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FUTURE TIME PERSPECTIVE AND ACADEMIC ACHIEVEMENT LEVEL AMONG PUERTO RICAN CHILDREN

by

Maria de Lourdes Rodriguez

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

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ABSTRACT

FUTURE TIME PERSPECTIVE AND

ACADEMIC ACHIEVEMENT LEVEL

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Maria de Lourdes Rodriguez

Advisor: Professor Anderson J. Franklin

The purpose of this study was to explore the relationship between future time perspective and the academic achievement level of Puerto Rican elementary school children. It explored three dimensions of future time perspective: future time extension, future time density, and future time outlook. The sample consisted of seventy fourth and fifth grade students attending a public school in a low socioeconomic community in the South Bronx, New York City. All subjects completed a questionnaire, instruments measuring future time extension, density and outlook and a measure of reading and arithmetic.

The results offered no support to a relationship between reading achievement and future time perspective. The results offered some support to a relationship between arithmetic achievement and future time perspective but not in the direction hypothesized. The results supported the finding of

no gender differences.

Secondary findings found demographic and background variables related to academic achievement.

This study offered little support to research literature associating future time perspective and academic achievement. Further research in this area is suggested.

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This dissertation is dedicated to my father, Frank Rodriguez and my mother, Manola Antonia Rodriguez.

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CHAPTER 1

INTRODUCTION

Culture mediates the development and structure of the personality. Socialization practices within a culture influence the personality and need to be studied in order to understand and work comprehensively with individuals in therapeutic settings and enhance educational approaches in schools. Understanding cultural differences generates the development of relevant treatment, preventive services, and promotes pertinent and useful educational techniques. The cultural features that contribute to, and impact the developing personality need to be explored so that psychological theory can be applied optimally in clinical and educational settings.

Time perspective is a variable which is influenced by culture and the socialization process. The psychological value placed on the past, the present, and the future, influences the individual's life choices, degree of personal satisfaction and quality of life.

The time perspective of Puerto Ricans has not been examined. The psychological value placed on a temporal

dimension within the Puerto Rican culture has not been explored. The research indicates that a future time perspective on the temporal dimension is associated with higher achievement levels.

To have a time perspective is to conceive of a past, a present, and a future. How individuals orient themselves at a particular moment or in a specific situation (i.e. involve themselves with the past, present, or future) influences their thinking and behavior. So, in this sense, time is viewed as a psychological phenomenon rather than a measure of the passage of time. Time perspective is considered in the literature to be a multidimensional construct that includes both quantitative and qualitative features. A quantitative feature, for example, would be the number of things or events that populate the time dimension. A qualitative feature, for example, would be the feeling tone associated with the time dimension.

Time perspective has been defined in various ways. Agarwal (1983), says that time perspective includes a complete representation and preference for the past, present or future, over long and short periods, together with the affects connected with it. Wolf (1985) regards time

perspective as the subjective experience and use of time.

Future time perspective refers to the psychological future as it exists for and influences the individual (Fink, 1953). Lessing (1968) summarizes several definitions of future time perspective as man's ability to conceptualize the future. Aspects of both the past and the future time are integrated into the psychological present, she paraphrases Lewin. She notes that both Freud and Hartmann described the capacity to anticipate the future as an ego function that provides the basis for the ability to delay impulse gratification and endure temporary frustrations. Wolf (1985) includes the concepts of continuity, optimism, and utilization as aspects of future time perspective. Continuity is the inclination to structure the future with events or goals. Optimism is the aspect which evaluates the achievability of goals with a positive affect. Utilization is the efficient use of present time in working toward goals. Kastenbaum (1961) interprets Lewin as suggesting that "the life space of the neonate might be described as a poorly differentiated field in which time has yet to become important. The immediate situation rules; future expectations do not exist. Gradually, the child begins to enlarge his

frame of reference, becoming aware that experience extends beyond the present moment. As the individual continues to mature, he gains an increasing appreciation for future possibilities, and consequently, these become increasingly important in determining his behavior." Kastenbaum concludes that "profound reorientations in a person's attitude toward life can be at least partially understood in terms of shifting time perspectives."

Gjesme (1983) says, "...a simple observation of human behavior calls attention to the fact that man, in his dealing with the environment, is usually directed toward something which is not yet there, something new. The activity is oriented towards something ahead. However, there seem to be large individual differences in this temporal function of a future consequence. Some individuals appear to be greatly affected by goals far away in time. Others seem to be only very slightly oriented towards and affected by events in the very near future. One of the factors which causes such individual patterns of reaction towards future events might be different orientation towards the future."

Brandenburg (1971) says, "The capacity for imaginative thought regarding the future may result in actual planning

for some future goal. A concept of future time is necessary in order to contemplate a goal; it may help the individual to overcome present frustrations and delay gratification for the future. The individual with future goals may construe his present behavior in terms of sub-goals that must be accomplished. This behavior could serve as a paradigm for academic achievement. An awareness of how the individual, or student, experiences the future may indicate much about whether he will achieve."

In summary, future time perspective is one orientation on a time dimension that includes the past, the present, and the future. Definitions include both quantitative and qualitative features and it is a multidimensional construct. Culture and socialization practices mediate the development of the time perspective.

Background: Puerto Rican Demographics

Statistics indicate that the Puerto Rican community has a high school dropout rate, a high percentage of families living below the poverty level, and a high unemployment rate (Datanote, 1986).

