviews with the 40 mothers. Four areas of the time experience (the rapidity of experienced time passage, the affective orientation in the present and future, and the filledness of

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the past) emerged as most crucial in that they were related to one another as well as related to the mother's psychological mindedness, language usage, age, educational level, having a husband living with her, and degree of environmental stress. The mother's time experience was found to be tangentially related to the baby's cognitive development.

The time experience is understood as being a blend of affective/cognitive qualities with characteristics similar to psychological mindedness.

## ACKNOWLEDGEMENTS

With deep appreciation and respect, I thank Dr. Mary Engel for her inspiration, guidance and support. My thanks go as well to Drs. Gilbert Voyat and Alden Wessman for help always freely and warmly given. These three people have, each in their own way, done much to make this a rewarding undertaking.

My appreciation also goes to my colleagues, Michael Feldman, Edith Frank, Cecille Freilich, Diane Greene and Marilyn Puder for their conscientious, exacting work in rating the time scales.

My thanks also, and my love, to my wife, Debby. She more than anyone knows what went into this.

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CHAPTER IIntroduction

How we sense, or experience time is an important factor in our lives--coloring, shading and affecting the way we experience other areas of our lives and our lives in general. It would seem that people differ in their experiences of time, with these differences possibly being related to various other differences in experience and behavior.

Being interested in the whole problem of time, I became involved with an ongoing and long-term study of maternal stimulation and infant cognitive development, conducted by Drs. Engel, Nechin, Goodrich, and King.<sup>1</sup> A four-fold theory of caretaking in relation to infant cognitive development was originally proposed, consisting of: 1) the psychological mindedness of the mother; 2) the language fluency, or verbal ability of the mother; 3) the control techniques used by the mother; and 4) the mother's experience of time.

The plan of this research is to first intensively investigate the experience of time in the mothers of the study. Exactly what the experience of time is and exactly what is important and not

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1. Maternal Stimulation and Infant Cognitive Development (Grant #MH-17580-03S1).

important in the experience of time is unclear at the present. Faced with the literature concerning time, we are quickly led to the realization that the time experience is by no means conceived of in the same way by various writers--the existentialists differ from the psychoanalysts, the psychoanalysts from the behaviorists, the behaviorists from the phenomenologists, one existentialist from another existentialist, and so on. We are treated to an array of experiences--the perceived speed of the passage of time, the experience of continuity of time, the degree of involvement with time, the affective connotation of time--identified as the time experience or as components of the time experience and we are unable to discover any sure means of delimiting, organizing or structuring this array. Hopefully, this research will help to clarify this issue, to identify those experiences which are central to the time experience and to illuminate how they are related to one another.

Once the experience of time of those mothers is understood, we will proceed to examine how the time experience is related to other aspects of their lives, especially to their caretaking behavior. Therefore, we will be concerned with the time experience in relation to the psychological mindedness of the mother. Beyond this we will be concerned with how the time experience relates to the mother's psychodynamics and psychopathology. Also, since we feel the time experience may somehow be related to social phenomena, we will be interested in how the time experience relates to the mother's position on various demographic variables.

CHAPTER 2Review of the Literature

A broad view of the time experience will be presented here. A more specific and focussed view will be presented in a subsequent chapter (Conceptualization).

The literature concerning time can be broken down into two roughly discrete categories: papers concerned with the time sense (the perception and estimation of time, the relation between "clock" or "world" time and "psychological" time) and works concerned with the direct and indirect experience (i.e. affective, cognitive, unconscious, attitudinal and effective qualities) of time. The commonly accepted differences between "psychological" and "clock" time are here recognized and accepted (Heidegger 1949, Rapaport 1951, Minkowski 1970). The state of the literature of time experience is in notorious disarray, making an always coherent and consistent review of the field difficult (Doob 1971). Findings are often contradictory and clouded by poorly defined, variably used technical terms.

The discussion is organized along the following lines: theoretical consideration of the time experience; various aspects of the time experience; time and psychopathology; time and language; and time in relation to demographic variables.

Theoretical Considerations

Psychoanalysis, although rarely directly concerned with the experience of time, considers the role time plays in the psychological development of the individual. The young infant lives in a tiny world with cathexes having been made only to his body and not the external world. He becomes hungry, is fed, sleeps, wakes, is hungry again and the cycle repeats itself: the young infant is playing pretty much a passive role in the sequence. Cohn (1957) feels that the earliest experience of time, what he calls body time and equates with the time of the unconscious, lies in the infant's perception of the succession of different bodily states. It is later, as the infant begins to cathect objects in the environment, especially the mother (breast), that the infant begins to actually perceive an external time, a time as part of and function of the ego. The hungry infant, frustrated by his hunger not being satisfied, learns to anticipate the arrival of satisfaction in order to defend himself from the overpowering unpleasantness of the hunger state. It is in this first primitive memory and anticipation--that the food will come and that satisfaction will be achieved--that the time experience as ego function is born. Chambers (1961) feels that the beginnings of this primitive and subjective time structure enable the infant to tolerate the frustration of waiting--to withstand the "body" anxiety (Fenichel 1954) born of not having received satisfaction of pressing bodily needs.

The experience of time begins essentially as a defense against

anxiety, but through its existence it becomes a primary means by which the ego orients itself in reality. Rapaport (1951, 1968) states that the delay of drive discharge is the cradle of thought. In Rapaport's formulation the ability to delay is a central component of thinking and one which is necessarily, through the notion of delay, tied up with temporality. The ability to delay enables the individual to develop the capacity for planning and anticipation, involving the formation of a sequence of future events, of events organized within some kind of time focus. Eissler (1952) states that the time experience bears on the individual's capacity for decision-making, action, on his emotions, his outlook on life and on how close he feels to reality.

Bonaparte (1940), in her synthesis of the psychoanalytic views of time, reiterates the point that time, rather than being an integral part of man's nature, is related to man's progressive ability to perceive the world around him. Freud (1951) states the case more formally: the perception of time and the perception of the passage of time is due to rapidly alternating and successive cathexes on the environment, such as occurs in attention, with a sense of continuity being established by internal perceptual activity and then projected onto the outside world. Time assumes the role of one of the primary mechanisms through which the ego orients itself in reality. Schilder (1936) states that the continuity of the time experience results from the cathexes of libido on objects in the world. When libido is withdrawn from the world, there is a disruption in the time experience.

However, the state in which time is experienced as continuous becomes fully developed only in the adult. The child and the adolescent live in a world in which time is somewhat different, due either to the fact that they have not learned or been able to learn the appropriate abstract concepts or to the fact that their lives are more dominated by the timeless unconscious (Bonaparte 1940). Piaget's work sees time experience as a conceptual abstraction from a spatial referent, arriving at the adult's conception of time essentially free of a spatial component only as the child (adolescent) achieves the formal level of thought (Inhelder and Piaget 1958). Ideally, the adult has a clear conception of the days, weeks, months, and years; he is able to perceive when he was born and perhaps conceive of when he might die. He has a sense of the infinity of time, and may react negatively or positively to that idea.

Many psychoanalytic writers have been concerned with qualitative and defensive aspects of the time experience. Man is seen as struggling to orient himself in his life so as to maintain an adequate level of stability. Time is one of the most important means by which the individual organizes his life, temporalizing (locating along a time line) his experiences, yielding the right sequence in the history of his experience (Meerloo 1954). Within his life, man locates three main zones of experience--the past, present and future--which do not parallel or even necessarily follow one another, but rather form a type of whole in which each one conditions, shapes and modifies the other two. Meerloo touches upon the problem of the relationships which

exist between the individual's experiences of the future, the past and the present. In this view, the time experience serves not only reality-orienting purposes, but also defensive purposes; the time experience aids in and enables the individual's orientation to his life as a whole and to the external world, as well as serving the end of the ego's maintenance of its integrity in its dealings with the world. Memories are located in the past, perception in the present and anticipation in the future, with each (memory, perception or anticipation) playing an appropriate role, i.e. a memory aids in the selection of which perceptions of the world to attend to rather than serving as a "reality" perception.

Bonaparte (1940) discusses the frightening meaning time often has for man and the need to escape from it. Along with being a means of orienting to reality and maintaining ego integrity, it is also the repository of man's fears of his own mortality: because there is the passage of time, there will be death. The anxiety associated with this thought and thus with time must sometimes be escaped from, man attempting to avoid the existence of time through denial or various paths to the--unconscious--drugs, alcohol, regression.

Related to this is Dooley's (1941) discussion of the over-concern and over-evaluation of time as a defensive maneuver in those individuals who fear the collapse of their egos and the resultant descent into the unconscious. For such people, disorientation in time is one aspect of general feelings of unreality and depersonalization. To always know what time it is, how much time has passed and how much

time will pass until such and such serves as a means of connecting them with an otherwise tenuous reality. The fear of losing track of time means the fear of the loss of the object world and a loss of a portion of the mind.

Although Dooley believes that this over-concern with time is not associated with any one phase of development or with any one personality or character type, Fenichel (1945, 1951), discussing over-concern with time, argues that such an experience of time derives from the anal stage of psychosexual development and generally is associated with the anal character. In a supporting study, Pettit (1969), correlating anality and the time experience, found a significant relationship between the degree of anality and the extent of obsessive concern with and organization of time. The time experience, especially the awareness of the flow of time and the ability to measure time, is rooted in the events surrounding toilet training: how often defecation was to occur; at what intervals it was to be done; how long defecation should take; and how long it might be delayed. These are the events around which the child organizes his ideas of the order and disorder of time, and of the measurement of time. The over-concern and over-evaluation of time--the clocks, calendars and schedules--are means of maintaining ego control and result from the fear of being overwhelmed by excessive excitement. The over-concern with time may take the form of fears of having too little time, of being caged by time or of fears of broadness and unfilledness of time. Fenichel (1945), however, states that anal disturbances generally result in neurotic

disturbances in the practical use of time, while neurotic disturbances in the subjective experience of time more often revolve around conflicts concerning eroticism of depth sensibility and equilibrium, conflicts generated at the oral stage of development.

Psychoanalysis, although it has been concerned with time and the time experience as a medium for the maintenance of ego integrity, both in its adaptive and defensive aspects, has not been as directly concerned with the problem of time and the time experience as has been Existential psychology. Drawing heavily on Existential philosophy, this approach has centered Dasein, or being-in-the-world, as the primary focus of psychological study, Dasein being the emergent or becoming self, always emerging into the future (May 1958c). The individual's personality is studied and understood as a projection toward the future, the personality not being simply that which it is but, rather, that which it is to become. Time and the time experience are necessarily central since time and time experience are immediately implicated with the primary location of man's existence in the future. The individual projects himself into the future, this future determining and defining his existence, or being, and the past and present deriving significance in the light of this future (Ellenberger 1958). The past, present and future form a causal nexus, with the relative importance of each determined largely by the individual's being, or projection into the future (Litchfield and Sattler 1968). An understanding of how the individual experiences time leads to an understanding of the core or being of the individual.

Minkowski (1970) and other Existential psychologists (May 1958b) view time as the vital force of life (elan vital), as that which propels and projects man's being into the future. Minkowski imagines that if an individual were stripped of all feelings, ideas, emotions, thoughts, images and sensations, what would remain would be how the individual locates himself in relation to his subjective and personal time. Disturbances in this personal and subjective time accompany neurotic and psychotic disturbances in the individual's functioning. Minkowski (1958), overturning the usual conception of the link between time disturbance and neurotic and psychotic disturbance, proposes that time disturbance is the basic disorder while neurotic or psychotic disturbance is one of its manifestations. Dread in the depressed patient may not be simply the dread of the future, but dread because the patient, having no future, is unable to project himself into the future--in actuality, part of his existence and awareness has been blocked off. The ideal of Existential psychology is the ability of the individual to be aware of himself--his projected self and, through that, his self as it is now and his self as it was.

In relation to this ability to be self-aware, May (1958a) understands the various defenses, or means of blocking awareness, as methods of distorting the usual relationships among the various time zones, i.e. repression is a means of distorting the usual relationship between past and present.

Heidegger (1949) views existence as unfolding in time and, through that unfolding, creating time--time is at the heart of man's existence.

True to this dictum the Existential psychologists place time in the forefront in the study and understanding of man, even to the point of reversing usual conceptions and fingering the time experience as perhaps the basic culprit in neurotic and psychotic disturbances. Despite this emphasis, there is little or no attempt to discover the origins of the experience of time; it is assumed as a given in man's existence. Although Minkowski's reversal of the usual connection between time and psychic disturbance is interesting and perhaps useful, the road ends without being able to locate the source of the time disturbance--is it innate, learned, chance, or reaction to an external situation?

To summarize, psychoanalysis, while not as thoroughly involved in the question of time and the time experience, yields what are probably valuable clues as to the development of the time experience. Existentialism, with its emphasis on the future, seems best suited as a guide for assessing the qualities of the time experience. Alone, each provides indications of the factors involved in the time experience; together, they might provide explanations. Minkowski's question is still open; perhaps it is not moot.

#### Aspects of the time experience

Both existentialism and psychoanalysis concern themselves with basically the same experiences when investigating the problem of the time experience: the experience of time as flowing; the experience of a continuity or unity in time; the way in which the traditional units of time are organized; extension in the past and future and the

coherence of and orientation in that extension; the relation of time to the self; and the degree of involvement with time, especially neurotic involvement. In general, the literature, although not necessarily or obviously stemming from one or the other of the two theoretical approaches, falls into similar categories of concern, although with no great degree of unanimity. However, it appears that a differentiation between psychoanalysis and existentialism can be made on the basis of the relative importance each approach assigns to each of the component experiences.

Existentialism, concerned with the experience of the vitality of life and the experience of existence through that vitality, seems to identify the experience of the flow of time as the most important component of the time experience. Existentialism fingers the future as that by which man identifies himself. Therefore, the extension in the future and the past and the coherence of and orientation in that extension seems to be the next most important experience, with the other experiences being organized in the following order: 3) the relation of time to the self; 4) the degree of involvement with time; 5) the experience of a continuity or unity in time; and 6) the way in which the traditional units of time are organized. Psychoanalysis, concerned much more with the time experience as an ego function (i.e. as a means of interpreting and relating to the world), seems to identify the experience of a continuity or unity in time as paramount, with the organization of the traditional segments of time being a close second. Because of its primary interest in the neurotic aspects of experience,

psychoanalysis seems to locate the degree of (neurotic) involvement with time as third most important, with the other experiences being organized as follows: 4) time in relation to the self; 5) extension in the future and past and the coherence of and orientation in that extension; and 6) the experience of time as flowing.

The experience of time as flowing: Minkowski (1970), concerned with the relationships between psychopathology and the experience of time, feels that one of the primary disruptions of the time experience is a disturbance in the sense of time moving relentlessly forward, of time carrying the individual forward. An inherent quality of time is movement, a going forward. The individual, rooted in time, is always in the process of becoming, of unfolding into the future. If the experience of time as moving forward, or flowing, is disturbed, the personality of the individual is disrupted, i.e. a disturbance in the experience of the future will necessarily alter the ability to deal with the present and to feel independent from the past.

Reviewing the characteristics of temporality, Ellenberger (1959) identifies "flowing" as the most immediate and subjective experience of time. The flowing is continuous and exists independently of events occurring at the moment in question. Certain neurotic and behavioral disturbances are associated with a disturbance in this flow. Bonaparte (1940) identifies this inexorable flow as one of the reasons man tries to escape from time into the unconscious. Ornstein (1969) feels that the experience of rhythm or flow is one of the four modes of time experience.

Wessman and Ricks (1966), in a large-scale study of the relationships between mood and personality, and Wessman in a later study (1973), report that college men can be differentiated on the basis of the metaphors they employ to describe time. One factor differentiating the "happy" and "unhappy" men is the use of movement time metaphors; the happy men used metaphors implying powerful movement while the unhappy men employed characteristically slow and monotonous movement metaphors.

The flow and movement of clock time cannot be separated from the subjective perception of the speed of time passage. Ellenberger (1958) reports that one of the characteristics of the time experience is that it is experienced as flowing with a certain speed, the speed changing at various times of life or with various changes in life circumstance.

Knapp and Garbutt (1958) report that individuals who are high need achievers characteristically use time metaphors which involve precipitant haste while low need achievers use slow movement metaphors for time. The subjective speed of the passage of time has been related to the length of the individual's future perspective, with those individuals who extend farther into the future experiencing time as passing more rapidly (Seigman 1962b). Seigman (1962a) in a time estimation study, reported that when college students are subjected to stressful anxiety producing situations they tend to increase their estimation of the duration of clock time--psychological time speeds up relative to external time.

The experience of time flowing is an established characteristic

of the time experience. Not only does its disruption appear to be an indication of neurotic or psychotic disturbance, but it appears to hold promise as a means of differentiating people along other dimensions as well.

The experience of continuity in time: The experience of a continuity in time is closely related to the experience of the flow of time, for without an experience of continuity time would be experienced as a series of periodic jumps rather than as an even, progressive movement. Fraisse (1963) states that the perception of time is derived from the perception of change but that a true perception of time occurs with the ability to perceive a unity between the two successive states. A series of thoughts, sensations or perceptions does not on its own yield a perception of unity or succession; the perception of unity arises when a relationship between the elements is comprehended. Freud (1951) states that one of the characteristics of time perception is the perception of unity, this unity being molded by internal perceptual mechanisms out of successive cathexes on, or perceptions of, objects in the environments.

Bonaparte (1940), disagreeing with Kant's position that the perception of the continuity of time is imposed on the world by the workings of the mind, feels that the perception of a continuity in time is derived from the environment and that it is the most fundamental characteristic of the time experience. Werner (1948), applying his principles of development, states that a necessary characteristic of the fully developed time experience is the ability to form an integrated

whole (unity) from a series of differentiated and successive events.

On a larger scale, the ability to perceive a unity in one's life is seen as important in all approaches to psychology. The Existentialists are concerned with this factor because it involves the ability to structure the flow of one's life. Ellenberger (1958) states that there is an automatic structuring of life in an irreversible sequence of past, present and future, each experienced in a different way. The present is the phenomenal present, the future is the open field into which the individual projects himself, and the past is what is left behind as a living reality. Minkowski (1970) feels that there are seven important zones of temporal experience into which man automatically structures his experiences: 1) the remote past; 2) the mediate past; 3) the immediate past; 4) the present; 5) the immediate future; 6) the mediate future; and 7) the remote future. A disruption in this structuring is associated with various neurotic and psychotic states and with various life conditions.

In a study of time in the TAT, Lipgar (1969) differentiates individuals in terms of how they employ time in TAT stories. Four time types are identified, ranging from the individual who expresses a personal involvement in a continuity of events clearly placed in the past, present and future, to the individual who expresses an aloofness from the events, with the events seemingly fabricated and not definitely located in any time dimension. Wallace (1956) cautions against the use of just the length of time perspective as a measure of time orientation and perspective, feeling that the degree of coherence,

organization and unity in the perspective is extremely important. A number of writers (Dilling and Rabin 1967; Goldrich 1967; Kaye 1968; Cottle 1969; Wessman 1973) have related the degree of coherence or organization to a variety of factors--psychosis, efficiency in completing tasks, ego identity, achievement motive, manifest anxiety, and various mood and personality factors.