The Institute for Puerto Rican policy (1992) reports

that the census found the poverty rate for the 2.5 million Puerto Ricans in the United States to be 41%. Also, the percent of Puerto Rican families headed by single females was 43%, and 64% of those were living in poverty. In addition, "Latinos continue to exhibit the highest high school dropout rate in the public school system: in 1991, while making up 34% of the high school enrollment, Latinos were only 23% of those who graduated from high school. Of those persons 25 years of age and older, Puerto Ricans had the lowest proportion with a high school diploma: 45% in 1991, compared with 56% of other Latinos, 66% of Blacks and 72% of Whites." The report continues, "The Latino poverty rate is the highest of any group in the city: in 1990 it was 43% compared to 33% for Blacks and 12% for Whites. Among Latinos, Puerto Ricans exhibited a significantly higher poverty rate: 55% in 1990 compared to 32% for other Latinos. The result is that in 1990, Latinos made up 45% of all persons classified as living in poverty in New York City (Puerto Ricans 28% and other Latinos 17%), while blacks made up 32% and whites 20%.

A New York Times article (August 1987) begins, "While no minority groups have fared particularly well in the 1980's, none has fallen quite so far as Puerto Ricans." The article

says that the median family income fell 18% in real terms between 1979 and 1984 from $14,988 to $12,282, compared with 14% for blacks and 9% for Mexicans. Also, the use of public assistance increased 115% among Puerto Rican families headed by couples, but 291% by families headed by single women. For black families the percentages were 2.3% and 24% respectively. For Mexican families, the percentage dropped by 12% for couples and rose 23% for single-headed families.

The Daily News (June, 1988) reports that more hispanic students are dropping out of high school than any other ethnic group.

An article appearing in Replica (June, 1988) notes that one of the most serious problems facing the hispanic population is the dropout rate which will adversely effect the positions of latinos within the society.

These statistics point to the importance of exploring the future time perspective of Puerto Rican children and how it is related to their academic achievement levels. "How children manage the early grades influences how long they stay in school, whether they graduate, and whether they will attend college, and these choices influence occupational choices, earning potential and adult economic well-being"

(Bianchi, 1984).

The Institute for Puerto Rican Policy (1992) suggests, "Education is usually pointed to as the long-term solution to the Puerto Rican/Latino community's socioeconomic problems." It should be noted that none of these articles point to any existing failings or problems within the public school system itself.

The purpose of this study is to gain some preliminary understanding of the time perspective of Puerto Rican children. A future time perspective has been studied in the literature with regard to motivation, achievement, academic success, as well as internal locus of control and delay of gratification. This study would explore the relevancy of future time perspective in helping to mediate the academic achievement of Puerto Rican school age children. A contemplation of future possibilities and expectations may be one component that determines dropping out or staying in school.

Background: Puerto Rican Values

An essay by Sidney Mintz (1973) summarizes aspects of the Puerto Rican culture using studies that are mostly

anthropological and sociological in origin, and include the works of Bonilla, Brameld, Collier, Landy, Lewis, Wolf and others. The Kluckhohn Binary Values Categories used by Collier found that Puerto Ricans consider the supernatural world as determinate, basically orderly, with the supernatural beings having roles and behaving in reasonable ways. The supernatural world is primarily based on Catholicism and other Christian sects, even spiritualism is seen as subject to special rules and laws. The supernatural world is considered as good rather than evil. The social world is also determinate. The roles are defined and social behavior is viewed as consistent, or at least should be consistent with roles. An individual is able to move up the social hierarchy and change the relationship between himself and others. While human beings may be basically good there is a distrust of others and appearances. Nevertheless, making solid relationships based on trust are sought after. Puerto Ricans are considered more gregarious than retiring based on their desire to associate with others rather than to be alone. There is a preference to avoid solitude rather than to enjoy privacy. In the self-other category, the result was variable. While building relationships that are strong is

important, there is also a fear of being exploited by others. In the autonomy-dependence category, results indicate a preference for dependence. Decisions, are made following consultation with others, and behavior is influenced by others. A fear of being criticized, and a worry about what others will say also bears on behavior. The opinions of others are important. Fulfillment and spontaneity are more prevalent than denial and abstinence. Puerto Ricans were found to be more likely to accept other people and societies rather than wish to change others or disapprove of them. With regard to childrearing, obedience and respect are the most highly valued qualities in children. Women are described as the integral person within the family and the one most responsible for the children. While fathers should provide materially for the family, mothers take care of everyday needs and should never abandon their children. Ideas of dignity and personalism are highly valued. Personalism includes the concept of dealing on a face-to-face level in social, economic and political relationships. Hospitality and generosity are viewed as important. Education is viewed as highly important, yet there were some indications that Puerto Ricans were not overly concerned with keeping children in

school. Conforming to norms was viewed as more important than achievement.

Background: Puerto Rican Philosophy of Education

For four centuries, Puerto Rican education was based on the instruction of Spain. The education was religious (Catholic), concerned with the formation of a moral character and the development of the spirit. The study of letters and the humanities was fostered, while technology was less regarded. The education was male-oriented, funded by private, lay and religious groups, and primarily available to the middle and upper classes. At the end of the 19th century the culture was agrarian, Catholic, latin, hispanic, idealistic, and relatively static.

At the end of the century, following the Spanish-American War, the Americans introduced the separation of church and state,English as the language of instruction, the industrialized arts, vocational studies, non-separation of the sexes, and the educational methods of Dewey and Fitzpatrick (La Gran Enciclopedia de Puerto Rico, 1976).

Since 1952, education has been under the jurisdiction of the island government with a purpose to promote the

instruction of the two major cultures which comprise the American hemisphere, an objective which is stated in the Preamble of the Constitution (Ibid.).

Background: Puerto Ricans and Time Perspective

A past-to-present profile has been attributed to Puerto Ricans, together with an acceptance of destiny's control over mankind (B. R. Sjostrom, 1988). Her study showed, however, that among college students (Puerto Rican mainland, Anglo, and Puerto Rican islanders) the preferred time was the present followed by the future and the past. Examples of what appear to be a present perspective are shown in the following translations of original text found in La Gran Enciclopedia de Puerto Rico: "In the northamerican culture, the future is more important than the past; when things, persons or events are being evaluated, the northamerican places more weight on the consequences rather than the antecedents."

Another, "The extraordinary interest in public education, savings, in life insurance and pensions reveal a preoccupation with the future, and probably, an insecurity about the present."

Proverbs or sayings, also reflect the cultural feelings about time. Such as, Benjamin Franklin's, "A penny saved is a

penny earned" and "The early bird gets the worm" (Sjostrom,1988), compared to hispanic sayings, "Que sera, sera" (What will be will be), "Si Dios Quiere" (God willing) (Sjostrom, 1988), and "Darle tiempo al tiempo", (Give time to time).

In summary, the Puerto Rican culture has had two major influences in developing a time perspective, that of Spain and the United States. How future time perspective is related to the academic achievement of children may provide valuable insight into degrees of academic achievement levels.

CHAPTER II

LITERATURE REVIEW

Theoretical Background of Time Perspective

Time perspective has been incorporated in both theories of development and theories of personality.

In Maier (1965, 1966), the contributions of the developmental theorists, Erikson, Piaget and Sears are reviewed. These theorists conceive of child development from three points of view: epigenetic, cognitive, and stimulus-response.

These three theories were found to include references to the time perspective variable and its importance in development.

Maier also makes reference in the following statement to the time dimension and its relevance to the concept of development and personality: "Unity is the product of continuous pulls in opposite directions throughout the various phases of development. The developing individual strives for unity with his trust in, and identity with a continuous past and future." This statement points to the importance of the past and future in the individual's present

consciousness and present behavior.

The part played by culture and socialization can be inferred from Maier's quote of Erikson, "The growing child must at every step derive a vitalizing sense of reality from the awareness that his individual way of mastering experience (his ego synthesis) is a successful variant of a group identity and is in accord with its space-time and life plan."

Both Erikson and Piaget formulated theories of development which relied on particular phases through which the individual would proceed. In each phase certain tasks would be accomplished in whole or in part prior to moving successfully into the next phase of development. Erikson named at least eight phases of development, and Piaget defined five.

Erikson's phases include: infancy, early childhood, play age, school age, adolescence, young adult, adulthood, and mature age.

Piaget's phases include: sensorimotor, preconceptual, intuitive thought, concrete operations and formal operations.

Sears also may be said to include developmental phases as follows: rudimentary behavior, secondary motivational systems (family-centered learning), and secondary

motivational systems (extrafamilial learning).

Erikson places the task of developing a time perspective in time perspective versus time diffusion. This occurs between Phase IV (school age) and Phase V (adolescence). He felt that time perspective is an important aspect in the development of identity, and that without it a young person would be subject to either demand immediate action, or to immobilize himself. Maier quotes Erikson as follows: "A concept of time is essential to identity. If his time perspective is a problem the youth may demand immediate action or he may immobilize himself completely in the desperate hope that time will stand still and that feared disappointment will never materialize. Intermittently, the adolescent utilizes opportunities to delay planning and to recall the past. Only when he can see his life in a definite perspective does his sense of time lead to a sense of full identity" (Maier 1965, 1966).

Piaget includes time perspective in the formal operations phases of intellectual development. He states (in Maier), "Unlike the child, the youth becomes an individual who thinks beyond the present and forms theories about everything,delighting especially in considerations of that

which is not. Adolescence is known as an age in which the youth thinks beyond the present. He establishes vertical relationships. He forms notions, ideas, and eventually concepts about everything from the past through the present into the future."

Sears, using a stimulus-response approach to development, believes that human behavior results from stimulus-response learning. The past experience forms the foundation for new behaviors which will occur in the future and are a product of interactional forces, mostly within the interpersonal sphere. He stresses the influence of parents in the child's development.

To paraphrase Maier, what these developmental theorists believe and have in common, is that the developmental years are basic to the child's later adjustment and they mark the beginnings of socialization albeit describing the process in different terms.

For the present study, developmental theories indicate time perspective is an important variable in development, and that there are maturational and socialization aspects which determine how it develops. The developmental background provides a basis for exploring future time perspective in

Puerto Rican children at an age when the future time perspective has taken on the characteristics of the culture, is more or less in place and still developing.

Besides developmental theories, personality theories have also included or inferred the importance of time perspective. Adler (Hall, Lindzey,1970) felt that man is more motivated by his expectations of the future than by his experiences of the past:

The final goal may be fiction, that is, an ideal which is impossible to realize but which is nonetheless a very real spur to man's striving and the ultimate explanation of his conduct."

Sullivan (Hall, Lindzey, 1970) is quoted as saying: "man, the person, lives with his past, the present and the neighboring future all clearly relevant in explaining his thought and action."