Organization of the units of time: The ability to or way in which the individual organizes the commonly accepted units of time--day, week, month, year--is, of course, analogous to the ability to comprehend a unity or continuity in the flow of time. However, it is somewhat different for it involves the ability to work with the units and experiences of an external and impersonal time rather than the units and experiences of an internal and personal time.

Werner (1948) feels that the ability to differentiate experiences into many fine and discrete elements and to integrate the elements into a complex and unified whole is characteristic of highly developed cognition. He uses this ability to differentiate "normals" from psychotics, brain-damaged, individuals in various drug states, and peoples in various non-Westernized societies, as well as to differentiate adults from children. It would appear possible to apply these developmental principles to the adult's ability to differentiate the various traditional time segments and to integrate the discrete segments into a coherent and complex whole. Zorn (1970) finds that at the societal and individual level there are differences in the complexities of time conception as seen in calendars and TAT stories, and

that these differences are related to the child-rearing practices of the society and to the way in which the individual child was raised. Child-rearing practices that frustrate the child tend to result in a more highly structured temporal environment than do child-rearing practices which call for immediate gratification of the child's wishes.

Coherence of and orientation in the time perspective: The time perspective is defined as the combined lengths of the future time span and past time span as well as the coherence of the events in the combined time spans (Wallace and Rabin 1960). The individual may be able to project himself far or not far into the future, and the time covered may be filled or unfilled. Also involved in the time perspective is the outlook on the future and past; the individual may remember the past as happy or unhappy and he may be optimistic or pessimistic about the future. Ellenberger (1958) identifies the time perspective as an important characteristic of the time experience and associates personality disturbances with disturbances in time perspective in terms of extension and/or coherence.

Eply and Ricks (1963), measuring past and future temporal extension, found that college students with longer future extensions were more successful academically, less anxious, and more empathic and involved with others. Individuals with longer future extensions tended to have clearer goals and more definite commitments, strong defenses, and everyday lives relatively free from anxiety. Individuals with longer past extensions tended to be narcissistic, creative and spon-

taneous. The time perspective has been related to criteria of success in vocationally-oriented psychotherapy for adolescent delinquent boys (Ricks, Umbarger and Mack 1964). The boys were given a special TAT before and after the term of psychotherapy with stories being scored for self-image, control of aggression and attitudes toward authority. The boys who were in psychotherapy for eleven months exhibited increased future time extensions in the area of self-image and increased past time perspective only in the area of the control of aggression. Wessman and Ricks (1966) report that college-age men with long future time extensions tend to be happy extroverts and to be high on ego strength. Ellenberger (1958) and Minkowski (1970) discuss the differences between the "prospective" and "retrospective" individual; the former looking forward in life and deriving significance from the future, the latter looking backward in life and deriving significance from the past. Israeli (1936) emphasizes the importance, however, of determining the impact of the future or past in the prospective or retrospective type, i.e. looking to the future may take on the role of anticipating dire events.

Litchfield and Sattler (1968), feeling that individuals behave differently from one another because, for one thing, they have different temporal orientations, differentiate two types of individuals and their respective temporal orientations. The reactive type is one who is habitual, automatic and who does not plan. He has little or no "participating" past or future, his behavior is defined by what is "all-there." The active type is one who is inventive, responsible,

free and who plans. He apprehends the future and behaves on that basis, altering his behavior as new possibilities appear or occur. Wessman (1972) in a factor analytic study of the time experience, identifies a "Long-Term Personal Direction" factor and relates it to general happiness and high mood level and to self-esteem and identity. There is a continuity of past, present and future, with the setting of long-term goals and confidence that they will be achieved. Proctor (1968) reports similar findings.

Fraisse (1967), reporting a study by Bernot and Blancard, finds that the past extension of an individual is related to disruption which he has experienced in his life. Long time residents of a small village, peasants who worked the land, were found to have long and highly complex pasts while artisans, glass-blowers recently moved to the village, had relatively short and unfilled pasts. Lipgar (1969) identifies four types of time usage as revealed in TAT stories, each type characterized by the relative length, coherence and importance of the future and past extensions. He feels that time usage and orientation is intimately related to various ego tasks.

The relationship between time perspective and orientation and ego tasks is indicated by Rapaport's formulation (1951) that the ability to plan and anticipate is directly related to the ability to delay drive discharge. Kahn (1966), in a developmental study of children aged eight year six months to eleven years one month finds that there is a positive correlation between extension into the future and the degree of cognition, and to a lesser degree, perceptual organi-

zation. Kaye (1968) reports findings supporting the position that the time extension is significantly related to the strength of ego identity.

Kahn (1965), comparing third and fourth grade children who are normal and under-achieving readers finds that normal readers have a much greater future extension than do under-achieving readers. Blatt and Quinlan (1967) find that punctual and procrastinating college students (measured as to when they met course requirements) can be differentiated in terms of their relation to time, the punctual students having greater future extensions as well as having less pre-occupation with death, higher scores on the WAIS picture arrangement test, and less tendency toward interference on the Stroop Color-Word Test. Dickstein and Blatt (1966) find that low death concern and higher scores on the WAIS Picture Arrangement test are significantly related to long future extension. Goldrich (1967) reports that efficiency in completing the doctoral dissertation is related to a median degree of recall of events from the past, a more filled, coherent and long future extension, and a more conscious optimism toward the future.

On a somewhat different tack, Davids, Kidder and Reich (1962) found that delinquent boys, aged fifteen and sixteen, are significantly more present oriented than non-delinquent boys. He found no differences between delinquent and non-delinquent girls. Supporting this is Stein, Sarbin and Kulik (1968) who report that non-delinquent boys have a significantly longer future extension than do delinquent boys.

Relating future extension to internal-external control, Platt and Eisenman (1968) report that externally oriented subjects have shorter future extensions, somewhat supporting Wessman and Ricks (1966).

Shortened future extensions and/or incoherence in these extensions have been related to various psychiatric disturbances. May (1958a), Ellenberger (1958), von Gebattel (1958), and Minkowski (1970) all find shortened and incoherent future extensions in various psychic disturbances; schizophrenia, paranoia, compulsive neurosis, and psychotic depression, respectively. Dilling and Rabin (1967) report that schizophrenics and depressives differ from normals in the length and coherence of future extensions, the normals having the longer and more coherent extension. Shibut (1968) reports that normal individuals have significantly longer future extensions than moderately disturbed individuals and that moderately disturbed individuals have significantly longer future extensions than those who are severely disturbed.

Each person has a time perspective, consisting of the future, past and present. Individuals can be differentiated on the basis of how long and how coherent their futures and past are. They can as well be differentiated on the relative importance they attach to each. Ellenberger (1958) differentiates between the prospective, or looking forward, type and the retrospective, or looking backward, type.

Cottle (1968) feels that an individual may be oriented to either the past, the present, or the future. Those who are oriented in the past are dominated by memory in their behavior and experiences; those

who are oriented in the present are dominated by the need for the feeling of connectedness to their behavior and experience; those who are oriented in the future are dominated by expectations of what their behavior and experiences will bring. Mann, Siegler and Osmund (1968) propose that the four Jungian types can be related to specific time orientations; feeling types are related primarily to the past, sensation types are related primarily to the present, intuitive types are related primarily to the future and thinking types are related to time in a linear fashion, with events experienced as a process involving the relation of past to present to future. A future orientation has been related to the prison status of delinquents (Megargee, et al. 1970), with imprisoned delinquents being more future oriented than unincarcerated delinquents.

The time perspective--the length and coherence of the extension--and orientation in time are obviously variables rich in meaning and importance. The time perspective and orientation in time have been found to be related to such variables as: type and degree of psychopathology; personality types; success in school; delinquency; age; sex; and mood. A general statement concerning the problem would seem to be that disturbances in time perspective and orientation are somehow associated with various personality types and/or poor ego strength.

Time in relation to the self: Although time can be measured externally, there is also a quality of time which is internal. There is the time of clocks and there is the time of the rhythm and movement of the individual's life. The self is related to time through the

experience of time flowing, the continuity of time, the organization of time, and the time perspective of the self. More than that, however, the self is related to time as an entity. Is time experienced as the external time of clocks, calendars, schedules, the world and the cosmos or is time experienced as part of the self, intimately related to the private rhythm of the self as it moves through life?

Although little has been written on this subject, Ellenberger (1958) touches on it when he makes a differentiation between the time of the movement of the individual's life and the time of the cosmos and history. Minkowski (1970) views some individuals, especially the schizoid, as more related to their personal time than to the time of the world and history. Fenichel (1945) indicates that some individuals may be related more to a personal than a world time when their time experience has become sexualized.

Neurotic involvement with time: Time is generally a conflicted area for man. Through the centuries philosophers' concerns, albeit different from but also related to the concerns of the common man, have been with the problem of what time is and what it means. Indicative of the conflict-ridden nature of time is the fact that so many of the philosophical approaches to time have either denied its reality or affirmed it as an unknown handed down by some deity. Bonaparte (1940) discusses the unconscious meanings time has for man, particularly its relationship with death. She interprets art, literature, love, intoxication, belief in a life after death, and medicine as representing attempts to still the passage of time which is from her point of view

man's way of negating his immortality. She sees the time experience as one of the basic conflict areas of man's existence. Meerloo (1954) equates time with death and equates the metaphors "using up" time and "killing time" with the killing of the father. Time is also a reminder of what must be done so that the laws of the father are fulfilled.

Du Bois (1954) also feels that time is equated in the unconscious with authority and is associated with the frustration of the individual's urges. Time may be equated with an invasion of his desires. Overt rebellion against time, especially squandering of time, is seen as a covert attack on an authoritarian figure in the past; "killing time" becomes an aggression against the parent. Bergler and Roheim (1946), discussing the neurotic's struggle to be free of the passage of time, feel that the passage of time comes to symbolize the period of separation of the child and mother between feedings, with the wish for timelessness an experience of the wish for endless unification with the mother. Going further, they feel that the calendar is a materialization of separation anxiety. Societies with complex and sophisticated calendars have been found to have child-rearing practices which do not involve early or immediate gratification of the child's needs while the societies whose child-rearing practices call for immediate or early gratification of the child's needs have less complex calendars (Zorn 1970). Results are reported which support the contention at the level of the individual as well, with individuals who were somewhat frustrated in infancy having the more complex time experience.

Fisher and Fisher (1953) report that individuals raised in homes with strict and dominating parents tend to over-value time especially if the more important parent were of the same sex. Time comes to be something available only in limited, controlled quantities. In a study of the relation between time as revealed in Piagetian tasks and maternal deprivation, those children who were deprived of continuous and stable mothering due to their placement in a series of foster homes did significantly more poorly on the time-related tasks (Chambers 1961).

Fenichel (1945) finds that the anal character is conflicted over time as he is conflicted over money, both being rooted in conflicts over anal eroticism. Time becomes an element to be held onto or squandered, given graciously or jealously guarded. In supporting research, Pettit (1969) reports that the sharply delineated and well formed time experience is positively related to anality and negatively related to spontaneity. Dooley (1941) finds that many neurotics express in their conflict over time a fear of being submerged in the unconscious.

Knapp (1962), in a factor analytic study, isolated two dimensions of time experience: 1) the time-servant vs. time-master dimension, with individuals in the first category using time for their own ends and individuals in the second harnessed by time in the form of schedules and appointments, time ruling their lives; and 2) the time-efficient vs. time-oblivious dimension, with individuals in the first using time efficiently, cognizant of what it is, and individuals in the second essentially unaware of time. Wessman (1972) identifies four characteristic ways of dealing with or being involved with the problem of time:

1) "harassed lack of control" with feelings of being rushed and under pressure vs. "relaxed mastery and adaptive flexibility" with a calmness and confidence in the ability to allot time so as to easily finish necessary tasks with time for relaxation; 2) "continuity and steady purpose" with a sense of continuity, direction and purpose vs. "discontinuity and lack of direction" with an absence of aims, future goals and commitment; 3) "efficient scheduling" with a high degree of organization and planning of time vs. "procrastination and inefficiency" with disorganization and ineffectiveness in the utilization of time; and 4) "inconsistency and changeability" with inconsistent feelings and action, conveying a sense of rapid personal change vs. "consistency and dependability" with a consistency of feelings and actions, an adherence to routine and a preference for the familiar.

The existentialists (May 1958b) seem to address themselves to the problem when they state that health is associated with a mature acceptance, valuation, but not over-valuation, and use of time. However, this would seem to be quite rare, with individuals generally either fighting time, giving in to time, or attempting to deny or alter its existence.

#### Time and psychopathology

Although much has been written about the relationship between the time experience and psychopathology, much of the reported evidence appears contradictory.

An experience of some distortion of time is fairly common to normal man--the feeling that time is moving extremely slowly when he

is anxiously waiting to hear from his doctor about the tests he has just had, the experience of time as somehow barely moving when he becomes depressed, or the strange experience of time, when, walking down the street, he suddenly feels he is not really there. Freud describes the strange experience of time in depersonalization when relating the effect upon him of his view of the Parthenon (Schilder 1936).

The effect of anxiety on the time experience is operative in all forms of psychopathology, but can be looked at in and of itself. Siegman (1962), in a time estimation experiment, finds that stress tends to increase the person's estimation of clock time; the more anxious the person is, the longer is the perceived duration of chronological time. The person's "internal" or "psychological" time speeds up relative to "external" or "chronological" time. Krauss and Ruiz (1967) report that anxious subjects tend to perceive time relatively more in terms of the past than normal subjects and interpret this as a means of lowering the anxiety level. Shibus (1968) relates his findings of a shortened future time extension in severely disturbed patients in comparison with moderately disturbed patients or normals.

Schilder (1936) and Israeli (1936) presented early evidence for the relationship between a disturbed time experience and psychopathology. Schilder related particularly a disturbed time experience to the phenomenon of depersonalization, in which the person suffers a loss of the immediate experience of time. Fessler (1952), on a somewhat different tack, identifies a disruption of the even flow of perceived

time into aggregate units resulting in a loss of the sense of duration of emotional experiences, as a causative factor in depersonalization. Israeli found distortion of the time experience in manic-depressives, paranoid schizophrenics, and schizophrenics, but was unable to identify any consistency of distortion within diagnostic classifications.

Perhaps the most visible time distortion occurs in the depressed patient. Minkowski (1970) discusses the inability of the depressed patient to project into the future--he, in essence, has no future--and considers the possibility that this inability to have a future results in the depression rather than the other way around. Part of usual existence is a synthetic view of time which crumbles in depression, yielding an experience of time which is merely the succession of similar days progressing in a sad monotony. Strauss (1947) reports similar disturbances in the time experience of depressed patients. The future is blocked, day to day existence becomes painfully slow, and the past assumes a critically important significance.

Distortions of the time experience are evident in schizophrenia as well. Fisher (1929) and Ellenberger (1958) held that schizophrenia is a distortion of the usual space-time experience in the individual. Israeli (1936) related the case of a schizophrenic who had no future, his aims and goals being confused with aims and goals he had had in the past and which may or may not have been met. The dissociation of the schizophrenic is matched in his time experience, the normal relation-

ships between past, present and future being dissociated. The present may become like an idea, while the past is confused with the future (Minkowski 1970).

The total time extension is shortened and the coherence of the extension is poor for schizophrenics, especially for the future (Schlosberg 1969). Orne (1969) finds that when schizophrenics' associations are analyzed they are more distant in time than those of normals. Normals have been found to have significantly longer future extensions than acute schizophrenics, depressives and alcoholics, but not chronic schizophrenics (Foulks and Webb 1970). Further, alcoholics have shorter future extensions than depressives and depressives have shorter future extensions than acute schizophrenics. Normals are found to have longer past extensions than both alcoholics and acute schizophrenics. Differentiating between schizophrenics with ideational and motoric preferences, Stein and Craik (1965) reported that ideational schizophrenics have longer future extensions than do motoric schizophrenics. Schizophrenics tend to report time disturbances on the order of feelings of timelessness, changes in time experience, and mix-ups between the past, present and future, while patients classified as neurotic, indigenous and involuntional depressives report time disturbances on the order of the slow passage of time (Hoffer and Osmund 1962). Dilling and Rabin (1967), comparing schizophrenics, normals and depressives on future extension and coherence, found that schizophrenics and depressives have significantly shorter time extensions from normals, with depressives having the shorter, and

schizophrenics exhibiting much less coherence than depressives. Melges and Fouguerouse (1966) found that patients of all diagnostic categories exhibit more extreme time experience distortions in the initial phase of their mental disturbance. They relate this to the relatively greater degree of unpleasant affect in an acute phase.

From this literature review it is obvious that the time experience is disturbed in psychopathological states. However, the relationships between specific types of disturbances and specific psychopathology is not altogether clear. It seems possible to state, however, that: the degree of disturbance in the time experience is positively related to the degree of mental disturbance; depression tends to result in shorter future extensions than other psychopathology; schizophrenics tend to be more confused as to their orientation in time--that is, what is past, present and future; and depression tends to result more commonly in a disturbance of the even and steady passage of time.

#### Time and language

Little, in fact practically nothing, has been written on the subject of the relation between time and language. However, it would seem that there is probably some degree of relationship between the two. Whorf's (1956) approach to language, cognition and the view of the world would seem to support the contention that how time is experienced is somewhat molded by the language that is used.

On another hand, Fraisse (1963) feels that speech allows the extension of temporal perspectives. It is through language that the

individual is able to orient himself in his own history--to have his past at his disposal and to conceive of the future--as well as the history of his society. Bernstein (1958, 1959, 1971) distinguishes between two different forms, or codes, of language within any one language system. The elaborated code is one characterized by a high degree of language sophistication, the ability to use complicated grammatical and syntactical structures, an emphasis upon the relationships between the various elements (the subject of the speech), and the primary emphasis on logical implications. It is a code which is universalistic, one that transcends the immediate context of the speech. The restricted code is one which is characterized by an emphasis on emotion and emotionally derived implications, the use of non-verbal means of communication, and an emphasis upon the content of the various elements (the subject of the speech). It is a code of particularistic meanings, one that is closely linked to a given context. The restricted code tends to have poorer syntactical construction with a verbal form emphasizing the active mood and a more rigid and limited use of adjectives and adverbs than the elaborated code. Bernstein feels that the elaborated code employs a longer time dimension in the verbal planning of speech than the restricted code. There is the possibility that the time experience is affected by the language, or language code, an individual uses, or vice versa.

#### Time and demographic variables

In an extensive study of the relationship between the results of various measures of the time experience and demography, Platt and

Darbes (1969) found that there are differences between male and female college students on the length of their perceived future extensions, with males having the longer future time extensions. The length of the future time extension for males was correlated positively with the number of years in college, positively with hometown population, positively with the status of the student's prospective occupation, positively with the status of the father's occupation, and negatively with birth order. Also, students who were Protestants had longer future extensions than Catholic students. For females, the length of the future extension was correlated positively with number of years in college, the father's occupational status, the student's grade point average, and negatively with birth order.

Cottle and Pleck (1969) report interactions between social class and sex in time experience, and differences between social classes and ages in time experience. Upper class children, middle class girls, upper class boys, older boys and older girls, respectively, are more historicentric than middle class children, middle class boys, upper class girls, younger boys and younger girls, respectively. Platt, Eisenmann and De Gross (1969) find that first born and only child subjects have longer future extensions, especially among females.

Le Shan (1952), working with children, reported that middle class children have significantly longer future extensions than do lower class children. However, Judson and Tuttle (1966) and Greene and Roberts (1961) found no differences between middle and lower class in future extensions.

CHAPTER 3Purpose

This research is a continuation of a more comprehensive study of maternal stimulation and infant cognitive development during the second year of life, conducted by Drs. Goodrich, Engel, Nechin and King. The study has already concerned itself with language, psychological mindedness and maternal control and this research intends to investigate time experience to round out what was originally proposed as a four-fold theory of caretaking.

The total study consisted of three independent parts: 1) home observations of mother-infant relationships at 14, 18 and 22 months; 2) infant testing at 14, 18 and 22 months; and 3) interviews with the mothers when the babies were 14 months old. The maternal interviews, conducted by Drs. Serena Wieder and Mary Engel, are the primary data for this proposed research.

The purpose of this proposed study is to investigate the qualities and components of the time experience. Generally, research into the time experience has centered on one or two aspects of the time experience--especially temporal extension and coherence--rather than on the time experience as a total, or near total, experience. Also, because of this, there is little understanding of how the various aspects of the time experience relate to one another--i.e. does an

experience of time as flowing correlate with a long future extension? In order to come to a more complete understanding of the time experience and the role it plays in the life of the individual, what is needed is a more extensive assessment of the individual's time experience.

As evidenced in the previous section, there are various aspects of the time experience which seem to be important: the experience of time as flowing; the experience of continuity in time; the organization of the units of time; extension in past and future and the coherence of that extension; the affective quality of the past, present and future; the experience of time as internal or external, as independent of or intimately related to the self; and neurotic involvement with time. In assessing these aspects of the time experience, a comprehensive and meaningful profile of the person's experience of time will be constructed.

It is then proposed that the time experience be investigated within the context of a four-fold theory of caretaking. It is felt that some combination of language usage, maternal control, psychological mindedness and experience of time contributes to the cognitive development of the baby. We plan to relate the time experience directly to the psychological mindedness of the mother. The time experience will be related to psychopathology not only because of its importance within the context of this theory of caretaking, but also because of the peculiarly important relationship which appears to exist between it and the experience of time. Extending the investigation of the

role of the time experience in caretaking, the time experience of the mother will be related to the cognitive development of the infant.

Somewhat unrelated to these concerns is the proposal that the time experience be looked at in relation to various demographic variables--age, education level, degree of environmental stress, and the presence of a father/husband in the home.

CHAPTER 4Subjects and MethodSubjects

Although the Ss in this study are 40 Black mothers, the Ss for the larger study are essentially the infants. Therefore, the Ss in this research are mothers of infants selected according to criteria established by the needs of the larger study. The infants were selected from the population of Black, first-born male infants of appropriate age, born to mothers who were native American and residing in the central Harlem area. The names were obtained from New York City birth records. The Ss were limited further by the following requirements: a five minute Apgar of eight or more; a birth weight of 5 pounds or more; the absence of maternal disease or drug addiction during pregnancy; and lack of congenital disorder in the baby.

It must be noted that while the N for the study as a whole is 40, various parts of the research will have different N's. Due to attrition, only 27 babies were tested at all three (14, 18 and 22 months) times.

Method

Interviews: The interviews, conducted by Drs. Wieder and Engel, followed a format developed through pilot work by Drs. Wieder and Engel. The interview format was constructed so as to tap what were felt to be

critical areas of the mother's experience as a woman and as a mother. Certain questions were included which directly and indirectly tap the experience of time. The interviews, although following a format, were conducted flexibly, with the interviewer following the woman's lead. (See Appendix A for the interview format.)

Measurement of the time experience: Following the lead of the literature, and especially the contributions of the existential and psychoanalytic approaches, these aspects of the time experience were assessed by a series of rating scales developed by this investigator: 1) the experience of time as flowing or the rapidity with which time is experienced as passing; 2) the experience of the continuity of time; 3) the experience of the past; 4) the experience of the future; 5) the affective experience of the past, present, and future; and 6) orientation in the past, present and future. The scales vary in scale points, the variation depending on the number of levels the investigator was able to conceptually distinguish. Confidence ratings are included for two of the scales because it was felt that, due to the more highly subjective and inferential quality of these ratings, some measure of how the rater feels he made each judgment is needed. (See Appendix B for the rating scales.)

The scales were divided into three groups, with scales I-III in Group A, scales IV-VI in group B, and scales VII-VIII in group C. Since so many ratings were to be made from each interview, it was felt that this would reduce and limit any contamination between scales. Each rater rated only scales from one of the three groups.

Reliability: The reliability of the scales was assessed in a separate reliability study using the same raters as those who participated in the study proper. Four pilot interviews were used in the reliability study. There were nine raters, including the experimenter, three for each of the three groups of scales. The criterion for reliability was considered to have been met when an adequate percentage of agreement between raters of within one scale point and 100% agreement was reached. Each rater read and rated the four interviews, with discussion among raters and the experimenter being held when it was necessary to resolve major differences among raters or to pinpoint problems with the scales. The scales were revised somewhat after the rating of the first two pilot interviews.

The raters proceeded to read and rate each of the 40 interviews. There were two raters for each of the three groups of scales.

The raters, except for the experimenter, were paid \$5.00 per rated interview, including the interviews in the reliability study. The funds for this come from \$1500.00 made available through Grant #MH-17580-03S1 from NIMH. Payments for the ratings in the study proper will total \$1100.00, leaving \$400.00 for payments for the reliability study.

There are scores for each individual scale and an Overall Time Score. It must be noted that all the scales except scale IV have an optimal point which is the same as the high point for the scale. For Scale IV, although the rater will rate as if scale point 5 is the optimal point, the optimal point will be scale point 3 for the purposes

of data analysis. A rating of scale point 3 will be scored as 5 and ratings of 5,4,2,1 will be scored as 4,3,2 and 1, respectively.

Psychological Mindedness: Psychological mindedness has been measured using rating scales developed by Drs. Engel and Wieder. The ratings are made from the responses the sample mothers gave in the interview to various problem situations a mother might encounter. A psychologically minded mother is one who sees her baby and his behavior as being part of a developmental continuum, who sees her behavior as modifying the baby's behavior, and who sees the baby's behavior as having a cause. In short, the psychologically minded mother is one who sees her baby as a psychological being. (See Appendix C for the Psychological Mindedness Scale.)

Psychodynamics and psychopathology: An assessment of the mother's psychodynamics and psychopathology will be derived from a clinical formulation on each mother by Dr. Arthur Arkin. Dr. Arkin is provided with a brief outline of what is desired and all material on the mother. He then writes a clinical formulation from a psychoanalytic viewpoint with the instruction that he do so as if he were interpreting material presented by a patient. The mother's affect, appropriateness of affect, dependency and overall functioning are assessed.

Mother's language usage: A linguistic analysis of the interviews was conducted by Nancy Kalish Landen. In the interests of consistency, every third page up to page thirty-three of each was used. The analysis yielded scores of vocabulary, grammatical and

syntactical ability, qualifiers, nouns and verbs for each mother.

Baby variables: Bayley Scales of Infant Development: The Bayley Scales is an instrument which is administered in a fairly free-flowing but structured manner. The idea, within limits, is to adapt the scales to the infant rather than the infant to the scales. The Bayley Scales provide a score for Mental or cognitive development and a score for motor development.

The Bayley Scales of Infant Development were administered by Dr. William King to the babies at 14, 18 and 22 months. However, due to attrition, there are only 27 babies who were tested at all three times. Thus, the N for this section of the study will vary depending upon the age at which the scores were obtained.

CHAPTER 5Conceptualization

For many writers the time experience is a central experience around which various component experiences revolve or gather themselves; the quality and/or quantity of the central factor determines the qualities and/or quantities of the components. Other writers seem to identify the time experience as a more global and undifferentiated experience. However, neither conception seems to be very conclusive. The time experience is too complex a phenomenon to be reduced to the workings of a single, global experience. And it would seem to be misleading to locate some factor as central in the experience of time because this also tends to negate some of the complexities of the experience. Perhaps this attempt at a reduction of the time experience is one of the reasons psychology has found the problem of the experience of time so elusive.

That the time experience is composed of various components would seem to be certain. However, the relationships and the nature of the relationships which exist between these components is uncertain. In this writer's estimation, there are two possible alternatives. One is that there are definite and consistent one to one relationships among the various components, i.e. if there is a high degree on one component there is a high degree on all the others as well. This is related to many writers' conceptions of a central time experience with other sub-

ordinate experiences clustered around it but different in that here there is no dominant or supraordinate factor. The components, rather than sharing a common relationship with a central experience (the relationship being determined by a central experience), share a common terminal or baseline. The second alternative is that the various components of the time experience have different sources, different meanings, and different functions. There is no time experience per se, there is merely the various individual experiences. However, these individual experiences, although not essentially related to an overall time experience, do not vary randomly from each other.

Whatever the relationships among the various components of the time experience, it is obvious from the literature and from the writer's experience that the time experience is intimately tied up with the fabric of man's existence. How man experiences time is bound to be related to his personality, his day-to-day functioning, his mood and his personal history. One of the compelling problems concerning the time experience is, in fact, its origins in each individual's personal history. Psychoanalytic writers, not discounting the contribution to the more cognitive aspects of the time experience of Piaget's approach, have been at least indirectly concerned with his problem. Chambers (1961), Bergler and Roheim (1946), Zorn (1970) and, peripherally, Rapaport (1951, 1968) and Fenichel (1945, 1951) seem to locate the beginnings of the time experience in early interactions between the mother and infant. A necessary ingredient of these formulations is that the child experience some frustration in the gratification of his needs--

it is through waiting that an experience of time develops. However, the argument is left there with no discussion of the effects of too much frustration, too little frustration and the emotional effect of the frustration on the infant. Chambers (1961) presents evidence that a too frustrating environment, or at least a discontinuous and unstable one, in infancy and early childhood has deleterious effects on the time experience. DuBois (1954) understands disturbances of the experience of time to be symptomatic of an unconscious disturbance in how the infant experiences the parent(s). Perhaps writers have misphrased the question. It would seem that there are two important considerations--the frustration and the experience of the parent. That the child be frustrated seems to be fairly important in the genesis of the time experience but the effect on the time experience of the experience of the frustration is unclear. A negative experience of the frustration would seem to be evident in a disturbance (conscious or unconscious) of the experience of the parent (with such a disturbance being manifested in a disturbance of the time experience). Therefore, rather than asking whether the person experienced some frustration, it is necessary to be concerned with his experience of the frustration. A positive experience of the frustration (i.e. the bottle is withheld, but when given is given with love and warmth) will result in an undisturbed time experience. A negative experience of the frustration (i.e. the bottle is withheld and when given is propped up so the mother can continue her work) will result in a disturbed experience of time.

Going further than this, we can consider the possibility that the time experience is to some extent learned in infancy from the parent(s). Fenichel (1945, 1951) makes a convincing case for the genesis of certain attitudes toward and experiences of time in the events surrounding toilet training. The infant and young child are nearly totally immersed in the fabric of their mother's existence. For instance, the schedules she maintains in the home become his schedules as well. It is possible that the young child's experience of time is, at least in part, molded by his mother's experience of time. In Rapaport's formulation (1951, 1968) time is intimately related to cognition since the ability to delay drive discharge affects the ability to think. One could argue that the less disrupted the mother's experience of time is, the less disrupted the infant's experience of time will be. This, in turn, might affect the babies' mental, or cognitive, development, with those babies with more advanced mental development having mothers with less disrupted experiences of time. Since motor and mental development are intimately related in the infant, it may be that those babies with more advanced motor development have mothers with less disrupted experiences of time. If this relationship does exist, one might expect it to lessen with the infant's age.

Although the relationships between the time experience and psychopathology have been rather extensively discussed, the only statement concerning the relationship which can be made with any certainty is that the more extensive and severe the psychopathology, the more

extensive and severe the disruption in the time experience. Certain investigations have reported relationships between specific time experience disruptions and types of psychopathology but the evidence is somewhat contradictory and inconclusive. It is possible and, in this investigator's opinion, very probable, that different types of psychopathology can be related to various kinds of time experience disturbance. Since this proposed research will attempt to investigate many aspects of the time experience, consistent relationships among type and degree of psychopathology and various aspects of the time experience might be discovered. For the meantime, however, it would seem to be impossible to state what these relationships might be.

The quality of psychological mindedness, while not being a very common matter of concern to psychologists, has been of interest to writers interested in the person's ability to comprehend his own behavior and experiences and the ramifications, as well as causes, of these behaviors and experiences. Related to this is the ability to locate the self, or others, in a nexus of causal, or what might be causal, factors--people involved, place, time of year, day and personal history. Meerloo (1954) identifies one of man's primary characteristics as the ability to understand his behavior and the behavior of others within a context of his own and his society's past, present and future. This carries with it the indication that psychological mindedness is positively related to the experience of time. It would seem that the woman who is unable to determine adequately the forces involved in a segment of behavior (the measure of psychological mindedness) would also

tend to have a more limited or disrupted experience of time.

Bernstein (1958, 1959, 1971) indicates that users of a restricted language code may have a more restricted time horizon than users of an elaborated code. However, it is impossible to speak of a time horizon without speaking of the individual's complete time experience. Therefore, this investigator feels that the individual's time experience is very probably related to the language code he uses, with the restricted code user having a more limited and less complex experience of time. Much has also been written about the differences between Black and Standard English (Williams 1971). In this sample there are mothers who characteristically use Standard English and mothers who use Black English. It would be interesting to note whether there are differences in the time experience correlated with differences in the characteristic language (Black vs. Standard English).

Although Levine, et al (1959) found that intelligence correlates positively with future extension, others (Platt and Darbes 1969, Kaye 1968) have disputed these findings. It is our contention that time is related globally to intelligence in that (a la Rapaport) intelligence is related to the ability to delay drive discharge. However, in the adult, intelligence is so mediated by other factors that whatever relationship exists between them would most probably be minimal. We do not feel that time experience can be reduced to an extension or artifact of intelligence.

Various writers (Cottle and Pleck 1969; Platt and Darbes 1969; LeShan 1952; Judson and Tuttle 1966) have found and reported various

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relationships among aspects of the time experience and various demographic variables. The findings are inconsistent and contradictory. However, how one experiences and structures time is conceivably related to one's demographic status; i.e. might not the mother on welfare, receiving a biweekly check, have a rather different experience of the future than the mother not on welfare. Although we can hypothesize that there are differences in time experience related to demography, we are unable to specify what these differences might be.

It must of course be noted that the time experience is not being directly measured here. What is being measured is, essentially, a conceptualization of the time experience. As the literature suggests, it appears that the various dimensions being assessed are ones that are central to what can be called the time experience. What will be discussed as the time experience will be an inference from the obtained data. Care will have to be taken in these discussions. There can be no assertion that the time experience is being measured; the measurements are of inferences made from what appears to be the time experience.

CHAPTER 6Hypotheses

- H<sub>1</sub>: If there is a high score on one scale, there will be a high score on the other scales as well. There will be significant correlation among all the scales, yielding an Overall Time Score (OTS).
- alternate H<sub>1A</sub>: Only some time scales will show a significant correlation, indicating that the time experience as conceptualized here is composed of several aspects.
- alternate H<sub>1B</sub>: None of the time scales will show significant correlation, indicating that there is no Overall Time Score. In this case, hypotheses concerning the Overall Time Score cannot be tested.
- H<sub>2</sub>: If an Overall Time Score is feasible, then a high OTS will be correlated with a high score on the psychological mindedness scales.
- H<sub>3</sub>: If an OTS is feasible, a high OTS in the mother will correlate positively with a high Bayley Mental Scale Score, especially at 22 months. The Bayley Motor Scale Score will not be related to OTS.
- H<sub>4</sub>: It is unclear from the literature whether there are consistent and specific relationships between

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the time experience as conceptualized here and such variables as: age; educational level; welfare status; presence of father/husband in the home. For these we state the null hypothesis.

CHAPTER 7ResultsReliability

Each of the six raters read 40 interviews. Recall that the following variables required ratings: I) experience of continuity; II) importance of past, present and future; III) affect associated with the past (negative-positive continuum); IV) rapidity of passage of time (slow-fast continuum); V) affect associated with the future (negative-positive continuum); VI) full experience of the past; VII) full experience of the future; and VIII) affect associated with the present (negative-positive continuum). To avoid halo effect not each rater used each scale. The assignment of raters to variables (scales) was as follows: raters 1 and 2 used scales I, II, and III; raters 3 and 4 used scales IV, V and VI; and raters 5 and 6 used scales VII and VIII. This grouping was made so that one rater would not be rating similar scales, i.e. rater 1 would not be rating the affect associated with the past as well as the experience of the past.

The reliability figures were satisfactory, as shown in Table 1.

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 insert Table 1 about here  
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For the purposes of data analysis, when ratings of an interview by two raters differed, the two ratings were averaged yielding one final rating as the score for that S. Since disagreement beyond one scale

Table 1.

Interjudge reliability for pairs of raters, judging 40 mother interviews with regard to various scales of time experience.

Time Scales	Possible range	Percent perfect agreement between raters	Percent agreement by one scale point between raters	Percent perfect agreement and agreement by one scale point
I. Experience of continuity	4 points	20%	75%	95%
IIa. Importance of past	5 points	32.5%	60%	92.5%
IIb. Importance of present	5 points	35%	60%	95%
IIc. Importance of future	5 points	30%	62.5%	92.5%
III. Positive affect associated with past	5 points	42.5%	50%	92.5%
IV. Rapidity of passage of time	5 points	40%	47.5%	87.5%
V. Positive affect associated with future	5 points	40%	55%	95%
VI. Full experience of the past	4 points	65%	35%	100%
VII. Full experience of the future	4 points	40%	55%	95%
VIII. Positive affect associated with present	5 points	50%	42.5%	92.5%

point was minimal it was felt that this means of accomodating discrepancy was acceptable.

### Hypothesis Testing

The following will be organized around the hypotheses as previously stated; full discussion of the meaning of results is presented in Chapter 8.

### Hypothesis 1: The Time Experience

If there is a high score on one scale there will be a high score on the other scales as well. There will be significant correlation among all the scales, yielding an Overall Time Score (OTS).

Correlations among all of the scales were obtained and a matrix of these correlations is presented in Table 2. Seventeen (17) of these forty-five (45) possible correlations are significant, more than would be expected by chance. Of the 17 significant correlations,

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insert Table 2 about here  
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only five are "contaminated" (Importance of present and Importance of future; Rapidity of passage of time and Positive affect associated with the future; Rapidity of passage of time and Full experience of the past; Positive affect associated with the future and Full experience of the past; Full experience of the future and Positive affect associated with the present); that is, only five are between scales rated by the same judge. The preponderance of significant correlations is between scales rated by different judges. Further, the significant

Table 2.

Intercorrelations among judgements of 40 mother  
interviews according to various time scales

Time Scales	IIa.	IIb.	IIc.	III.	IV.	V.	VI.	VII.	VIII.
I. Experience of continuity	-.16	.15	.21	.04	-.12	.05	-.02	.11	.19
IIa. Importance of past		.17	.14	-.17	.36**	.08	.25	.001	.17
IIb. Importance of present			.23	-.10	.26	.31*	.33*	.22	.35*
IIc. Importance of future				-.01	.23	.34*	.10	.16	.09
III. Positive affect associated with past					.09	.26*	-.19	-.11	-.31*
IV. Rapidity of passage of time						.50**	.54**	.54**	.43**
V. Positive affect associated with future							.54**	.56**	.69**
VI. Full experience of the past								.63**	.45**
VII. Full experience of the future									.57**
VIII. Positive affect associated with present									

\*p < .05    \*\*p < .01; two tail test

correlations were converted to  $Z$ -scores and a  $t$ - test was performed to establish that there was no difference between contaminated and uncontaminated correlations ( $t = 1.81, p < .05$ ). Contaminated and uncontaminated correlations are generally of the same order and power.