Kurt Lewin, the creator of field theory, and a social psychologist wrote about time perspective (1948). Lewin notes, "The life-space of an individual far from being limited to what he considers the present situation includes the future the present and also the past. Actions, emotions, and certainly the morals of an individual at any instance

depend on his total time perspective."

In describing the development of a time perspective, Lewin points to the infant, who lives essentially in the present. As the individual grows older, more of his past and future affect his present mood as well as present action. He also says, "A positive time perspective, a time perspective guided by worthwhile goals, is one of the basic elements of high morale. At the same time, the process is reciprocal; high morale itself creates long-range time perspective and sets up worthwhile goals."

The developmental and personality theories indicate that time perspective is a variable that contributes to present behavior. It is influenced by socialization which occurs within a cultural context. It begins to develop during childhood around the school age. This study will look at aspects of future time perspective within a specific culture, and see its relationship to a particular behavior, academic achievement level.

The next section will look at the research literature regarding future time perspective.

Review of the Research Literature

Future time perspective has been studied in connection

with achievement, delay of gratification, locus of control, socioeconomic levels, and to a lesser extent with culture and socialization practices, as well as value orientations.

Teahan (1958) felt that high academic achievers might be expected to have a future oriented approach to life. He expected that these high achievers would have a broader time perspective than less successful people. He studied this hypothesis in connection with students. He hypothesized that high achievers would have a more predominant and extensive future time perspective than low achievers. Also, he felt that a positive relationship would be found between optimism and the extensiveness of future time perspective. His findings supported his hypothesis and he suggested that low achievers might have a short-range or emergency type of future perspective while high achievers might have a long range or foresightful type of future orientation. The latter finding was in agreement with Lewin's (1942) theories concerning the relationship between self-confidence, hope, and planning for a better future, according to Teahan's discussion. He felt that optimism, or the hope for positive changes in the future would be related to the extensiveness of a person's plans.

Raynor (1970) was concerned with the prediction of current academic performance based on a student's achievement-related motives and the student's idea of what the relationship between his present grades and his own future career success would be. He felt that students would be more achievement oriented in the present if they felt the course work was not only important for their immediate success but would bear on their future success as well. His results, using college students, supported his hypothesis.

In 1975, Gjesme, felt that Raynor had overlooked the effects of distance in time. He added that the anticipation of future success or failure should affect the present arousal of achievement goals. Thus, a future achievement task which approached in time would affect the present arousal of achievement motivation, although no immediate success would be necessary in order to continue to the future task. This idea, he called a non-contingent path, in contrast to Raynor's which he identified as contingent. Gjesme felt that if the motives are to approach success, there is a positive correlation between future time perspective and achievement.On the other hand, if the motive is to avoid failure, there is a negative correlation between future time

perspective and achievement because the expectation is that negative outcomes are associated with the future. He also suggested that the future is seen as occurring sooner for approach oriented people, and farther away for avoidance oriented people. In this study, an additional finding was that a nonsignificant relationship between achievement goals and a simple questionnaire on future time perspective existed when goals were excluded and future time was just treated in general terms. Nonetheless, approach-oriented individuals seem to be higher in future time perspective than avoidance oriented individuals.

M. deVolder and Lens (1981) said that the future is considered the primary motivational space. It is the space in which the goals will be reached and therefore is related to motivation. They formulated future time perspective as consisting of two aspects: the dynamic and the cognitive. They defined the dynamic aspect as the disposition to ascribe high valence to goals in the future and the cognitive aspect as the disposition to grasp the long term consequences of actual present behavior. For these authors, future time perspective and academic achievement are relational. They felt that present behavior has instrumental value for

reaching a specific goal. The same behavior may have negative instrumental value for reaching other goals. They give the example, that studying hard has value for academic achievement but it hinders achievement in sports. The results of their study confirmed the hypothesis that students who ascribe higher valence to goals in the future, and higher instrumental value to studying hard for reaching the goals in the future, show more study persistence in the present and better academic results.

Wolf and Savickas (1985) explored the relationship between adolescents' time perspective and their attributions for achievement. They conceptualized time perspective as including continuity, optimism, pessimism, and time utilization. Attributions for achievement included ability, effort, context and luck. They defined an integrated time perspective as having continuity: which is the inclination to structure the future with events; optimism: which is to evaluate the achievability of goals with a positive affect; and, efficient time utilization: which is to use present time in working towards goals. Their results supported their hypothesis that systematic and significant links exist between time perspective and attributional preferences. They

also noted that while "dispositional differences in time perspective would seem to relate to causal attributions for achievement outcomes, there is little research which examines this association". They concluded that students who had a more integrated time perspective tended to attribute their achievement successes to their own effort and ability and attribute their achievement failures to insufficient effort. The authors used high school students as subjects in this study.

While the findings associated with achievement and future time perspective are not definitive, most indicate that a positive correlation between future time perspective and achievement does exist.

In the area of future time perspective and delay of gratification, Freire, Gorman, and Wessman (1980), studied temporal span, delay of gratification and children's socioeconomic status. They felt that socioeconomic status exercises a significant influence on temporal span and delay of gratification. In this study, elementary school children were used, and included a fifteen percent representation of Puerto Rican students. The lower class subjects across all groups had a greater representation to the near present than

middle class subjects. With regard to delay of gratification, they explain that lower class subjects reflected a less structured and predictable social environment. Therefore, they had insufficient cues for establishing a realistic temporal orientation and the ability to postpone immediate pleasure for future gain.