On the basis of these results  $H_1$  can be rejected. There is not one scale which correlates significantly with all the rest. An Overall Time Score (OTS) cannot be derived from the scales. We can state tentatively that the time experience as defined here by these different variables is not a unitary global experience. Rather, it is composed of various aspects not necessarily related to one another.

$H_{1A}$ : Only some time scales will show a significant correlation indicating that the time experience as conceptualized here is composed of several aspects.

Alternate  $H_{1A}$  can be tentatively accepted. While there is no easily identifiable pattern to the correlations as they are here obtained, the correlations appear to organize themselves in some meaningful way. Four of the Scales (Scales IV, V, VI, VIII) are intercorrelated and correlate more often with the other scales. Scale IV (rapidity with which time is experienced as passing) correlates positively and significantly with six other scales. Scale V (affect associated with the future) correlates positively and significantly with seven other scales. Scale VI (experience of the past) correlates positively and significantly with six other scales. Scale VIII

(affect associated with the present) correlates significantly and positively with five other scales and significantly and negatively with one other scale. While these scales (IV. Rapidity of passage of time; V. Positive affect associated with future; VI. Full experience of the past; and VIII. Positive affect associated with the present) are significantly intercorrelated, one cannot consider them interchangeable since the amount of variance accounted for by even the highest correlation (Scale V and Scale VIII,  $r = .69$ ) is relatively small. That is, it seems that although these scales are related to one another, they are not measuring or assessing the same variable but rather they are tapping different aspects of a general phenomenon. One could speculate that the group of scales which are bound together by significant  $r$ 's represent absence of depression. This will be more fully elaborated in the subsequent chapter.

In discussing the ratings of the scales and their intercorrelations, attention should be paid to the varying reliability levels of the different scales. While all of the scales reach high reliability levels when agreement within one scale point is combined with perfect agreement (Table 1), we can see that the four scales in question here (Scales IV, V, VI and VIII) tend to have the highest level of perfect agreement between raters. Perhaps the somewhat lower levels of perfect agreement between raters for the other scales (only Scales III and VII fall in the same area) point to what may have been rating problems. The degree to which these scales do not intercorrelate is possibly reflective of the fact that the raters had a relatively difficult time coming to agreement on these scales. The scales themselves may not be

sensitive enough to the issues involved or the data contained in the interviews may have been insufficient for the raters to make a reasonable judgment.

To further investigate what appears in these four scales (IV, V, VI, VIII) to be a factor, a factor analysis, varimax rotation, was performed. One usable factor accounting for 25% of the variance in the correlations among the scales was identified, consisting of the four scales plus Scale VII (full experience of the future). This factor will be called the "Optimism" factor.

Although  $H_1$  cannot be fully accepted because there is not significant intercorrelation among all the scales making the derivation of an Overall Time Score (OTS) impossible, the existence of this factor does allow for the testing of subsequent hypotheses through extension loadings. Hypotheses to be tested with an OTS will be tested by this method.

$H_{1B}$ : None of the time scales will show significant correlation, indicating that there is no Overall Time Score. In this case, hypotheses concerning the Overall Time Score cannot be tested.

Correlations in the matrix are not random; some scales correlate significantly with more scales than others. Alternate  $H_{1B}$  can be rejected; there are some significant and possibly meaningful correlations among scales.

#### Hypothesis 2: Psychological Mindedness

If an Overall Time Score (OTS) is feasible, then a high OTS will

be correlated with a high score on the psychological mindedness scales.

Hypothesis 2 was investigated through extension loading from the Optimism factor and by correlating each time scale with the psychological mindedness scores of the mothers. The correlations with each time scale are presented in Table 3. The correlations between the

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insert Table 3 about here  
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time factor and mean psychological mindedness, affective responsivity, concept of developmental change and behavior control are .46, .43, .34, .47 respectively, all significant ( $p < .01$ ).

Twenty of the forty possible correlations reached significance. All the significant correlations are positive, implying that a more psychologically minded mother has a "better" experience of time as defined in this study. Interestingly fourteen of the nineteen possible correlations involve the four scales mentioned in the previous section as ones that are particularly salient and important in the time experience. Mothers who are more psychologically minded, as measured here (more inclined or able to view their babies as psychological beings whose behavior is seen as caused, occurring within a developmental context and modifiable by their own behavior), are also women who tend to see their lives as moving along at a reasonably rapid pace, who are content with their lives as they are now, who view their pasts as being filled and continuous, and who have a hopeful approach to the future.

Table 3.

Correlations between judgments of  
40 mother interviews on various time  
scales and mothers' mean psychological  
mindedness

Time Scales	Psychological Mindedness Variables			
	Mean Psychological Mindedness	Affective Responsivity	Concept of Developmental Change	Behavior Control
I. Experience of continuity	.06	-.04	.19	-.03
IIa. Importance of past	.19	-.02	.10	.21
IIb. Importance of present	.28*	.14	.33*	.25
IIc. Importance of future	.15	.19	-.04	.17
III. Positive affect associated with past	-.15	-.12	-.09	-.21
IV. Rapidity of passage of time	.36**	.33*	.15	.35**
V. Positive affect associated with future	.29*	.33*	.16	.32*
VI. Full experience of the past	.54**	.52**	.43**	.51**
VII. Full experience of the future	.38**	.46**	.31*	.36**
VIII. Positive affect associated with present	.51**	.45**	.29*	.52**

\*p < .05    \*\*p < .01; one tail test

Hypothesis 3: Cognitive Development of the Infants (Bayley Scales)

If an Overall Time Score is feasible, a high OTS in the mother will correlate positively with a high Bayley Mental Scale score in the son, especially at 22 months. The Bayley Motor Scale score will not be related to OTS.

Again,  $H_3$  was tested using the Optimism factor. No correlation between the Optimism factor and Bayley scores reached significance (see Table 4). Each mother's score on each time scale was correlated

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insert Table 4 about here  
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with each of the Bayley Mental and Motor Scale scores at 14, 18 and 22 months (Table 5). Four of the 30 possible correlations with Bayley Mental Scale scores are significant; five of the thirty possible correlations with Bayley Motor Scale scores are significant. While these re-

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sults are little more than can be expected by chance (ten of sixty or 17%), the pattern of significant correlations is of interest. The mothers who have a more filled and vibrant future and past and who are happy with things as they are now tend to have babies who are more developed motorically 4 months later, at 18 months. Mother's score on the Full Experience of the Future scale and Positive affect associated with the present scale predicts the infants' score on the Bayley Mental Scale at 22 months. The mother's experience of time

Table 4.

Correlations between the time factor  
 "Optimism" and Bayley Mental and  
 Motor Scale scores at 14. 18 and  
 22 months.

Bayley Scale	"Optimism" Time Factor
Mental Scale	
14 Months	.12
18 Months	.22
22 Months	.13
Motor Scale	
14 Months	-.02
18 Months	.01
22 Months	-.10

Table 5.

Correlations between judgments of 40  
mother interviews on various time scales  
and the sons' Bayley Mental and Motor  
Scale scores at 14, 18 and 22 months.

Time Scales		Bayley Scale					
		14 months (N-40)		18 Months (N-31)		22 Months (N-29)	
		Mental	Motor	Mental	Motor	Mental	Motor
I.	Experience of continuity	-.05	.03	-.02	-.01	.10	-.02
IIa.	Importance of past	.29*	.01	.25	-.01	.02	-.31*
IIb.	Importance of present	.22	-.10	.33*	-.01	.16	-.01
IIc.	Importance of future	.01	.13	.21	.02	.15	.01
III.	Positive affect associated with past	-.01	.10	.11	.36**	-.07	.01
IV.	Rapidity of passage of time	.12	-.04	.02	-.01	.07	.01
V.	Positive affect associated with future	-.04	.22	.07	-.18	.13	-.02
VI.	Full experience of the past	.12	.11	.14	.31*	.11	-.09
VII.	Full experience of the future	-.04	.04	.14	.27*	.34*	.10
VIII.	Positive affect associated with present	-.05	.01	.17	.37**	.35*	.03

\*p < .05 \*\*p < .01; one tail test

as measured here does not serve well as a general predictor of the baby's development at 22 months. It seems, however, that the mother's ability to project into the future and be content and happy with the present may be involved in what serves to allow for the infant's future cognitive development (Bayley Mental Scale at 22 months with Time Scales VII and VIII).

#### Hypothesis 4: Demographic Data

It is unclear from the literature whether there are consistent and specific relationships between the time experience as conceptualized here and such variables as: age; educational level; welfare status; marriage status; work status; presence of a father/husband in the home. For these we state the null hypothesis.

This hypothesis was investigated by correlating each of the time scales and the Optimism factor with various demographic data pulled from the interviews. The variables considered were: the regularity of contacts between father and mother/infant; the presence of the father of the infant in the house; the educational level of the mother; the reality demands on the mother (a low stress-high stress dimension); and the age of the woman. The correlations between each time scale and the demographic variables are presented in Table 6. Of the correlations between the Optimism factor and the demographic variables only two reach significance (Optimism factor and age,  $r=.52$ ; Optimism factor and educational level,  $r=.59$ ). The other three do

not reach significance (Optimism factor and regularity of contact with father,  $r=.22$ ; Optimism factor and presence of father in home,  $r=.19$ ;

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 insert Table 6 about here  
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Optimism factor and reality demands,  $r=-.19$ ).

Of the 50 possible correlations between individual time scales and demographic variables, 16 reach significance, more than expected by chance. Thirteen of the 19 significant correlations involve the four scales mentioned as more salient. The woman's age, educational level, the presence of a man and reality demands are related to her time experience. The woman experiencing time as passing at a reasonably rapid rate, with a filled past, an hopeful future, a contentment with the present, and, including Scale VII (Experience of the Future), an ability to conceive of numerous alternatives for the future, tends to be a woman older than the sample average, living with a man, having a moderate degree of education (11.48 is the mean grade level), and experiencing less stress in her life.

These data raise some interesting possibilities and concerns. The time experience, as defined and measured in this study, has an affective and cognitive component. For instance, these four more salient scales can be described as measuring something which involves the ability to take some distance from herself, her life or her environment for the purposes of assessment, to conceptualize possibilities and to somehow transcend the immediate. This can be seen as a cognitive

Table 6.

Correlations between judgments of 40 mother interviews on various time scales and various demographic variables of the mother.

Time Scales	Regularity of contact with father	Presence of father in the home	Educational level	Reality Demands	Age
I. Experience of continuity	-.08	-.12	-.04	-.12	.16
IIa. Importance of past	-.20	.21	.002	-.15	.01
IIb. Importance of present	-.15	.02	.14	-.18	.33**
IIc. Importance of future	-.06	.18	.15	-.08	.10
III. Positive affect associated with past	.13	.19	.01	.01	-.02
IV. Rapidity of passage of time	.16	.24	.58**	-.18	.54**
V. Positive affect associated with future	-.04	.27*	.39**	-.27*	.43**
VI. Full experience of the past	-.32*	.04	.31*	-.08	.31*
VII. Full experience of the future	-.05	.22	.52**	-.12	.50**
VIII. Positive affect associated with present	-.02	.29	.43**	-.33**	.44**

\*p < .05 \*\*p < .01; two tail test

ability--the ability to adopt the abstract position (Goldstein, 1941). However, this might just as well reflect an affective component; it is possible that this ability implies a kind of happiness, easy-goingness and acceptance which is characteristic of the non-depressed. Perhaps still another means of describing this is to say that this woman is able to de-centrate, to step back from and view/perceive/conceptualize her life from a different standpoint.

In order to further investigate this--the time experience and its affective/cognitive component--intercorrelations have been run among psychological mindedness scores and the Bayley Mental and Motor Scale Scores of the infants and a language richness score. These results are reported in the following section with a full discussion in the next chapter.

Further Exploration:

It was felt that while this study proper did not allow for the investigation of certain relationships among data for methodological reasons (i.e. the relationship between time experience and language usage could not be formally investigated as judgements and scores would be derived from the same source--the maternal interview) and for boundary reasons (i.e. this study was not constructed to inquire into relationships among the infant's Bayley scores and the mother's psychological mindedness and language usage), it would be profitable to investigate these relationships so that time experience might be understood within the larger context of the Maternal Stimulation and Infant Cognitive Development study as a whole.

Language Usage and Time Experience:

The language usage measures were derived from the maternal interviews by Nancy Kalish Landon. The method of linguistic analysis is described below.

Since interviews varied greatly in length, that of the shortest interview, 33 pages, was taken as the limit for the analysis. Beginning with the third page, every subsequent third page was analyzed.

To obtain a measure of the richness of vocabulary each noun, verb and modifier initially used by the subject was recorded on an index card. The cards were alphabetically arranged. Each subsequently used noun, verb and modifier was checked against the cards and if the mother had not used that word before, a new card with the new word was added to her deck.

In the above manner, we could compute a 'rarity index' for each noun, verb and modifier, depending on the frequency with which it was used in our group of subjects. For example, if only one mother had used the word travel, she would have received a score of 42; if two mothers had used this word, each mother would have received a score of 41. Having thus translated the infrequency of usage into numbers, where the greater number represented a more unusual or rich use of language relative to this group, we could simply add each mother's richness score for nouns, verbs and adjectives. Richness scores intercorrelated as follows: nouns and verbs .77; nouns and modifiers .68; verbs and modifiers .64. All three correlations were significant beyond the .01 level. For this reason we pooled the three richness scores into one, by taking a mean of the three for each subject.

A third measure of language quality was that of overall grammatical competence. For any one of ten examples of good grammar the mother received one score (+1); for any one of five instances of bad grammar, she was given -1. The total was her grammatical competence score. (Engel, Nechin & Arkin in press; pp. 35-36)

This Language Richness score and the grammatical competence score are the scores used in these data investigations.

It must be noted that results reported here of the relationship between language and time experience are somewhat contaminated. Ratings of the time experience and language ratings are from the same source (maternal interviews) and are thus not independent. However, it was felt that speculation, both from the literature (Bernstein 1958, 1959, 1971) and from a clinical "feel," warranted looking at the relationships that might exist.

Relationships between the ten time scales and language richness score and syntax score were investigated through correlations. The twenty correlations are presented in Table 7. Thirteen of the possible correlations are positive and significant at the

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 insert Table 7 about here  
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.05 level. As might be expected from the earlier data, eight of the positive and significant correlations involve the four more salient scales. The correlation between language usage and the Optimism factor is significant ( $r=.66$ ,  $p < .01$ ).

The woman who has the more sophisticated language usage as measured by the Language Richness score and syntax score tends to experience time as moving at a reasonably rapid rate, to experience her past as filled, to feel contented with her life as it is now and to feel hopeful about the things to come. There appear to be definite relationships between language usage and the experience of time.

Language Usage and Psychological Mindedness:

The relationship between language usage and psychological minded-

Table 7.

Correlations between judgments of 40  
mother interviews on various time scales  
and mothers' language richness scores and  
syntax scores (grammatical competence scores).

Time Scales	Language Richness Score	Syntax Score
I. Experience of continuity	-.21	.05
IIa. Importance of past	.19	.15
IIb. Importance of present	.29*	.32*
IIc. Importance of future	.18	.29*
III. Positive affect associated with past	-.19	.01
IV. Rapidity of passage of time	.53**	.52**
V. Positive affect associated with future	.44**	.46**
VI. Full experience of the past	.62**	.55**
VII. Full experience of the future	.40**	.49**
VIII. Positive affect associated with present	.33*	.41**

\*p < .05 \*\*p < .01; one tail test

ness was investigated by correlating the language richness score and the mean psychological mindedness score. The correlation is positive and significant ( $r = .44$ ,  $p < .01$ ) and indicates that those women who are more psychologically minded as measured by this scale tend to have more complex and sophisticated language usage.

Other Relationships:

Relationships between the mothers' language usage and the infant's cognitive development have been investigated (Engel, Nechin and Arkin in press). Using the same mothers and infants but in an expanded sample, these authors found that richness of vocabulary (language richness score) is not related to the Bayley Mental and Motor Scale scores of the infant at 14, 18, or 22 months. However, when the mother's direct verbal productivity to the infant (the amount she talks to him during a home observation) is employed as a language measure, there is a strong positive relationship reported between this and the infant's scores of verbal productivity and verbal comprehension (scores extracted from the Bayley). While the sophistication with which the mother speaks with the other adults has no relationship to her infant's scores on the Bayley Scales, the amount she talks to him does.

These authors also report a strong relationship between the mother's psychological mindedness scores and the infants' scores on the Bayley Mental Scale of Infant Development at 14, 18 and especially 22 months. These results are consistent; both assess, albeit in different ways, the degree to which the mother is available to, responsive to and in contact with her infant. Again, an affective-cognitive component is of importance.

In summary, all the time scales are not positively intercorrelated. Various time scales (IV,V,VI,VIII) correlate among themselves and more often with other scales. These scales were designed to assess areas commonly felt to be particularly salient in the experience of time (rapidity with which time is experienced as passing, affect associated with the future, experience of the past, affect associated with the present). A fifth scale (Scale VII, experience of the future) is included in a factor identified in a factor analysis of the ten time scales.

Further, it was found that when there were significant correlations between the time scales and other variables (psychological mindedness, age, educational level, presence of a man in the home and reality demands) these correlations tended strongly to be with these particularly salient scales. Twenty of the possible 40 correlations between psychological mindedness scales and the time scales were significant and, of these 19, 14 involved the particularly salient scales. It would seem that mothers who are more psychologically minded, as measured here (more inclined or able to use a kind of introspective and affective knowledge about people and themselves), are also women who tend to see their lives as moving along at a reasonably rapid pace, who are contented with their lives as they are now, who view their pasts as being filled and who have a hopeful attitude toward the future.

Sixteen of the 50 possible correlations between the time scales and the five demographic variables are significant and of these 16, 13

involve the four salient scales. It appears that the woman who experiences time as passing at a reasonably steady and rapid rate, who has a past which is filled, who is hopeful about the future and who is pleased with her life as it is now is one who feels relatively less stress, is somewhat older, is better educated and has a man living in the home.

CHAPTER 8Discussion

The discussion will center around the following foci: a brief summary of the results; the nature of the time experience; the affective/cognitive quality of the time experience; clinical illustrations of the mothers; the time experience and its impact on the child's cognitive development; clinical implications; and methodological problems of the study and implications for further research.

Briefly we can say that: (1) the time experience as conceived of and measured here is not a unitary phenomenon but rather is composed of various elements; (2) the more sophisticated, or "better" as defined here, time experience tends to be associated with psychological mindedness in the mother--a capacity for viewing her baby as a psychological being whose behavior is seen as caused, as occurring within a developmental context, and as modifiable by her own behavior; (3) the time experience of the mother is not related in any firm way to the cognitive development of her son; and (4) the "better" time experience is associated with lower reality demands or stress, being older and more educated, and living in a situation that includes a man.

The Nature of the Time Experience:

The finding that the time experience as measured here on the ten time scales is not a unitary phenomenon--intercorrelations among scales tend not to be consistent--raises some interesting possibilities.

The four scales (Rapidity of passage of time, Positive affect associated with the future, Full experience of the past, and Positive affect associated with the future) which correlate more often with other scales and correlate significantly with each other are scales that were designed to tap important areas of the time experience. Many writers (Bonaparte 1940; Dickstein and Blatt 1966; Ellenberger 1958; Fenichel 1945; Israeli 1936; May 1958c; Minkowski 1958) have stressed the importance of experiencing time as passing fairly rapidly, or of having a positive affective orientation to the future (of being hopeful), or of experiencing the past as a filled and vibrant part of one's life or of having a positive affective orientation to the present (of being contented and happy with the way things are now). However, these aspects of the time experience are often discussed in isolation from one another. What appears in these data is that a person who is contented and happy with things as they are now is one who also experiences her past as a filled and vibrant part of her life, is hopeful about things to come and experiences time and the events of her life as moving along at a steady, forceful and reasonably rapid pace. While it cannot be stated that there is any unitary time experience (not all the scales correlate), it seems as if there are realms of the time experience which are related to one another and that those identified as important in this study are consistent with previous speculation and research. A fifth scale, assessing the filledness of the future, is identified as part of the time factor isolated in the ten time scales.

Furthermore, although various writers (May 1958c; Meerloo 1954; Minkowski 1970) have speculated about the importance of these experi-

ences there has been little attempt to systematically define or quantify these phenomena and accurately specify the position they occupy and the role they play in relation to other aspects of the person's life. With notable exceptions (Wessman 1971; Wessman and Ricks 1966), the speculation has remained speculation, albeit often clinical, and the parameters the time experience may assume in life have been formulated, specified and accepted often only on clinical evidence or, at times, apparently on faith. Although clinical evidence is of course useful, rich and informative, this study seems to allow us to state with further emphasis that: at least certain areas of the time experience are quantifiable in that each separate experience--i.e. the rapidity with which time is experienced as passing--covers a range of discernible phenomena (from slow passage to rapid passage); that discriminations among people can be made in reference to these experiences (that some people experience time as passing slowly and some as rapidly); and that these experiences exist in tandem with other aspects of a person's life (i.e. full experience of the past is correlated significantly and positively with the psychological mindedness of the mothers).

The fact that four of the scales do correlate among themselves may point to the possibility that research into the time experience must be initially carefully delineated. Rigorous definition of exactly what is being studied is needed so that appropriate inferences might be drawn. From this study it appears that an investigation of the rapidity with which time is experienced as passing is very different

from an investigation of the importance each of the three time zones--past, present and future--assumes in a person's life. They would appear to be different variables, both associated with time but representing quite different aspects of the same phenomenon. This calls into question a wide array of time research; much time research concerns itself simply with time estimation and extensive conclusions have been drawn from this work (Wallace and Rabin 1960).

The Affective/Cognitive quality of the Time Experience:

The five experiences reported here do have an experiential consistency--it "feels" right that a person who is pleased with her life as it is now would also experience her past and future as filled, look forward to the future and experience the events in her life (or time) as proceeding at a reasonably rapid and steady pace. Interestingly, these characteristics are, in a sense, affective ones; they are characteristics often used to describe the non-depressed person (Minkowski 1958; May 1958c).

The findings from the investigation of the relationship between the time scales and demographic variables are consistent with this affective quality. In principle, it is reasonable to expect that the woman with a 14 month old son who is under low not high stress, is a bit older, is educated, and lives with a man might be less depressed than the woman who experiences more reality stress, is young, poorly educated and lives alone. What follows quite readily is that a woman with the positive characteristics is also contented with her life as it is now, experiences events in her life as proceeding at a reasonably

rapid pace, views her past as filled, and looks forward to things to come.

There is also, perhaps, this same consistency in the relationship between the time experience and psychological mindedness. The woman who experiences time in this "better" way may indeed be able to experience her life and the events in it in a way another woman may not. Psychological mindedness in the work of Engel et al (1975) is defined as the mother's view of the baby's behavior as caused, as occurring within a developmental context (that it is different from before and different from how it will be), as comprehensible and as modifiable by her own behavior; in brief, the infant is seen as a psychological being rather than as an object with no thoughts, feelings and needs of his own. These are the specifics of psychological mindedness in this study. However, we might consider this relatively specific aspect of the mother a part or reflection of larger personality attributes. Psychological mindedness may be related to cognitive capability. The characteristics delineated in this way of viewing the baby are consistent with Piaget's description of the formal level of thought (Inhelder and Piaget 1958). What is required of the mother seems to be an ability to decentrate, in other words to assess all the variables, including her own behavior, that impinge upon the baby resulting in the behavior in question. What the data seem to suggest is that a woman who is psychologically minded in describing the infant is one who might better understand the total span of her life. It seems that one aspect that might accompany this ability to decentrate

is an easy acceptance of an event because that event can be placed within the context of its cause, earlier events and events to come. It is important to note, however, that ease here does not mean blitheness but rather a mature acceptance. For instance, the correlation between Full experience of the past (Scale VI) and Positive affect associated with the past (Scale III), while not significant, is in the negative direction (Table 2). That is, a woman who experiences her past as filled may feel her past to have been unpleasant and unhappy.

This woman may have a kind of ability or even freedom to move beyond the immediately observable, the evident, and the concrete to entertain various alternative possibilities when assessing a situation, characteristics of the formal level of thought. There may as well be the ability to tolerate a wider range of affects--to use them and understand them--because each and all of these need not be put simply in the context of a much larger, longer and more complex span of time. It is not difficult to imagine the tremendous impact a newly mischievous 14 month old son might have on a mother who is thinking things will not be good in the future, who feels slowed down and trapped and who feels as empty as her past is empty. It is not difficult to imagine that this woman might experience some trouble in understanding her son's behavior and its attendant problems as an understandable or temporary stage or phenomenon. For her it is very possibly a major and powerful irritant--she cannot look forward or back as a means of establishing a kind of relativity. For her there is only the irritating

demanding behavior of her son, behavior she has little ability to ever see ending. Affective responsivity, or what one might call an appropriate and ongoing affective responsivity, is lacking; misunderstanding, anger and resentment might be the only alternatives open to her.

What seems to be common to all these--time experienced as passing at a reasonably rapid rate, a hopeful attitude toward the future, a filled and vibrant past, a contentment and happiness with things as they are now, psychological mindedness, and various social/economic conditions (low reality stress, greater age and more education, and living with a man)--is, in fact, an affective quality that is characteristically non-depressed and affectively responsive and attuned.

#### The Mothers: Clinical Illustrations:

Beyond the quantitative data discussed here there is useful qualitative information which has been abstracted from the interviews. Clinical descriptions of the mothers were prepared by Dr. Arthur Arkin, a psychoanalyst, after reading each of the interviews. Dr. Arkin was asked to consider each interview for evidence of positive and negative affect and empathy toward her son, how the mothering experience evolved in the woman and critical factors in the mother's own development. Dr. Arkin's comments in these areas on six of the mothers are presented here in their entirety. The six are three mothers who scored high on the four time scales (IV. Rapidity of passage of time; V. Positive affect associated with future; VI. Full experience of past; VIII. Positive affect associated with present) and

who also received high Mean Psychological Mindedness scores and three who scored low on each scale. The scores of mothers on the scales will be shown at the beginning of each clinical description.

Mother 14, Low Scores: (IV. 1.5, V. 2.0, VI. 2.5, VIII. 2.5,  $\bar{X}=2.125$ ;  
Mean Psychological Mindedness 3.4)

Positive Affect: "Mother 14's first descriptive comment was, "he's happy most of the time--laughs and plays a lot." She feels that contrary to popular belief, babies are not a lot of trouble to care for. Generally, Daryl, her son, is given love for accomplishments, such as walking. Most of his care is received from M-14. She is not an effusive person and her tenderness for her son seems understated but definitely present.

Negative Affect: "Mother 14 desired a baby girl because she looked forward to dressing her in pretty dresses. In fact, she thinks that Daryl looks like a girl because of his long hair which she has not yet cut. Despite this, she appears to have made her peace with having a masculine child.

"A further possible indication of unconscious negative affect is her peremptory decision not to breast feed. She had no conscious rationale for it.

Empathy: "M-14 placed Daryl on a self-demand feeding schedule after one post-partum month of a regular schedule. She stated that she does not believe in forcing food.

"Overall, I would rate M-14 as highly empathic. She is a woman of few words and her attitude is one of casual directness.

Her ways of dealing with troublesome problems of child rearing, both real and in test situations reveal surprising empathic qualities and a willingness to experiment and improvise with sensitivity and wisdom. The measures employed by her to set limits, initiate toilet training and adhere to bed-time procedures have had no discernable untoward sequellae, despite their having been instituted early.

Evolution of Mothering Experience: "M-14 did not want to become a mother "right away," i.e. one gathers that it was an untimely occurrence. She had difficulty in believing that the baby was "really" hers when it was brought to her. Her own mother shares in providing care for Daryl to a minor degree and sometimes undermines M-14's policies. This has resulted in arguments about who has the ultimate authority and other items.

"Earlier in her life, she had some slight experience in baby sitting and child care.

"In general, M-14 seems to encourage Daryl to be independent and accomplish on his own. She brought him from his basinette directly to a youth bed omitting use of a crib. He was taught to drink from a cup at 2 months old and casually bottle weaned at age 12 months. She initiated toilet training at 11 months of age. The protocol is ambiguous but bowel control seems fairly well established at present.

"M-14 plans to use the Head Start program and to teach him some school rudiments even before entrance. She seemed surprised and resistant to answering questions dealing with this topic as though

its remoteness made it of no practical importance at the moment and therefore not worth thinking about. After prodding, she said she would like him to go to college and possibly be a doctor. She has given no thought to his adult occupation or status.

Self-Development: "M-14's earliest memory dates from just prior to her departure for the Virgin Islands where she and a sister were brought by their own mother to live with the mother's brother for 5 years between the ages of 4 and 9. The reason for this move is not described in the protocol. At any rate, the memory involves a Christmas scene. The mother "secretly" bought a doll for each of the three daughters. The eldest sister told her siblings that there was no Santa Claus and that parents buy their children Christmas gifts.

"M-14 and her other sister were incredulous and so the eldest sister had them lock the door and they went upstairs into a closet to get the dolls; the oldest got a walking doll (apparently better than those for the younger sisters). All of the dolls said "mama" and when the eldest threw it on the bed, it accordingly obliged with a cry. At this moment, the mother entered the room and the gifts were returned to the closet. The eldest sister said to the mother that M-14 had gotten up in the closet and was looking at the walking dolls. This was apparently done to give an innocent explanation of how the three happened to be there and/or unfairly implicating M-14 as the instigator.

"M-14's mother is described as "nice most of the time" but has a bad temper. Unspecified disagreements between the parents led

to their separation when M-14 was fifteen years old. In addition, there were many quarrels between the siblings.

"M-14 was an uneven student although it is clear that she cared about her studies. She recalls vomiting after learning that she had failed algebra. She plans to go to night school. Ultimately she hopes to work and get an apartment on her own. She is optimistic about the former but not about the latter. She wants not more than one more child and the next one, a girl.

"In general, M-14 sounds like a well-integrated, direct, active person, one who, when necessary, is capable of self-assertion in defense of her legitimate rights. The maternal conduct and policies she describes would seem directed toward achievement of early independence and activity of her son--perhaps too much so. Yet her accounts of weaning, toilet training, bed-time procedures and limit setting seem to have had no discernible, serious, sequellae.

"Little is said about the father of Daryl and the role he plays in either of their lives. The same is true of her own father. This makes for difficulty in providing a more rounded evaluation of M-14."

Mother 49, low scores: (IV. 1.5, V. 2.0, VI. 2.0, VIII. 2.5, X=2.0;  
Mean Psychological Mindedness 3.4)

"Preliminary comment--The mother indicated that she was sleep-deprived at the time of the interview. This may have influenced her responses and produced large pauses and a paucity of information.

Positive Affect: "M-49's first descriptive comment about Phillip, her son, was that he was a "good eater." Although she went on to say

that he was "bad," it seemed as though this was uttered with an air of combined exasperation and tenderness. She is definitely charmed by his cuteness and by watching him play. Pride is taken in his intelligence and she mentioned in another portion of the interview (when she seemed less self-conscious) that he was a "good baby."

Negative Affect: "M-49 desired a girl, allegedly because everyone else in her far-flung family had boys. She indicated, however, that she accepted a boy without difficulty. There are several indications of her resentment toward her baby and/or the constraints of the maternal role. Initially, while still in the hospital, she breast-fed Philip but abruptly switched to bottle feeding before coming home because to continue with the breast would have resulted in restrictions on her going out. She seems to harbor guilt about this because the first account of the reasons for the decision located the responsibility for this in the baby, viz., she didn't think he took to the breast. Then in a sheepish way, she revealed the actual reasons (p. 23). Other manifestations along the same lines were her taking a three week vacation in Florida without him; guilt about this is suggested by her long silent pause prior to responding with the above information to the interviewer's question about separation. Furthermore, she stated openly that she resents his interference in her watching her favorite TV programs and she would like to find a job and find someone with whom she might leave the baby while she works.

Empathy: "In general, I rate M-49 in the middle range of empathic qualities. She gives Philip love when he does little errands for her. She uses spanking for discipline at times. However, limits

seem insufficiently spelled out (at least in the protocol). Mention was made of repeated episodes of spanking, then seeing Philip's sad face, relenting and petting and playing with him. She regards Philip as spoiled, given to tantrums to get his way and is usually successful in getting his way.

"A sign of further empathic deficiency is her arranging for him to sleep in the same bed as herself, her sister and two of her sister's children. Although it is possible that poverty may be blamed for this by an external observer, it was not mentioned by M-49 as a contributing factor. Rather, she said that she started this to avoid the trouble of getting out of bed at night. When she attempted to place Philip in his basinette after he grew a little older, he screamed persistently and "insisted" on sharing his mother's bed. She does not like this arrangement now because he is a "rough sleeper" and thrashes about a great deal.

"With regard to feeding, she followed a self-demand schedule (however, see comments about breast-feeding under negative affect section). Depending upon the "way he acts," she will pick him up when he cries sometimes. At other times she just lets him "cry it out." This suggests constructive attempts to employ empathy in her relationship with Philip. With respect to bottle weaning, she again senses correctly that it will be better to wait a little longer until her sister's youngest child is ready for weaning. In this way, he will not have to tolerate intense envy of his cousin, in addition to the deprivation of weaning. In a similar vein, she plans to accomplish toilet

training by giving him opportunities to emulate his slightly older cousin.

Evolution of the Mothering Experience: "Prior to her pregnancy, she had had experience in caring for her younger siblings. On learning of her pregnancy, she felt she "couldn't stand it." It was unexpected and none of her friends were pregnant. She couldn't go out and felt isolated and envious. Not too long afterward, however, some friends became pregnant and matters were equalized. She "felt like a mother" while she was in labor and allegedly gave birth unassisted (possibly the medical staff was occupied elsewhere at the time of the actual birth). The fact that she coped with this on her own and saw it through has made her feel proud. She feels that she brought her baby into the world by herself and therefore somebody she loves belongs entirely to her.

"She states that her love for Philip has grown since. Despite these experiences, however, she has reservations about being a mother. She has resented interference with her sleep and gratification of other dependency needs (as exemplified by her comment, "nobody but my mother that's taking care of me (p. 4). Philip's father is unemployed and "just doesn't want to work." M-49 clearly feels disappointed in him.

"Philip has received mothering from his grandmother and physical overindulgence from his great-grandmother. M-49 and her own mother are said to be in good general agreement about policy toward Philip. She states that she spends insufficient time with Philip. She

would like to spend more time with him but does not want to interfere with his play with other kids. This sounds more like rationalization of her hostility than like altruism.

Self-Development: "M-49 was brought up in "downtown" New York City where many relatives lived close together and she found this gratifying. She is unable or unwilling to relate her earliest memory. Her mother and sibs moved to Harlem when she was 6. Her mother used to employ a baby-sitter for her children. M-49's father died last year. She had little contact with him as a child but seemed to harbor strong emotions about him judging from a determined sounding reticence (p.37). She feels that her mother is "one of the nicest people in the world." She has one full and one half sibling and the details of the origin of the latter are not given in the protocol. These are likely playing a powerful role in M-49's development.

"M-49 was an "honor roll" student and liked all of her teachers. She was often appointed as a monitor. She feels that she would like to bring up her son as her mother reared her except that she would like to spend more time with her son and help him with his school work. She has realistic ambitions for him as an adult.

"With regard to her own future, a pall of pessimism seems to be hanging over her. She anticipates having to care for her son and herself by her own work. She would like to go to night school and obtain a diploma, and then go on to secretarial school. She looks forward to having one more child--a girl. If her husband does not seek work, she would like to meet someone else.

"As mentioned previously, M-49 often seemed curiously unresponsive, stubbornly reticent and had to be prodded. Judging from her account of her good school record, this seems attributable to emotional factors rather than low intelligence. Reference was made to sleep-deprivation and this may have played a role.

"With the material at hand, one may say that M-49 feels some depression and deep regrets about becoming a mother prematurely. She resents interference with the gratification of her own dependency needs and the failure of her husband to support her and their son. Much is not known about her childhood but the signs of powerful emotion about a mostly absent father and the presence of a half-sibling suggest sources of intense unresolved conflict. Her father died about a year ago. It would be of interest to know whether it happened just before she conceived. That is, his plight may have had something to do with her pregnancy."

Mother 21, low scores: (IV. 1.5, V. 2.0, VI. 2.0, VIII. 2.0, X=1.875;  
Mean Psychological Mindedness 3.7)

Positive Affect: "M-21 takes pleasure in being called "mama" and in being hugged and kissed by Donald, her son. She feels that he is better than the children of her friends because although he is given to tantrums, he obeys more often than they do. He receives special praise when he has learned something constructive, e.g., he appears to have learned to say "mama--pee-pee" when he wants to urinate (but further description later on indicates that this is far from being a well integrated, learned capability). Although M-21 consciously re-

sents the burden of caring for a baby, she says she loves Donald. She began to feel like a mother shortly after coming home from the hospital because "I had someone to love. Somebody to care for of my own. Instead of somebody taking care of me."

Negative Affect: "M-21's first descriptive comment about her son was that he was "bad" because he cried a great deal when she leaves him and says "bad" words. These are said to be words that the interviewer could not understand but that M-21 could. M-21 wanted a girl, rather than a boy, because "boys is too bad."

"M-21 breast fed Donald for three days at the behest of her mother (who said that it would make him "smart"). She discontinued abruptly and switched to the bottle, however, because breast feeding was physically painful. Donald seems to be experiencing difficulties in the entire area of orality and feeding behavior. He smears and manipulates his food prior to ingestion, he tends to choke when drinking liquids from a cup (allegedly because he attempts to gulp down large quantities) and was given a pacifier for colic at the age of 6 months. He developed the colic at 6 weeks of age and it has persisted until the present. M-21 seems to not have the knack of helping through these crises. She prefers to allow him to handle it on his own and hope, by observation of adult conduct, that he will train himself. (In the long run, this may be best.)