Lomranz, Shmotkin, and Katznelson (1983) speak about the coherence of future time perspective which they described as earlier defined by Wallace (1956). The coherence is"the degree of organization of the events in the future time span". Future time perspective and delay of gratification were assumed by Lomranz et al to relate in that a lack of delay of gratification indicates impairment in the process of anticipation and planning, which is considered essential in future time perspective. They considered both future time perspective and delay of gratification be a part of the socialization process, and expected that a higher socioeconomic level would result in higher delay of gratification and future time perspective. Their study was conducted in Israel, using elementary school children, ages 12-13. They hypothesized that middle class subjects had more coherent future time perspective than lower class subjects.

Middle class subjects would have a higher capacity to delay gratification than lower class subjects and the subjects who had a better capacity to delay gratification would have a more coherent future time perspective than subjects who had a poorer capacity to delay gratification.

Their results indicated that middle class subjects were found to have more coherent future time perspective and a better capacity to delay gratification when compared to lower class subjects. They found no sex differences. They determined that both future time perspective and delay of gratification are significantly related to socioeconomic level. They concluded that future time perspective and delay of gratification by themselves are significantly correlated only when they are mediated by the socioeconomic variable. This was also the finding of LeShan (1952), Mischel and Mitzner (1962), Lessing (1968) and Lamm, et al (1976).

With regard to future time perspective and locus of control, Koenig (1979) noted that previous writers had assumed that future time perspective went along with forward looking optimism and achievement. His results did not bear out this assumption. His findings indicated that there are also negative reasons for being oriented toward the future

and that at times these can be stronger than positive ones. He suggested that research on temporal dominance should also include the influence of anxiety, lack of control and other negative features which could result in the importance placed on the future.

Thayer, Gorman, Wessman et al (1975) note, "To feel in control of one's fate implies taking steps and using time effectively to maximize the chances of achieving control, thus creating the situations where events are more ordered, manageable, and predictable because of one's own efforts." They hypothesized that internal control subjects would report their temporal experiences and perspective to be relaxed, continuous, scheduled and consistent, while external control subjects would report them as harassed, discontinuous, procrastinating and inconsistent. Their findings using CCNY subjects supported the hypothesis. Another study by Platt and Eisenman (1968) also correlated internal locus of control with future time perspective.

LeShan (1952) advanced the hypothesis that in the lower class, the orientation was one of quick sequences of tension and relief. He said that the future was an indefinite, vague, diffuse region for the lower class and that the rewards and

punishments were too uncertain to have motivating value. He further noted that upper lower, middle and lower upper classes would have a much longer tension relief sequence. He was one of the first to hypothesize that different social classes would have different time perspectives.

However, Judson and Tuttle (1966) questioned LeShan's findings with regard to a significant difference between time perspective and lower and middle class children. Their study, using sixth grade students of middle and lower classes found non-significant differences in time perspective. They also reported no sex differences in time perspective.

Gisela Trommsdorff (1983) studied the function and development of future perspective as a part of the relationship between parents and children. She points out that some studies consider the cognitive aspects of future time perspective which include extension and coherence, while other studies explore motivational aspects. She defines future time perspective as a multi-dimensional cognitive/motivational construct. She says that future time perspective is "a multi-dimensional construct consisting of variables which are interrelated and which are differentially related to the personality variable in different

populations". She believes that besides pure cognitive maturation, social experiences influence the development of future time perspective considerably. For some, a future time perspective which is primarily focused on the near future and lacks complex structuring would be adaptive for socially disadvantaged and/or economically deprived groups. In her study, she explored perceived parental support and future time perspective. The children who perceived little support were less optimistic about their future and less hopeful than the children who perceived their parents as high in support. The children with low support also believed less in their ability to influence their personal future. Parents, according to Trommsdorf, structure the future in a particular way and organize their socialization and educational goals in accord with their own wishes for the future. She contends that little is known about the future time perspective of the agents of socialization, and the effects of these agents (parents) on the person being socialized.

Her study looked at mothers and their adolescent children. Findings included that the mothers believed future events would occur sooner in the future than was expected by the adolescents. Mothers were more optimistic for the future

of their sons than of their daughters. Trommsdorf questioned to what degree optimism and extension are necessary on the part of the parent to stimulate successful personality development in their child. She importantly states, "...in contrast to the assumption underlying much research on future orientation that a lack of future orientation indicates failure, the studies presented here should warn against blindly adopting an ideal of an extended future orientation which may induce maladaptive behavior for certain persons and social groups."

As for future time perspective and values, Szapocknik, Scopetta and Aranalde (1978) compared Cuban and Anglo-American values on several dimensions including time perspective. Their study was aimed at exploring treatment implications, but amongst the variables looked at was temporality in a cross-cultural context. For this study, time perspective refers to the meaning or emphasis placed on a particular time period. The past time perspective notes that the traditions of the past ought to be maintained or recaptured, according to the authors. The present is involved with present time issues and problems and the future places the emphasis on a consideration of the future in solving

present problems. These researchers felt that time orientation would differ significantly between Cuban immigrants and Anglo-Americans with the Cubans endorsing present time and the Anglo-Americans endorsing future time. Their results supported their hypothesis. They discussed that the differences in basic value orientation between Cubans and Anglo-Americans, one of which was time orientation, would have implications for the treatment and delivery of mental health services. They surmised that they would also have implications for personality and psychosocial development, and say "...clients with specific psychosocial characteristics, require treatment approaches matched to their idiosyncratic style".