"Noteworthy is her description of a rigid adherence to a feeding schedule together with a peculiar notion that self-demand feeding will create perpetual hunger, whereas a schedule will regulate it. However,

it is possible that the scheduled feedings were at a high frequency. (On page 31, she mentions that she fed Donald "three times...2,4, and 6 and 10"(sic).) Donald also had difficulties in making the transition to solid foods and would often spit them out or refuse to eat. M-21's remedies for his gastro-intestinal distress have included catnip tea and the employment of enemata thinking that the latter would "ease his stomach." (N.B.--much of this material could as well be included under Evolution of the Mothering Experience or Empathy headings.)

"M-21 consciously experiences motherhood as an unwanted burden and boldly says she does not want children.

Empathy: "M-21 seems capable of "diagnosing" Donald's various affective states on a microscopic level. That is, she knows when he is angry, afraid, pleased, etc. but she is at a loss when called upon to imagine possible reasons why Donald cries so violently when she absents herself from him.

"For reasons which remained unexplained, Donald sleeps each night in the same bed as his mother in the lower section of a double-deck bed, and the father sleeps aloft. M-21 gave no indication that there is anything problematical in this situation.

"In general, M-21 seems deficient in empathic qualities but she is, after all, only 15 and living in a strained situation. Further evidence of empathic deficiency is described under the Negative Affect section. In addition, she is concerned about his being spoiled and pursues a rigid policy of letting him "cry it out" rather than picking him up, in a flexible manner, when indicated. Furthermore, she has

initiated toilet training prematurely without sufficient thought for his capabilities or feelings.

Evolution of the Mothering Experience: "On learning that she was pregnant, M-21 became anxious because she anticipated labor pains and problems in caring for him. In addition, she did not "feel right" because she thought that she was too young to become a mother. She would have preferred to have finished school. However, motherhood, with its "worries and problems" is how she expected it would be.

"She appears to have difficulties in setting limits. For example, Donald has a penchant for hitting people and pulling things down. When she hits or scolds him for this, he often laughs which she interprets as his seeing her efforts as a game rather than serious discipline.

"Due to an alleged misunderstanding about the proper use of contraception, she is in the midst of a second unwanted pregnancy which makes her feel "terrible." Her first wish was to arrange for the new baby to be adopted but her mother firmly forbade this.

"M-21's sister-in-law, who is 14, gave birth to a baby somewhat after Donald's birth. Whereas before, M-21 and Donald received a great deal of help and attention, at present this has been much reduced and given to her sister-in-law and her new baby (a son).

"Donald receives mothering from his maternal grandmother on weekends. M-21 states that their policies toward Donald are similar.

"M-21 had a small amount of prior experience in caring for small children by baby-sitting for her new-born niece. She believes

that her mother spoiled her and she is now leaning over backward to avoid spoiling Donald.

Self-Development: "M-21's earliest memory dates from about the age of seven when she was a majorette and had a little uniform and would parade up and down the church. In addition, she remembers spending much time with her father. Both of these are fond memories. She was her father's pet and he loved her more than did her brother (who was quite envious of this). Her father died at a time unspecified in the protocol. Her mother is described as very kind. Although her brother is six years older than herself, they used to fight violently and she "use to beat him up." She compensated for her inferiority in size and age by biting him.

"She was ambivalent toward school. She did not like the work but liked the teachers (p. 43) particularly Miss Frazer who chose M-21 as her pet. She allegedly made her both President and Vice-President of her sixth grade class and was not required to do any homework. Almost by way of contradiction, on the next page (p. 44) she stated that she did not like any other teachers after Miss Frazier because they did not like her. M-21 accounts for this by believing that Miss Frazier spoiled her and this led to her developing a defiant attitude toward subsequent teachers. She liked the teachers before Miss Frazier, however, because they used to "let her run around the classroom." In general, she was a poor to fair student--she didn't like the bother of homework preferring to watch TV instead. She appears to regret this somewhat at present.

"M-21 hopes that in the distant future she will be a "nice housewife" and wants to care for her husband and family. In the near future, she looks forward to rejoining her mother and has vague plans for part-time work and/or further schooling. She seems to look forward, however, to a life with Donald's father after the age of 18. (If she continues to live with her husband after her mother acquires a place of her own, she may lose social security money--this is the rationale for her short range plans to resume living with her mother).

"M-21 appears to have an active social life with her friends but this does not include her husband.

"In summary, M-21 is a 15 year old mother of one child with another on the way. Such a situation would be taxing for any girl under these circumstances and could not help but intensely incite a great deal of complicated conflict containing components of regression, fixation, reality burdens and the age-appropriate needs of adolescent. One must, nevertheless, ask about the unconscious desires for and or acquiescence in this imbroglio. She seems to have used motherhood partly as a device to maintain emotional closeness to her mother.

"In addition, her "husband" is a shadowy figure who is an upwardly mobile young man with potential for achievement. It is possible that she could have attempted to fulfill oedipal wishes through him. Furthermore, her rivalry with her brother may find expression in her exploitation of him as well as her hostile ambivalent attitude toward her son. That he has a phallic meaning for her is suggested by her ambition for him and its rationale--she wants him to become a doctor

because she wanted to become a nurse and couldn't, i.e., she would fulfill her wishes by identification with her son. One gains an impression of considerable self-contempt and depression because she acquiesced in being "spoiled" by others and is trying to undo this by pursuing an opposite policy in rearing Donald. She tends to externalize her own hostility by worrying that Donald might grow up to be "real, real bad." Although she spoke glowingly of her memories of her father, her account of his death seems shallow and a little unfeeling. This suggests some unresolved grief and ambivalence toward him.

"Despite the impression of shallowness and an attitude of lazy, self-indulgence which is acquired from the protocol, there is also an engaging, refreshing quality about her--one epitomized by a disarming sigh and comment, 'I know I'm this way but, after all, what can one do?'"

Mother 54, high scores: (IV. 3.5, V. 4.5, VI. 4, VIII. 4.5, X-4.125;  
Mean Psychological Mindedness 5.3)

Positive Affect: "M-54 clearly feels a deeply loving and cherishing attitude toward her son. She takes a good deal of pride in him and experiences keen delight in "watching him grow." There seems to be a minimum of controlling possessiveness in her attitude. She impresses me as the most truly maternal, well adjusted mother I have thus far evaluated in this series. It is a pity that data from her own development are so spare because the hypothesis of her being "too good to be true" becomes difficult to evaluate without them.

Negative affect: "Two possible indicators of negative affect

have to do with her attitudes toward facets of her son's oral needs. First, she decided on bottle instead of breast feeding because she was told by a mother who had breast fed that the baby would "gum" and hurt her nipples and, also, that the milk might become "clotted up in there." Second, she denied a pacifier to her baby because it "looks ugly" and babies if allowed to start do not give it up until 3-4 years of age. (Yet, this may be a false index of negative affect because the baby never seemed to require a pacifier.) Another sign of possible negative affect is the attempt at early bowel training.

Empathy: "M-54 sets clear, appropriate limits for her son and avoids overindulgence. By and large she spontaneously sees things through her son's eyes and responds fittingly. She is casual about his spitting up food and is not rushing him to learn to walk or run. She realizes the importance of graduated dosages of separation anxiety and opportunities to adapt to being with other adults and children.

"A deficiency in empathy is manifested in her instituting bowel training at 11 months and tying the potty in back of him in an attempt to force him to move his bowels in it. Intellectually, she realizes, however, that undue pressure is harmful and she has not persisted so that violent scenes ensued.

"Although she plans to encourage independence of decision in the future with regard to education and occupational choice, she has decided this partly to avoid "being blamed" by her son for influencing a "wrong" course of action.

Evolution of mothering experience: "M-54 eagerly looked forward

to becoming a mother. She states that she already felt like a mother when she was pregnant. She had had previous experiences in caring for her younger siblings and baby-sitting. She has a keen sense of responsibility for her son's care and deeply appreciates her having such a "good baby." Her labor was easy and she experienced a normal post-partum euphoria.

She seems to be a more or less "natural mother." She conducted herself appropriately with respect to her son's hernia. She was concerned but not overanxious about his crying or pain from a hernia.

Self-Development: "M-54 is the sixth child in a family of 13 children. She was required to care for younger siblings while at home. In recent years, she has married and has a loving relationship with her husband from whom she spends much time apart because of his tour of duty in the armed forces. She tolerates their separations quite well. Prior to her giving birth she worked in an office in a responsible position and plans to resume work in the future. She desires to supplement her husband's income out of apparently realistic motives. This is probably also related, however, to a major theme of her personality, i.e. she is aware of a need to work hard--she wants nobody to do her work for her--free time with "nothing to do" is a burden--she does not want to "sponge" on her mother-in-law, etc. In short, she has a need for self-sufficiency and to pay her own way. It is likely that this tendency is related in some way to her psychological conflicts. For example, she does not want to arouse antagonism and risk loss of friends by a display of ambition, success or willingness to

work hard. It is possible that this striving is partly reactive to childhood feelings of inadequacy epitomized by one of her earliest memories viz. she recalled her painful inability to spell her own name in her early days at school and felt deeply ashamed before the whole class. The fact she did not want her son to "look ugly" with a pacifier in his mouth at the age of 3-4 together with her wish to avoid revealing ambitions and competence in her adult life points to some deep feelings of phallic inadequacy as being a root factor.

"M-54 loves and admires her mother. She has closely identified with the latter's capability, middle-class ideals and strivings, and her affectionate ways. Her father died when she was 12 and M-54 remembers his pleasure and pride in her as he bounced her up and down on his lap. That she used to ask him to repeat this suggests her deriving some masturbatory sexual gratification from it. It is possible, therefore, that her need to "keep busy" and avoid free time is partly a defense against masturbatory impulses.

"In general, however, M-54 has achieved an effective adaptation and adult personality which should have favorable effects on her young son's growth."

Mother 57, high scores: (IV. 3.5, V. 4.5, VI. 4.0, VIII. 4.5, X=4.125;

Mean Psychological Mindedness 5.4)

Positive Affect: "M-57's first remark revealed ambivalence toward her son but most of the content was positive. Thus she described him as having a "nice personality, he's friendly, understands everything you tell him. He's sneaky and he's very optimistic, and he tests you all

the time, etc." Along with genuine tenderness for Larry, her son, she has a tendency to glorify him that smacks of traces of defensiveness--a kind of "phoniness" as though she were trying to glorify her motherhood to quell some repugnant ideas.

"She nursed Larry for seven months and offers a rationale which is suggestive of strangeness viz. nursing him "would take the place of a father." She enjoyed nursing him and seemed good-humored about his biting her nipples. She expressed gratitude for having a baby. She is not afraid of recognizing her hostility toward Larry and awareness of it does not seem to discernably impair her love or her functioning on his behalf. She likes to cuddle Larry, play and converse with him.

Negative Affect: "M-57 wanted a girl instead of a boy. She wanted "someone like me and dress her up real nice." She loved Larry nevertheless, but stated that he looked like a dead chicken when he was a new born.

Other indications of negative affect are tendencies to beat Larry and episodically grudging him her time (p. 74).

Empathy: "In general, M-57 displays a mixture of empathic qualities. On the positive side, she is aware of her possessiveness, seductiveness, and her need to keep them in check for the sake of the growth of Larry's independence.

"In addition, she realizes his need for healthy environmental stimulation, love and tenderness. She usually sets clear and reasonable limits. At the age of 6 months, she gave him a room for himself.

She employed a self-demand feeding schedule and realizes the importance of gradualness in bottle weaning. As a general philosophy, she stated that she believes in "giving a child a little of what he wants and more of what he needs." She feels this is prophylaxis against spanking the child. She attempts to be mindful of Larry's separateness, dignity and need for independence. Furthermore, she realizes the importance of listening to him even when she doesn't want to, and abstaining from forcing her ideas on him.

"On the negative side she tends to overpraise and, possibly, to do it too diffusely. In addition, she probably overstimulates Larry, and takes him to bed with her at times. Furthermore, she has unrealistic expectations of him. For example, she stated that she was willing to send her child on an errand at the age of 2. (Could this have been a typographical error?) Along similar lines, however, she believes that children should start school at the age of 1. Also, perhaps in contradiction to her avowed policy of respecting Larry's dignity, she seems to often patronize and humor him (p. 77). Finally, as previously mentioned there are limits of defensiveness in her intense love of him. (It is, naturally, difficult to adequately assess this from a typescript.)

Evolution of the Mothering Experience: "M-57 was overjoyed on learning she was pregnant. In her description of this experience, however, again a note of ambivalence suggested itself, i.e., on learning she said, "They were going to take me to the Funny Farm because I was hysterical with laughter." This kind of reaction is often

a result of a sudden break in defenses. In support of this hypothesis is her description of the events leading up to her learning she was pregnant. She was waiting for a male friend on the steps of the New York Public Library and suddenly fainted. He took her to the Polyclinic Hospital where she was told that she was 4 months pregnant. She said in addition that she had not wanted her friend to know of her pregnancy. One might imagine from this account that she has a need to deny to herself that she was pregnant and kept herself consciously ignorant of it until the fourth month.

"Prior to this, nevertheless, she said that she had wanted a baby to assuage her loneliness. In this regard, she is self-reproachful, thinking of it as selfish. She stated that, originally, she thought of Larry as a "new toy."

"It is doubtless of great importance in the psychological assessment of Larry that a potentially traumatic event occurred, possessing both shock and strain qualities. M-57 had a post-partum depression of several weeks duration following the birth of a full-term still-born male child (p. 14). Larry's age at the time was not specified but must have been at least 10 months. M-57 had wished for another child so that Larry would not be an only child and be the "center of attraction." This sounds like defensive rationalization.

"M-57 felt she really was a mother for the first time when she nursed her baby. She enjoyed motherhood. She weaned Larry from the breast smoothly by using bottle and cup feedings concomitantly and through gradual substitutions. M-57 began to toilet train Larry when he

was 6 months old but thought better of it saying, "Why waste his babyhood?" She resumed when he was 18 months old.

"In general, she encourages Larry's aggressiveness and gestures towards independence, learning new accomplishments and demonstrations of love and kindness. On the other hand, she is aware that her own frequent cruel beatings at the hands of her adoptive mother have left her with urges to beat her son. She feels obliged to be alert to this factor when she does spank Larry and to curb these tendencies. She realizes that much of her urge to beat Larry also represents anger toward her lover displaced onto her son.

Self-Development: "Of all the mothers evaluated thus far (as of 12/31/72), M-57 is unique. She is much more sophisticated, verbal, imaginative and complicated than any of the other mothers. Mention has already been made of traces of defensive glorification of motherhood. It must be admitted, however, that this is difficult to assess because of the generally semi-histrionic, hippy and jivey flavor of her style of expression. That is, it is difficult to separate what is idiosyncratic from what is mostly effective of her sub-culture.

"M-57 was born out of wedlock to a white woman who allegedly became overtly psychotic after giving birth to her because of her shock about having a black baby. M-57 now realizes that her mother was ill even before her birth and has consciously forgiven her. She feels certain that her mother feels guilty and envisions informing her that she does not bear resentment towards her in order to ease her conscience.

"M-57 lived with her adoptive mother from the age of 3 weeks and

did not know the facts of her background until she was 10. However, there were intermittent contacts with her real mother over the previous years and it is probably no accident that M-57's first memory at the age of 2 deals with her real mother, i.e., she recalls a white woman with red hair and freckles who introduced herself as her "mother's" friend. Her "mother" was "standing right there." Then the latter told M-57 to move away and spoke to the white woman for a moment, collected M-57 and then went their separate ways. M-57 learned the truth at the age of 10 in a court hearing which permitted M-57's foster mother to become her legally adopted mother. M-57's real mother has two white sons who are alleged to be beaten frequently by their mother. M-57 has not seen her real mother since she was 10 although she has seen a sister of her mother who has two children of her own. Subsequently, on reading a transcript of the court hearing granting her foster mother guardianship, M-57 wept.

"M-57 remembers seeing her father only once, apparently at the age of 5. She recalls her real mother, her current boyfriend and a nice black man with a gold tooth. The protocol is ambiguous but either her father (more likely) or the boyfriend gave M-57 two cents. This followed one of them asking for change of a larger unit of currency and so M-57 deemed the donor stingy.

"The adoptive mother was a lonely woman who smoked marijuana often and was evidently ambisexual inasmuch as an overt lesbian relationship existed concurrently with a sequence of male lovers. She loved M-57 but mistreated her. For example, she once chained her to

the bedpost and beat her. M-57 feels "she can't hate her" because it was her "hang-up." In this connection, M-57 stated that she is glad that she did not retreat into a shell as a result and does not beat her own son. There were no other children around--"like Larry and me." M-57 was enuretic until the age of 13 and attributes this to initiation of her own toilet training at the age of 3 months. M-57 suddenly left home at the age of 14. The protocol did not describe the context or the details of her life during this and the ensuing time. She "knocked around" for a time, had a lesbian affair, was raped by one of the friends (sex not specified) of the lesbian lover. M-57 broke off this relationship and is pleased with herself that she survived her childhood and adolescence but is aware of a residuum. For example, she said that in current times, first "you have the kids, then you get married." She spontaneously denied ever prostituting herself but states that her mother was a prostitute and an alcoholic. She feels her own "errors are illegitimate babies and free love" and therefore cannot blame her mother and hopes in turn, that her mother does not blame her.

"M-57 did well in school until the 6th grade and was recommended by her teachers for admission to a private school. M-57 believes that her adoptive mother interfered with this, although she expects that the latter would deny this. At any rate, her academic performance dropped off after this to a poor level and she asked to be signed out of school in the 10th grade to avoid getting a bad record. It is possible that her reaction to her adoptive mother's interference

played a role in her leaving home. Although she claims to have liked all of her teachers and felt liked by them, she described a sequence of rebellious, provocative interactions with a Jewish male school teacher.

"She currently has day-dream type ambitions to complete college and to become a legal secretary. She also wants to go to Tuskegee Institute in Alabama to personally encounter and evaluate the reality of southern white prejudice to see if she "can really take it." Alongside of these ambitions, she wants to be married and have five more children in sets of two. They are all to be boys and each member of a set must be born close to the other member so that each can have a fair amount of "applause" and "praise." She also specifies that two of these children must be adopted. Her white lover is leery of marriage, and despite this, M-57 is inviting pregnancy and anticipating a "lot of humiliation."

"At present, because she is not a "housewife," she leads a free, unrushed and scheduless life. She smokes marijuana and believes in astrology. She has been criticized adversely for crossing color lines and having a white lover. She wants to rise above ghetto life and her family to whom she feels superior. Although she describes her white lover to some degree, not a word was mentioned about the baby's real father.

Psychoanalytic Comment: "M-57 rightfully takes pride in her surviving a most traumatic and disadvantaged childhood. She has developed into a vivid and interesting personality but labors under

the strain of severe intrapsychic conflicts. As with many other mothers in the population evaluated thus far, an impression is gained of a woman who has a powerful urge to have children to ameliorate a deep feeling of emptiness, depression, insignificance, and being unloveable. Having a baby of her own provides her with an opportunity to identify herself psychologically with her baby, relive her own childhood and make necessary reparations to herself through this identification. Making a definitive clinical diagnosis is not possible. Nothing was revealed which would arouse strong suspicions of a latent psychosis. Yet several slightly strange comments and instances of poor judgement and defensive glorifications did come to light, and this in combination with a traumatic childhood and psychotic mother make such a possibility impossible to discard. She is, after all, living under low stress, supportive conditions at the moment and if her adaptational ego were taxed, a more serious picture could surface.