Summary

The background on Puerto Rican demographics, values, view of education and time perspective together with the theoretical and research literature suggest that future time perspective is an important element to explore in addressing questions related to the academic achievement levels of Puerto Rican children. The demographics point to the high school dropout rate, and, thus, to underachievement.

This study is interested in looking at the relationship that exists between future time perspective and academic achievement levels in Puerto Rican school age children. The investigation will be concerned with three dimensions of future time perspective. The dimensions to be explored are future time extension, future time density, and future time outlook incorporating quantitative and qualitative features.

Future time extension is defined by Wallace (1956), as "the length of the future time span which is conceptualized". That is, how far into the future does the subject see: present age to last age in years represented.

Future time density is defined by Kastenbaum (1961) as "the obvious consideration that a person may see many prospects before him, or few". This refers to the number of events posited in the future time.

Future time outlook is suggested in much of the literature to represent the emotional tone, either positive or negative that is given to the future. This is the qualitative feature attributed to the future time. For example, a person may see many events in the future, but one person looks forward to them, and the other feels dread and worries about them.

The purpose of this study is to explore the following questions:

1. What is the relationship of future time extension to academic achievement in Puerto Rican children?

2. What is the relationship of future time density to academic achievement in Puerto Rican children?

3. What is the relationship of future time outlook to academic achievement in Puerto Rican children?

4. What are the differences in future time perspective and academic achievement between Puerto Rican boys and girls?

It is felt that this investigation is useful in both clinical and educational settings in order to promote and improve academic outcome and add to the understanding of how psychological features impact on those outcomes.

CHAPTER III

METHOD

The present study was similar to the work completed by Brandenburg (1971) on the relationship between future time perspective and academic achievement. Brandenburg used a population of college students entering a New York City college. She examined the relationship of three dimensions of future time perspective to academic achievement. The three dimensions were future time extension, future time density and future time attitude.

The present study explored the future time perspective of Puerto Rican children and its relationship to their academic level. It looked at the three dimensions of future time perspective: future time extension, future time density and future time outlook. The first two dimensions were similar to those examined by Brandenburg, and originally developed by Wallace (1956), and Kastenbaum (1961). Future time outlook was introduced here, but was suggested throughout the literature on future time perspective. In this study, it denoted the general feeling tone (positive or negative) that the child ascribed to the future.

The study involved aspects of the present academic levels, and their relationship to future time extension, future time density, and future time outlook.The main research hypotheses were:

1. Future time extension, future time density and future time outlook would be related to reading achievement in elementary school children.

In addition, it was hypothesized that:

a) Future time extension would be related to a higher level of reading achievement;

b) Future time density would be related to a higher level of reading achievement.

c) Future time outlook would be related to a higher level of reading achievement.

2. Future time extension, future time density and future time outlook would be related to arithmetic achievement in elementary school children.

In addition, it was hypothesized that:

a) Future time extension would be related to a higher level of arithmetic achievement.

b) Future time density would be related to a higher level of arithmetic achievement.

c) Future time outlook would be related to a higher level of arithmetic achievement.

3. There would be no differences due to gender in future time extension, future time density and future time outlook.

Sample

The sample consisted of seventy (70) Puerto Rican boys and girls who attend an elementary school in the South Bronx, New York City. The school is located in a low socioeconomic community comprised of working class and poor. The students were fourth and fifth grade boys and girls who attend regular, general education classes. The ages of the participants ranged from nine to twelve years of age.

Instruments

Four different instruments were used in this study, The first instrument measured future time extension and was a modified version of the Ten Events Test first described and developed by Wallace (1956). Brandenburg (1971) notes that the statistically significant differences in future time perspective of the criterion group used by Wallace in the predicted direction provide evidence of the construct validity of this measure.

His instrument required the subject to, "Tell me ten events that refer to things that may happen to you during the rest of your life? After each response it was asked, "And how old might you be when that happened?"

The modified instrument for this study read, "Tell me ten things that may happen to you during the rest of your life? After each response the subject was asked: "And how old might you be when that happens? For example, "I will buy a car. I will be twenty (20) years old". The modified version offered the example so that the children were clear about what they were expected to do.

Extension was measured by the number of years included between the child's present age, and the most distant age for an event given by the child.

The instrument used to measure future time density was a modified version of the Density I test first described and developed by Kastenbaum (1961). Brandenburg (1971)notes that the validity of this test is indicated by the .61 correlation with another test of future time density and by its statistically significant relationship with two other measures of future time perspective found by Kastenbaum (1961).

His instrument indicated, "We all think about our future at times, wondering what life has in store for us. We often make guesses or predictions about what might happen in our lives. I would like you to make some guesses now. What do you expect to happen in your future? Tell me as many of these things as you can. You don't have to be absolutely certain that what you guess will happen actually will happen, a good guess is good enough".

The modified instrument for this study read, "Children all think about their future at times, what is going to happen. They wonder what life will bring, what will happen in the future as they grow up. They make guesses about what might happen in their lives. I would like you to make some guesses now. What do you expect may happen in your future? Tell me as many things as you can. You don't have to be sure that what you guess will really happen, a good guess is good enough."

The modified version included promptings in the form of general categories for the child to use, such as family life, education, occupation, wealth/money, leisure, and health. This assisted children who had difficulty with a general open-ended question, shyness, or reticence as well as

provided some structure for the more talkative or verbal child, without inhibiting their ideas.

Density was measured by the total number of responses given.

The instrument used to measure future time outlook was introduced here to mean the positive or negative emotional tone ascribed by the child to the future.

The children were asked, "When you think about the future, do you feel it will be very much worse, much worse, a little worse, the same, a little better, much better, very much better, than your time and life as it is now?"

Outlook was measured by an assigned score to each of the possibilities.

The fourth instrument was the Wide Range Achievement Test 3. The reading and arithmetic portions were administered according to the manual instructions. In order to provide for the highest sensitivity, the actual raw scores achieved by the children were used , rather than the broader grade level score to which several raw scores correspond.

Procedure

The experimenter verbally administers each instrument to the subjects individually. Each child was told that he/she

would be asked questions about their thoughts and feelings concerning their life and their school work. They were also told that none of the things we would do would affect their grades or any of the work they do in school.

Before the four instruments were administered, a demographic questionnaire was completed. This questionnaire included entries about the child's perception of parental involvement in their academic work and progress in school.

Data Analysis

To test research question #1, a stepwise multiple regression analysis was performed using reading achievement as the criterion (or dependent variable) and future time extension, future time density and future time outlook as the predictors.

To test sub-hypotheses 1a, 1b, 1c, the Pearson product-moment correlations between future time extension, future time density and future time outlook on the one hand, and reading achievement on the other, were calculated and tested to determine if they were significantly greater than zero.

To test research question #2, a stepwise multiple regression analysis was performed using arithmetic achievement as the criterion (or dependent variable) and

future time extension, future time density and future time outlook as the predictors.

To test sub-hypotheses 2a, 2b, and 2c, the Pearson product-moment correlations between future time extension, future time density, and future time outlook, on the one hand, and arithmetic achievement on the other, were calculated and tested to determine if they were significantly greater than zero.

To test hypothesis 3, Hotelling's T statistic was calculated using gender as the independent variable and future time extension, future time density and future time outlook as the dependent variables.

CHAPTER IV

RESULTS

The results presented here are organized into several sections. The first describes the demographic and background characteristics of the sample. The second section deals with results bearing on Hypothesis 1 and Subhypotheses 1a, 1b, and 1c. The third section is concerned with Hypothesis 2 and Subhypotheses 2a, 2b, and 2c. The fourth section presents data that deal with Hypothesis 3. The fifth section deals with additional analyses conducted. Finally, the sixth section summarizes the results obtained.

Demographic & Background Characteristics

The sample consists of 70 Puerto Rican children between the ages of nine and twelve years (M = 10.3). Of the thirty males and forty females represented, thirty-two are in the fourth grade and thirty-eight in the fifth grade (see Table 1). A little over a third (35.7%) live with their mothers, one child lives with the father only, and four live with neither parent, leaving roughly three-fifths (57.1%) who live with both parents.

Table 1

Demographic & Background Characteristics of Sample

Variable	n	%	M	SD	Range
Gender					
Male	30	42.9			
Female	40	57.1			
Present grade					
Fourth	32	45.7			
Fifth	38	54.3			
Age	70		10.3	0.64	9.9-11.8
Does child live with both parents?					
Mother only	25	35.7			
Father only	1	1.4			
Both parents	40	57.1			
Other	4	5.7			
Number of siblings	70		1.9	1.14	0.0- 5.0
Shares bedroom					
Yes	51	72.9			
No	19	27.1			
Do parents look at homework?					
No	4	5.7			
Sometimes	31	44.3			
Yes	35	50.0			
Do parents come to school meetings?					
No	5	7.1			
Sometimes	30	42.9			
Yes	35	50.0			
Do parents look at report card?					
Yes	70	100.0			

On average, each child has two siblings (M = 1.9), although there are seven children who have none. The average residence has 2.7 bedrooms, and the majority of the children in the sample (72.9%) share a bedroom with someone else in the household.

With respect to the parents involved, all look at their children's report cards, and nearly all (94.3%) look at their children's homework (half always do so). An overwhelming majority (92.9%) attend meetings at school, with half reporting that they attend all such meetings.

Hypothesis 1

Hypothesis 1 states that "Future time extension, future time density, and future time outlook are related to reading achievement in elementary school children."

To test this hypothesis, a stepwise multiple regression analysis was conducted, using the raw score in reading on the Wide Range Achievement Test-3 (WRAT-3) as the dependent variable and future time extension, future time density, and future time outlook as the predictors. Table 2 shows the mean, standard deviation, and range of scores obtained by the children in the sample on reading achievement, arithmetic achievement, future time extension, future time

Table 2

Summary Statistics for Academic Achievement and Future Time Perspective (N = 70)

Variable	M	SD	Range
Reading score	34.0	4.22	26 - 42
Arithmetic score	30.3	3.82	22 - 37
Future time extension	30.8	18.00	11 - 90
Future time density	27.2	10.10	11 - 58
Future time outlook	5.8	1.17	3 - 7

density, and future time outlook, and the regression analysis itself is summarized in Table 3.