"Chief among the strain traumatic factors in her development must have been her knowledge that her real mother did not want her and that her adoptive mother was sensed to be ungenune despite her representing herself in the early years as her real mother. In support of this hypothesis is M-57's comment that what she remembers best of her childhood is the thought that "people don't believe and like to be fooled." (p. 57) Furthermore, her earliest memory centers around her real mother and the latter's deceitful comment that she was her adoptive mother's "friend." Finally, it is probably no accident that a prominent

feature of M-57's life is her crossing color lines as her mother did, and involving herself with a white lover and anticipating a "lot of humiliation" from him as a result of being impregnated by him and his refusal to marry her.

"Despite all of these difficulties, M-57 seems to be a person who would be capable of fostering good early ego growth in her son."

Mother 26, high scores: (IV. 3.5, V. 4.5, VI. 4.0, VIII. 4.0, X=4.00;  
Mean Psychological Mindedness 5.0)

Positive Affect: "M-26 clearly enjoys the company of her baby and the care of him. She is proud of his achievements, generosity and self-confidence. She breast-fed her child as a result of a strongly felt urge to do so. It was a deep emotional experience for her and accompanied by a degree of sexual arousal. She stated that she was "overwhelmed" by her experience and would often weep while nursing. M-26 is ambitious for her son and encourages achievement, expressions of masculinity and maturity.

Negative Affect: "Signs of negative affect toward her son are not obvious at present. In the past she had had fantasies of the baby being an intruder between herself and her husband. She also reports that she experienced conflict about leaving her son with a baby sitter and initially "forced it" on him. (It turned out that he coped with this quite well.) Another possible sign of negative affect was her hope to have given birth to a girl "like herself." It is difficult to believe that her traumatic childhood did not deposit some residues which now emerge as negative affect toward her son. This may have eluded the interviewer.

Empathy: "M-26's empathic qualities seem highly developed. She permits her son a pre-sleep and a morning bottle realizing his enjoyment of it. She is much concerned for his "security." Breast weaning began at 6 months and ended at 8 months. She encourages independence and self-sufficiency at a pace appropriate to her son's developmental level; yet, she sets firm and reasonable limits. She seems insightful about toilet training and has not yet initiated it because she believes that the baby cannot yet understand what is wanted of him. She may be a little too permissive about this, however, and is possibly attempting to reverse wishes to control or "pressure" him i.e. she anticipates not starting toilet training until her son is 2 and not completing it until he is as old as 3 (which seems a little late).

Evolution of the Mothering Experience: "M-26 recalls being quite happy during her pregnancy. She was confident in her maternal capabilities and she now feels that she is a good mother. She is in conflict with her husband, however, over the rearing of their son. She feels that the husband should play with educational toys with the son instead of wrestling or singing with him. The father is more indulgent than the mother and tension exists over adhering to limits. The baby also receives mothering from his maternal grandmother who is overprotective and different from the mother in certain policies. It is possible that M-26 may overstep appropriate boundaries some day in her permissiveness and encouragement of "free" self-expression of her son.

Self-Development: "M-26 was an unhappy, inhibited, shy and overly cautious child. She regrets that she missed out on opportunities for active, adventurous self-expression and experience. She wished that she had been an only child. She felt unable to compete effectively with her sibs and in school and was fearful of losing love and friendships. She describes a peculiar episode of "betrayal" by one of her teachers in the sixth grade. She had been permitted to spend most of her day in painting especially for the bulletin board. The teacher concerned was in charge of the bulletin board and M-26 thought that the teacher permitted her to paint (instead of working along at the same rate as the other children) out of affection. M-26 felt that she could escape to the back of the room and paint while the others worked. When examination time came, however, she was given the same test as the others and expected to do as well as the others. M-26 believed that she should have been permitted to take a special examination and felt bitterly that the teacher had "used her," i.e. apparently to get paintings out of her to spare herself work. M-26 still resents her for this and seems without humor or insight in this connection. There is a paranoid flavor to this item in her history. She dropped out of high school in her senior year because of a fear of examinations and offered as an excuse that her mother required her help in caring for the family.

"M-26 likewise feels that her mother "ruined" her life also by unfairly "using her," this time as a confidante for her unhappiness with her husband. In addition, she destroyed M-26's self-confidence by

constant depreciation of her school performance. She sees her mother as mistrustful of men and devious toward them. M-26 occasionally experiences difficulty in deciding on child rearing policies because of uncertainty as to whether it would meet with her mother's approval.

"M-26 was close to none of her sibs except her younger sister. She felt hostile and inadequate toward her brothers and resentful of her father who is now trying to compensate for his previous misdeeds (which, except for deserting his family when M-26 was 5 years old, are not specified).

"She plans to have 2 to 3 more children and get more education. She wishes to go into social or personnel work. Previous to her having a child she apparently worked effectively as a personnel interviewer.

"She mentioned that she had had some "analysis" at the Post-Graduate Center for Mental Health but details of the difficulties are not described. She states that she wants to relax and sleep more; yet she has a need to work and keep busy.

"There is curious discrepancy between her at least average intelligence and sensitive awareness and her often disorganized, fragmentary quality of speech in which thoughts are often left incomplete. This does not seem to be psychotic in quality, however. Perhaps her remarks were poorly transcribed or it is merely a personal idiosyncrasy.

"Psychoanalytic evaluation is not easy to make in a clear-cut manner because of a paucity of detailed biographical material. She was subjected to chronic strain trauma as a child and judging from her own account had no positive relationship with a male figure (as well as

her relationship with her mother). In addition, there were severe inhibitions; social, scholastic and athletic. Before conceiving, she undertook a course of psychotherapy for reasons not described. There is little indication of degree of improvement although one gathers that she felt satisfaction with it. It is indeed possible that this therapy accomplished a great, great deal and provides an answer to the question--what happened to the residue of her childhood difficulties? She still consciously and inappropriately harbors resentment about the past. It is possible that these factors currently manifest themselves in her relationship to her husband with whom she experiences some chronic discontentment and friction about his conduct toward their son. From the childhood history, one would expect her to experience intense difficulty in fulfilling a role requiring genuine maternal tenderness inasmuch as her mother was a poor model who also depreciated her. Furthermore, one would expect signs of transferred hostility from her father and brothers toward her own son. But both of these seem conspicuous by their absence. She seems to be one of the more effective and unambivalent mothers in the series thus far! Perhaps her permissiveness, and indulgence of her son and her studied delay in initiating toilet training are signs of reaction formation against her unconscious hostility toward him which may ultimately serve to retard his development. I do not feel satisfied but can do no better."

A Brief Discussion:

Although there are similarities and differences among all the mothers certain similarities among the high scoring mothers do stand out. Two of the high scoring mothers (26 and 27) breast-fed their babies while none of the three low scoring mothers did. The third high scoring mother, 54, is said to have a "deeply loving and cherishing attitude" toward her son; none of the three low scoring mothers was described this way. The high scoring mothers are somewhat different from the low scoring mothers in that they seem to show fewer clear signs of negative affect towards their sons. Two of the low scoring mothers (49 and 21) are described as resenting the baby's interference and as experiencing motherhood as an unwanted burden. All three high scoring mothers are said to be good at setting limits for their sons; of the low scoring mothers, two (49 and 14) seem to be experiencing difficulty in this area. A clear differentiation between the two groups can be made in terms of the mother's wanting the pregnancy. All three highs report, at least consciously, being "happy" and "overjoyed" and "eagerly looking forward"; the three low scorers "couldn't stand the pregnancy" and thought it was "untimely." Quite interesting is the fact that two of the high scoring mothers seem to have lived traumatic childhoods (26 and 57). There is a feeling that these mothers, and mother 54 as well, are women who possess resources of inner strength which enable them to maintain themselves in the face of some adversity. They are self-sufficient and pride themselves on their self-sufficiency. Generalizing somewhat, the similarities listed here among the three

women seem to be qualities characteristic of a woman who is self-aware, fairly well integrated, capable of making life plans and decisions, and at least somewhat fulfilled, all hallmarks of decent psychological health. While no such easy generalization can be made across the three low scoring mothers, it seems that these qualities cannot be attributed to them with the same consistency. Adequate orientation in time and psychological mindedness, as defined in this study, may be an aspect of psychological stability, a conclusion consistent with much of the speculation in this area (Minkowski 1970).

The Time Experience and its Impact on the Child's Cognitive Development:

An interesting aspect of this study is that the mother's time experience is not strongly and consistently related to her son's cognitive development. There are relationships which are interesting and perhaps telling--i.e. first, the relationship between the mother's time experience and the infant's motor development at 18 months, and second, the relationship between the mother's ability to project into the future and her happiness and contentment with the present and the infant's mental development at 22 months. For the first, it is not surprising that mothers with infant sons who are developing motorically--who are active, able infants--are mothers with an hopeful attitude toward the future and a contentment and happiness with things as they are now. Also, the motoric sphere in early development lends itself more easily to the beginnings of internal imagery. Here we may be seeing early signs of the mother's time ability on the child's cognitive development. For the second, while no statement can be made about more

distant cognitive development and, while no causal statement can be made from a correlational study, the mother's ability to project into the future and her contentment with the present when the infant is 14 months old does predict the infant's score on the Bayley Mental Scale at 22 months. Rapaport (1951) discusses drive discharge delay as a necessary component for the development of cognition; that is, the beginnings of thought are seen in the infant's growing ability to anticipate some event (i.e. being fed) and postpone immediate gratification of the drive through anticipation. The infant's anticipation can be understood as a primitive form of a later ability to conceptualize both the future and the possibilities it offers. Since the mothers scoring high on this ability to project into the future also have infants with better developed cognition as measured by the Bayley at 22 months, it is possible that the mother's ability to conceptualize future possibilities forms a basis for the infant's growing ability to anticipate. To learn is, in a sense, to be able to anticipate and comprehend a sequence of events (i.e. operant conditioning). The infants who do better on the Bayley at 22 months may be doing better because they are learning more and receiving better training in anticipating because their mothers are better able to anticipate.

Somewhat related to this is the lack of a relationship between the mothers' language usage when talking to an adult and the sons' cognitive development. It is often considered a given that the mother's verbal ability is of utmost importance in the development of her child's cognitive abilities (Mussen, Konger, and Kagan 1969;

Watson 1966). What was found here was that at least at 14, 18 and 22 months the child's cognitive ability was unrelated to the language sophistication of the mother when talking to an adult. When the amount the mother simply talks to the infant is measured, a relationship between the mother's language and the infant's cognitive development does emerge.

This is perhaps puzzling and possibly points to further research issues. However, when the study as a whole or near-whole (one aspect of the Maternal Stimulation project, maternal control (Wieder 1972), is not considered here) is viewed what was found may become more comprehensible. If we consider all the relationships among the mother's psychological mindedness, language usage and time experience and the child's cognitive development, it can be seen that while time experience, language usage with adults and psychological mindedness all correlate with each other, it is only psychological mindedness and two time experience scales (full experience of the future and positive affect associated with present), discounting amount talked to the baby, that correlates with the Bayley Mental Scale at 22 months. While care must be taken in invoking a mediator concept because such a concept necessarily implies directionality and no directionality can be inferred from a correlational study, the possibility that the psychological mindedness of the mother is an important mediator of the child's cognitive development is raised. It is more than conceivable that, in fact, the mother's language usage and her time experience--the first a cognitive and conceptual ability

and the second a phenomenon with both affective and conceptual characteristics--are important to the child's developing cognitive ability. It is difficult to imagine a child developing adequately whose mother spoke little or was unrooted in time. But more than this, what may be truly crucial and important for the child's developing cognition is his mother's psychological and affective understanding, receptivity and responsivity--in short, her emotional presence.

This is, of course, speculative, but if the time experience and psychological mindedness are understood as having important affective as well as cognitive characteristics, the way the data arrange themselves here becomes more comprehensible.

While there is no means of answering the question raised by this study at the present--the importance of the mother's affective presence and responsivity as a mediator between her more specific cognitive/conceptual skills and the child's developing cognition--it is a task worth following. It is consistent with much of the psychoanalytic conceptions of the tremendous role the mother's affective state plays in the future development of the young infant (Mahler 1968). Perhaps much of the recent experimental cognition research in infant cognitive development and its emphasis on the development and/or dysfunction of specific cognitive skills should be refocused. What is seen in this study may be a statement of what was held more commonly before than now--that understanding of the development of the child must of necessity include the understanding of his psychological and affective environment. Whatever abilities or capacities the child

comes with may be at best only partially realized unless he is given an affectively rich interpersonal world in which to grow.

Clinical Implications:

Although time is not directly considered from a psychopathological viewpoint in this study, some of the women, women who scored low on the time scales and psychological mindedness scales, might be considered depressed. If, in fact, the depressed person is one for whom the passage of time has slowed, the present and future are unhappy and the past is empty, how the depressed person, especially the hospitalized psychotically depressed person, is treated becomes an issue. In a sense, a vibrancy has gone from this person's life and endless tasks in occupational rehabilitation, or group ward meetings or possibly even in the best of hospitals, countless therapy sessions, or being in a hospital, a place that severs connections to the past and future, will do little to restore that vibrancy. Minkowski's (1970) contention that what is really of importance in depression is the distortion of the time experience should be taken seriously. When all the current treatments might serve to attenuate the disruption in time--entry into a hospital is an immediate time disruption and may in itself prolong the psychological disturbance--the means of treatment and theoretical understanding may need reconsideration and revision.

In classical psychoanalysis or psychoanalytically oriented psychotherapy the work tends to be focused somewhat on the past in order to discover historical roots and stage fixations. While this is fruitful, its implications for the clinically or even mildly depressed must

be considered. For instance, a depressed patient who remains very involved in the past with few hints of any discussion of the future may, in fact, be exhibiting a symptom of his disturbance rather than simply attempting to come to terms with the past so as to move on to the future. Excessive dwelling on the past would be understood as resistance phenomenon in any case. However, beyond the resistance aspects, we might begin to reconsider what it means phenomenologically to persist in recounting the past. Along this same line, a psychotherapy patient who manages to relate only events from his day-to-day life is often seen as resistant. Again, we might consider that this person, rather than being simply resistant to the work of psychotherapy (to opening up to the flow of associations and accompanying unconscious material), is perhaps also exhibiting a symptomatic state--that his reluctance to discuss the past bespeaks the fact that he is, in a very real sense, divorced from it because he is severely depressed.

Methodological Considerations and Implications for Further Research:

The study was designed to investigate various aspects of the time experience of the mother, its relationship to other variables in the mother and its relationship to the cognitive development of her son. While the nature of the data (the interviews) in some ways allowed quite well for this--the complexity and wealth of the interviews is astounding--this same complexity is one of the stumbling blocks of this research. Interviews allow for the collection of an extensive amount of information about a person in a relatively brief amount of time; we can learn much about a woman by how she talks of herself,

her baby and her experience of various aspects of her life, i.e. how a typical day goes by, what she does when she has free time on her hands. However, converting interview data into quantifiable form presents extensive problems. The process of formulating rating scales, of establishing their reliability and of then having the interviews rated by various raters tends to be extremely time consuming and demanding. A more rapid means of assessing where a person falls on these aspects of the time experience would most certainly be preferable. Again, problems of establishing reliability would be encountered, but self-report scales or questionnaires on the order of the scales in this study could be developed. Approaching the problem from a somewhat different tack, Wessman (1971) appears to have made considerable progress in the development of self-report scales. Consistent with this research, his investigation is multi-factored and does not attempt to limit the time experience to a single variable or dimension. The wealth of the data in the interviews, although allowing for a rich and provocative investigatory study in which interesting leads and relationships are established, may be one of the basic problems of the research. For instance, when faced with the fact that while all of the scales (I through VIII) had high reliability levels only four are significantly intercorrelated and these same four tend to be the ones that correlate significantly with other variables we must question upon what the raters were agreeing in their ratings of the other scales. The possibility that the interviews are indeed too complex and contain too much information for the raters to actually rate the intended

variables must be entertained.

In addition, there is only minimal relationship between the mother's time experience and the baby's cognitive development. While there is of no necessity a relationship between the two, this would seem to be worthy of further research. Perhaps one of the problems in this study is the use of the Bayley Scales of Infant Development as a measure of the infant's cognitive development. There is currently extensive discussion about the use of IQ tests as indices of cognitive development. More fruitful for further research might be the testing of the baby on specific time related tasks, tasks that more directly measure delay and anticipatory functions. Learning can be understood as the ability to anticipate one event from another, to predict or comprehend a sequence of events in time (i.e. operant conditioning or the simple if...then paradigm). It is possible that the relationship hinted at in this study between the mother's time experience and the infant's cognitive development might be further clarified if global estimates of cognitive development (i.e. the Bayley) were ignored in favor of testing the infant in an operant conditioning situation. If the ideas pointed to in this study are correct, we would expect that infants with mothers' having a better developed time experience would learn more quickly in an operant conditioning situation (fewer trials would be required before the infant learned to correctly anticipate the event).

Also of interest would be a more long-term study in which both mother and child would be reassessed at specified times. While

minimal relationship was found between the mother's experience of time and the infant's cognitive development at 14, 18, and 22 months, the question of how the mother's time experience might be related to future cognitive development is left open. It is possible that the effects are miniscule in the early years of the child and later become consolidated as the child's cognitive functioning becomes further developed. In a more longitudinal study there would also be the opportunity to assess the stability or instability of the mother's experience of time. As of now, we have little understanding of whether this is a persistent phenomenon or one subject to the vagaries of other influences (i.e. reality demands, stress, increasing age of self or child) or, if unstable, the degree to which it is unstable.

One of the problems arising from this study is the use of correlations. It is clear that correlations do not imply causality. We can say that the mother who is psychologically minded also has a better experience of time but we cannot say that there is a causal relationship between the two factors. For instance, if a group of psychologically minded mothers with "poor" experience of time could be identified and no contrasting group of mothers with "good" experiences of time who were not psychologically minded could be identified, it would most certainly be interesting to study these mothers further. This tends towards Minkowski's (1970) speculation as to the powerful and central role the experience of time plays in a person's life.

On balance, however, the interview and rating scale design

allowed for much--a basically exploratory study of the time experience in these 40 women without the constraints of previously existing measures and scales. To reiterate, further research should take cognizance of the fact that the time experience is not a unitary phenomenon, that it is composed of various aspects some of which are unrelated to each other. All too often studies are reported in which time estimation is used as a measure of time sense or experience; what emerges here is that the time experience is too complex a phenomenon to be reduced to one variable. While further research will not necessarily concern itself with the variables of this study, this study does illustrate the care with which a highly complex phenomenon must be approached. Also, since only four of the ten variables were found to be consistently related, attention should be paid to the other six. Experientially they seem to be important aspects of the time experience but in this study they were not, at least in relation to other variables investigated. Further research might involve an attempt to delineate more clearly these aspects of the time experience which do seem important to an understanding of time and how it is experienced in a person's life.

## Appendix A

Maternal Interview<sup>1,2</sup>

To interviewer: This is a long interview. Only the essence of each question is written out. The questions are to be asked in an open-ended way, to come as close as possible to a natural conversation with the mother. Try to proceed in the order of the questions. Of course, if the mother skips to another area of discussion which preceded or follows the question you are about to ask, do follow her, and then return to where you left off. For example, while asking #16, about love and praise, she might continue to talk about his good sleeping or eating habits (#47 and #48), in which case it would be stilted to keep her to one topic only. So alternately you will lead or follow the discussion. Never cut off a line of talk, even if it is about something other than in the interview.

Begin by saying something like the following to the mother:

We would like to understand what kind of life mothers have with their babies. We have some questions to ask about your baby and your life with him. In answering these questions, you should know that everything is kept confidential. But if we ask anything you do not wish to talk about, we can skip such a question. It is perfectly alright.

Instead of writing down everything we say, we use this tape recorder. This way we are sure to remember everything we talked about.

Interview Questions

1. Can we start with asking you to tell us something about your baby. (If she looks puzzled, add:) Anything about him will do. What is he like?
2. What kinds of things bring you most happiness with your baby?
3. What kinds of things are most difficult with him?
4. Knowing other mothers and their babies, how does your child compare to theirs?

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<sup>1</sup>Third and last revision, Dec., 1969. Address inquiries to Mary Engel, Ph.D., Department of Psychology, City College, 135th Street and Convent Ave., New York, N.Y. 10031

<sup>2</sup>Developed under NIMH Grant MH-17580-01

5. How has the baby changed in the last year?
6. Did you want to have a little boy or a little girl?
7. How did you feel about having a little boy?
8. Do you remember how you felt when you found out you were going to have a baby?
9. What kinds of things were you thinking about when you were expecting him? Or, what kinds of daydreams were you having then?
10. How did you feel about becoming a mother?
11. Now that you are a mother, is it the way you expected it to be? In what ways? Or, how is it different?
12. Can you tell us how things go from day to day: for example, please tell us what happened yesterday with you and the baby, beginning with the morning and going through the day. (Select a day mother and child spend together if mother works, e.g., on a week-end.)
13. Now can you tell us how a week goes by, like last week?
14. Does the baby have any contact with other babies, like for playing or just being with them? How is it?
15. What kinds of toys or things does he like to play with?
16. Is there anything the baby is attached to, like a toy or blanket or anything he carries around with him, or has to have in his bed when he goes to sleep?
17. For what kinds of things does he get love and praise?
18. What are the rules for the baby, what kinds of things is he not allowed to do?
19. Does the baby seem to like men or women better?
20. How does he react to men? To whom?
21. How does his father (your husband) feel about the baby?
22. What contact do they have? What do they do?
23. How do you think he can help you raise the baby?
24. How do you think he and the baby are alike? Different?

25. How do you think the baby is like you? Different?

26. Does anyone else help take care of the baby? Who?

If living with grandmother, ask the following:

27. How does your mother help you with the baby?

28. Do you sometimes have different ideas about how to take care of him? What happens?

29. Does the baby act differently with you and with her?

30. Do you work now? What do you do? (If not, continue with #37). When did you decide to go back to work? How come? Why then?

31. Did you work before you had the baby? When did you stop? Why then?

32. Have you worked since the baby was born although not presently?

33. (If appropriate) What are your present sources of income? Does the father contribute to the baby's support?

34. What is the hardest thing about working and being a mother?

35. Tell us about your babysitter?

36. How did you come to pick her?

37. How do you feel about the way she is caring for the baby? Does she also care for other children?

38. If you needed or wanted advice about the baby, whom or to what would you turn to?

39. If you needed or wanted advice about jobs or things about money, to whom would you turn to and trust?

40. If you had an emergency with the baby, to whom would you turn for help?

41. If you yourself suddenly got sick, what would happen? Whom would you turn to?

42. Do you ever worry about any of those things happening? What?

43. How does the baby generally react when you are out of the house and leave him with someone else?

44. How does he act when you come home?
45. What makes the baby happy and how does he show this?
46. How does he show he is angry? When?
47. How does he show love and affection?
48. How can you tell when he is afraid?
49. We would now like to know about the different habits, beginning with his sleeping habits. Please tell us about this.

When does he go to sleep? Awake?  
Does he nap? When?  
Where does he sleep? With you?  
Any sleeping problems?  
Was it always like this?

50. What about his eating habits?

When does he eat? (Find out if regularly scheduled or not.)  
What does he eat now? Since when? (baby food, regular food)  
How does he eat, do you encourage him to eat by himself?  
Was it always like this?

51. Was he breast fed or bottle fed? How did you happen to choose this?
52. If breast fed, for how long? Did you then use a cup or a bottle?

53. How about weaning him to a cup?

When did you start this?  
How did you decide it was time to begin this?  
How did you go about it?  
What does he drink from a cup now? When?

54. How long do you think it will be before he gives up the bottle?

55. Does the baby use a pacifier? Since when? Why? When will he stop?

56. There has been a lot of talk about whether it is better to have a regular feeding schedule for a baby, or to feed him whenever he is hungry. How do you feel about this?
- How did you handle it with the baby?  
 If schedule, how closely did you stick to the schedule?  
 How often did you feed him?  
 Was he ever awakened for feeding?  
 Any feeding between scheduled time? Why then?  
 When was he given solids? What was his reaction?  
 Did he feed fast or slow?  
 Any reactions like spitting up? Stomach cramps?  
 Colic? Refusal?
57. What about crying?
- Cry often? How often?  
 For what reasons does he cry?  
 Do you believe in picking him up or letting him cry it out?
58. What is the toileting situation now?  
 How will you go about toilet-training him?  
 At what age do you think he will be trained to go or ask to go?
59. When did you think he would begin to walk? When did he?  
 At what age do you think he will walk and run steadily, sure-footed?
60. Does the baby talk now?  
 When did you think he would begin? When did he?  
 At what age do you think he'll speak in sentences?
61. How old do you think he will be before you can send him to the store for something and he would come back with it, and not forget it or lose it?
62. What games do the two of you have together?  
 What kinds of things do you play together?
63. He is quite small, but perhaps you have been thinking about what he will be like when he grows up. Tell us about that. What about when he is older?
64. How far would you like him to go in school?  
 How far do you think he will go?
65. Have you thought about what you would like him to be when he grows up? Why that?

66. What kind of life should he have?
67. Do you think he will want to do these things?
68. Has your husband given any thought to what he would like the baby to be?

Try to get the information which may not be on the birth certificate: What does he do? How far did he go in school? How old is he?

69. What sorts of problems do you think he will have in growing up?
70. Are there ways mothers can help their children learn?
71. When would you like to see the baby start school (kindergarten)? Are there any things you do now thinking of the time he will go to Headstart or kindergarten?
72. Now we would like to ask you something about your own life. What do you remember best about when you were a little girl? Anything before that (get earliest memory)?
73. Tell us something about your mother and father.
74. What was it like growing up with your brothers and sisters?
75. Did you ever have to take care of very young children (i.e., assume major caretaking responsibilities)?
76. Re school: What was school like for you?

What did you like best about school?  
What did you like least about it?  
What kind of student were you?  
How far did you go?  
Something about a liked teacher.  
Something about a disliked teacher.

77. The way your mother was with you when you were a child, does that have an effect on how you are with your baby now?
78. What contact did you have with your grandmother? (Multiple mothered?)
79. Do you have many friends? How often do you get to see them?

80. Thinking just about your own life, what thoughts do you have about your own future? What kinds of things do you hope to do? What would you like for yourself, if you could have them?
8. What do you think life will be like for you two years from now?
82. Any thoughts about other jobs?  
If you were to go to work, when do you think you would do so?
83. Any thoughts about other places to live?
84. Thoughts about family size: How many children would you like to have? Why that number? Why no more? How does father feel re this?
85. How is it with the baby when you are in a rush, very very busy and pushed for time?
86. How is it with the baby when you are not busy, when you are free and there is nothing in particular to do?
87. What are the things for which there is always plenty of time?
88. What are the things for which there is never enough time?
89. Would you like to have more or less time for yourself?
90. Is there any way in which your time could be better arranged?
91. If someone did all your work for you for a week, what would you do with your time?
92. What would you say is the most important function of being a mother?
93. Would you say your feelings about-----have changed since you've had him? In what way? How come?
94. When did you begin to experience the feeling of really being being a mother? How come then?
95. Is there anything else you would like to add that would help us understand mothers and their babies better?

ADDENDUM: If mother had second child, get name, sex, age, and ask:  
Were you planning to have another baby now?

Was your experience having and caring for new baby different than that with your little boy? In what ways?

How has-----reacted to the new baby? How can you tell how he feels?

How are they different? Alike?

What does-----do when you are taking care of the infant?

Are you handling the child-rearing practices in the same way as before? What do you do differently?

In what ways is being a mother of two different than it was before?

Help the mother focus on her first child and ask the above when appropriate.

If the mother is expecting again, ask:

When are you expecting? Would you like to have a boy or a girl?

How do you feel about having another baby now?

Have you been feeling any different than the first time?  
In what way?

How do you think-----will react to the new baby?

Are there any things you do now to help him get ready for the new baby?

How do you think you'll find being the mother of two?

Do you think you might do some things differently?

Experience of Time Scales

You are being asked to rate various aspects of the person's experience of time as revealed in protocols of interviews. It is recommended that you read through the scales to become familiar with them and then read the first protocol in its entirety. After reading it you may find that you are able to perform the necessary ratings without further reference to the protocol. However, in making a judgment, you may find it useful to refer back to specific sections of the protocol.

Once you have completed the ratings on all the protocols, review the ones you did first. There is a learning effect and it is all right for you to revise your earlier ratings if, at the end, they appear inconsistent with subsequent ratings.

I am aware that the scales do, at times, require somewhat of an intuitive leap. Do please try to make that leap when necessary. However, as much as possible make the ratings from the material as it is stated in the interview. At times you may feel that such a rating does not do justice to the "clinical reality" of the case (i.e. when the defenses seem to significantly alter the person's perception of some event). At such times, if you must, you may make a second rating, putting it in parentheses beside the first, which you feel more adequately captures the "clinical reality."

If you have any comments on the scales or the interviews please put them on the rating sheets provided with the interviews. Do not write on the scales themselves.

Thank you.

I. The experience of continuity

1. Time is discontinuous. The person experiences time as discontinuous and composed of disjointed episodes. Gaps and breaks so fragment the time line that time is not at all experienced as a continuity or consistently developing pattern; the experience is more that of a number of scattered events.
2. Time is a vaguely experienced continuity. The person does not really experience time as continuous due to a number of gaps and breaks in the time line. There is the sense of going from one place to another on the time line but the numerous gaps and breaks greatly distort the sense of continuity.
3. Time is a disconnected continuity. The person experiences time as continuous but the continuity of the time line is broken at points by gaps and breaks. Despite the gaps and breaks there is a feeling of continuity, although somewhat disconnective and disjunctive.
4. Time is continuous. The person experiences time as continuous--much like a consistently developing pattern with no stops, no gaps, no breaks--with one thing leading directly to another.

The subjective confidence of your rating on the amount of available information

1. I am quite certain of my rating: there is clear evidence.
2. I am fairly certain of my rating: there is reasonable evidence.
3. My rating is mainly inference: the evidence is sketchy.
4. I cannot judge accurately, my rating is completely inference: there is no evidence in the protocol.

II. There are three zones, or realms, of time which are generally considered important in a person's life. Please rate the three zones (past, present and future) so as to appropriately reflect the relative importance each assumes in their person's life.

Past

1. Not important at all \_\_\_\_\_
2. Not very important \_\_\_\_\_
3. Somewhat important \_\_\_\_\_
4. Important \_\_\_\_\_
5. Very important \_\_\_\_\_

Present

1. Not important at all \_\_\_\_\_
2. Not very important \_\_\_\_\_
3. Somewhat important \_\_\_\_\_
4. Important \_\_\_\_\_
5. Very important \_\_\_\_\_

Future

1. Not important at all \_\_\_\_\_
2. Not very important \_\_\_\_\_
3. Somewhat important \_\_\_\_\_
4. Important \_\_\_\_\_
5. Very important \_\_\_\_\_

III. Please check the appropriate one

Affect associated with the past is: Strongly negative \_\_\_\_\_

Negative \_\_\_\_\_

Ambivalent or neutral \_\_\_\_\_

Positive \_\_\_\_\_

Strongly positive \_\_\_\_\_

IV. Rapidity with which time is experienced as passing

1. The person does not experience time as flowing. There is no movement involved in time. The idea here is of a stagnant swamp--there is no movement other than perhaps a chance one from a breeze. There is no going forwards or backwards--there is only the pool.
2. The person has a minimal experience of time, of time as a confused movement. There is movement but the movement is a confused one--at times quick but often slow and dammed up. The idea here is like that of a stream winding through a thick forest--moving at times down hillsides but at times slowed up in pools.
3. The person experiences time as a slow, calm, unhurried, but forceful movement. Here the idea is like that of a large broad river moving ever forward but at a slow and easy pace.
4. The person experiences time as a swift, sure movement. Here the idea is like that of a powerful, swiftly flowing river--relentless quick movement but with a calm surface. The movement is rapid but controlled and steady.
5. The person experiences time as a surging movement. Here the idea is like that of a rapids in a river with surging white water--as a ferocious, crashing movement. The rapidity of the movement threatens an explosion of the movement as a whole. There is a feeling that the movement, if not already, may become out of control.

The subjective confidence of your rating on the amount of available information

1. I am quite certain of my rating: there is clear evidence.
2. I am fairly certain of my rating: there is reasonable evidence.
3. My rating is mainly inference: the evidence is sketchy.
4. I cannot judge accurately, my rating is completely inference: There is no evidence in the protocol.

V. Please check the appropriate one:

Affect associated with the future is: Strongly negative\_\_\_\_\_

Negative\_\_\_\_\_

Ambivalent or neutral\_\_\_\_\_

Positive\_\_\_\_\_

Strongly positive\_\_\_\_\_

VI. Experience of the past:

1. The person has no image of himself in the past: there is no picture of who he was in the past. The past is "empty"--he, in essence, has no past. There are memories of the past but they tend to be on the order of "I went to school at six." There is no sense of continuity between the past and the present.
2. The person has a vague and unclear image of himself in the past. Many gaps and breaks in his past greatly distort the sense of continuity of his past. There is little sense that things in the past occurred in particular order and that it is through his past that he got to be where he is today.
3. The person has an image of himself in the past but the image is not completely clear. There are gaps and breaks in his past which tend to distort the continuity of the past. That is, he may see himself clearly as a grade-school child and as an adolescent, but have a vague image of himself as a pre-adolescent. Unlike #4 there is not a clear sense of how he got to be where he is today.
4. The person has a clear sense of himself in the past, extending through all of his past. There is the sense here that his past is "filled"--there is no "empty" part of his past life. This clear sense of himself in his past lends a definite sense of continuity to his past, extending from his earliest memory up to the present. There are no gaps or breaks to distort the continuity. He sees himself clearly as a young child, a child in grade-school, a pre-adolescent, an adolescent, a young adult, etc.

VII. Experience of the future:

1. The person has no image of himself in the future. The future is much like a void. There are things that will happen in the future but what will happen will be a surprise. There is no planning for the future because the future is not something for which one can plan.
2. The person has a very vague and unclear image of himself in the future. There is some planning of his life in the future but the plans made are unrealistic and not credible and they lack completely any sense of conviction. Things will happen in the future but there is no explanation of how or why they will occur.
3. The person has an image of himself in the future but the image is not completely clear. The person has planned out his future but there is no definite sense that the plans are realistic and credible or that the person has any real conviction that the future will be as he says.
4. The person has a clear image of himself in the future. He knows what he wants, how he is going to get it, when he is going to get it, and where he will be in terms of his life in the future. He has, in a sense, planned out his whole life. There is the idea that certain things precede others. The plans made seem realistic and credible and carry with them a sense of conviction.

VIII. Please check the appropriate one:

Affect associated with the present is: Strongly negative\_\_\_\_\_

Negative\_\_\_\_\_

Ambivalent or neutral\_\_\_\_\_

Positive\_\_\_\_\_

Strongly positive\_\_\_\_\_

Appendix C

Psychological Mindedness Scale

You are being asked to rate the responses of mothers to items of the Psychological Mindedness Questionnaire. Each response is to be rated on a seven point scale of behavior shaping.

We assume that to some degree behavior shaping is present in all responses, this is why the scale begins at 1 and not at zero. In a sense, the concept of behavior shaping is operationally defined by the scale points. We are trying to quantify the degree to which the mother conceptualizes the shaping of the baby's behavior, the extent to which she has some kind of scheme in mind, the extent to which her 'interventions' do have a rationale.

Each of the seven scale points is defined. Record your rating on the sheet provided for this purpose.

Once you have completed the rating, do review the ones you did first: there is a learning effect, and it is all right for you to revise your earlier ratings if, at the end, they appear inconsistent with subsequent ratings.

## Scale Point:

1. There is no evidence in the response that the mother sees herself as a shaper of the baby's behavior. She may act in some direction, but she is not the agent of trying to alter the baby's behavior.

2. The mother indicates that she might do "something" about the baby's behavior. She uses words like "teach him" or "explain to him" or "show him" in a very vague, colloquial way so that we do not really know how or what she would do. OR, the primary emphasis may be on physical ministrations like diaper changing or feeding as a way of altering behavior.

3. The response reveals that the mother thinks of the behavior as a single, isolated incident to be responded to with a single act: if he cries, pick him up; if he wants it, give it to him or do not give it to him; if he is naughty, hit him. The content of her behavior and that of the baby is not relevant for your rating. Focus on the manner in which the behavior is conceptualized and what she thinks should be done about it.

If a single isolated incident is responded to with numerous possibilities, consider a higher rating.

4. Here behavior shaping is put in a developmental context. For example, she might see punishing some act as part of a general program to eradicate this act. "Every time..." or "never" are ideas which occur here. But even where these words of continuity are not used, there is evidence that the mother has a sense of policy about behavior shaping.

5. Here the choice of the mother is not to intervene, interfere, or shape the behavior. She is molding behavior by suggesting that refraining from action is the best thing to do. This is not the apathetic or passive mother, but one who gives a reason for allowing things to take their course, or for the baby to have his way.

Non-interference in the setting of integrated multiple ideas should be rated 7.

6. The mother's response emphasizes gradual learning on the part of the child, either through repeated experiences or through explanations geared to his level. Thus, the view of the baby is that of a learner who can be taught by small increments; gradual introduction to certain realities; verbal explanations; demonstrations by the mother that something can be done, or, that it can be done in a different manner.

7. Ratings of seven may be assigned to a high "six." Mainly this category refers to responses which contain multiple ideas. For example, the mother might say she would shape the behavior by 1. prohibiting what

7. (cont.)she wants to alter, and 2. offering a substitute object or activity, and 3. diverting the child's attention from the issue so as not to magnify it. Such multiplicity of ideas is not just a "laundry list" of possible alternatives lacking in conviction, but the various ideas are integrated to produce a truly superior response. They may appear in the form of an "if..., then...." proposition.

If one of these ideas is on a simple, naive, low level, but coexists with higher responses, you may rate 7. For example, take him to a doctor and if nothing is wrong physically, then...adding other possible interventions.

The policy of non-interference may be included here if there is evidence that the mother is aware of the limits to non-interference and to her own influence over the baby.

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