Table 3 shows, for each predictor, at which stage it entered the regression equation (step); the multiple correlation obtained (R), that is, the multiple correlation between the dependent variable and the predictors that have entered the regression equation so far; the square of the multiple correlation (R^2), which is equivalent to the proportion of variance in the dependent variable accounted for by the predictors that constitute the regression equation so far; the F-test to determine if the proportion of variance accounted for by the predictors in the equation is significantly greater than zero [$F(R^2)$]; the change in the square of the multiple correlation (R^2 change), which is equivalent to the incremental variance explained by a given predictor; the F-test to determine if the increment in the variance accounted for by a given predictor is significantly greater than zero [$F(R^2$ change)]; the beta coefficient (β), which is the standardized regression coefficient for a given predictor for the regression equation that uses all the predictors in the analysis; and the Pearson product-moment

Table 3

Summary of Stepwise Regression of Reading Achievement on Future Time Perspective

Step	Variable	R	R^2	$F(R^2)$	R^2 Change	$F(R^2$ Change)	β	r
1	Future density	.135	.018	1.26	.018	1.26	-.19	-.13
2	Future extension	.160	.026	0.88	.008	0.52	.10	.02
3	Future outlook	.172	.030	0.67	.004	0.26	.06	.04

correlation between a given predictor and the dependent variable (r).

Even a cursory glance at Table 3 reveals that future time extension, future time density, and future time outlook are unrelated to reading achievement. With all three predictors in the regression equation, only 3.0% of the variance in reading achievement can be accounted for, and, as the nonsignificant $F(R^2)$ shows, 3.0% is not significantly greater than zero. One must therefore conclude that the results do not provide any support for Hypothesis 1.

As for Subhypotheses 1a, 1b, and 1c, each of which posited a relationship between reading achievement, on the one hand, and future time extension, future time density, and future time outlook, respectively, on the other, none of the Pearson product-moment correlations involved in testing these hypotheses is significantly greater than zero at the .05 level, which leads one to conclude that the results provide no support for Subhypotheses 1a, 1b, and 1c.

Hypothesis 2

Hypothesis 2 states that "Future time extension, future time density, and future time outlook are related to arithmetic achievement in elementary school children."

A stepwise multiple regression analysis was conducted to test Hypothesis 2, using the raw score in arithmetic on the WRAT-3 as the dependent variable and future time extension, future time density, and future time outlook as the predictors.

As Table 4, which summarizes the stepwise multiple regression of arithmetic achievement on the future time perspective variables, shows, a significant proportion (.139) of the variance of arithmetic achievement can be accounted for by future time perspective, F (3,66) = 3.55, p < .05. Most of the variance explained (.136/.139, or 97.8%) is due to the first two variables in the equation, namely, future time density and future time extension. Indeed, the incremental variance accounted for by future time outlook is not significantly greater than zero.

Subhypotheses 2a, 2b, and 2c, which state that there is a relationship between arithmetic achievement, on the one hand, and future time extension, future time density, and future time outlook, respectively, on the other, can be tested by calculating the Pearson product-moment correlation coefficients between each of the future time perspective variables and arithmetic achievement. These correlation

Table 4

Summary of Stepwise Regression of Arithmetic Achievement on Future Time Perspective

Step	Variable	R	R^2	$F(R^2)$	R^2 Change	$F(R^2$ Change)	β	r
1	Future density	.260	.067	4.91*	.067	4.91*	-.38	-.26*
2	Future extension	.369	.136	5.29*	.069	5.34*	.29	.12
3	Future outlook	.373	.139	3.55*	.003	0.22	-.05	-.09

* $p < .05$.

coefficients constitute the last column in Table 4. Note than only future time density is significantly correlated with arithmetic achievement, $r = -.26$, $p < .05$. Given that the correlation is negative, one must conclude that, although the future time perspective variables as a group can account for a significant, albeit small, proportion of the variance in arithmetic achievement, none is positively related to arithmetic achievement, that is, although the results provide support for Hypothesis 2, they do not provide support for Subhypotheses 2a, 2b, and 2c.

Hypothesis 3

Hypothesis 3 states that "There will be no differences due to gender in future time extension, future time density, and future time outlook."

Table 5 shows the mean future time perspective scores broken down by gender. The largest difference expressed in standard deviation units (sigma), that in future time extension, is only .36. The difference in future time density, again expressed in sigma, is approximately half that (.17). As for future time outlook, the difference between male and female subjects is less than a tenth (.09) of a sigma.

Table 5

Mean Future Time Perspective Scores by Gender

Future Time Perspective		Gender: Male (n=30)	Gender: Female (n=40)	Total (N=70)
Future time extension	M	34.5	28.0	30.8
	SD	15.92	19.14	18.00
Future time density	M	28.2	26.5	27.2
	SD	9.24	10.75	10.10
Future time outlook	M	5.7	5.8	5.8
	SD	1.35	1.03	1.17

To determine if the male and female subjects differ significantly in future time perspective, Hotelling's T^2 statistic, which is the multivariate analog of Student's *t* statistic, was calculated. The result is not significant, T^2 (3,66) = .932, $p > .44$. One may thus conclude that the results support Hypothesis 3.

Additional Analyses

Since the results presented so far indicate that future time perspective is unrelated to reading achievement, and only slightly related to arithmetic achievement, the researcher wondered whether the demographic and background variables could account for a larger proportion of the variance in academic achievement.

Table 6 shows a summary of the stepwise regression of reading achievement on the demographic and background variables. These include two interval-level variables (age and number of siblings), and five dichotomous variables coded 0 and 1. The dichotomous variables consist of gender (males coded 0, that is, males are the reference group), whether the child shares a bedroom (0 = yes), whether the child lives with both parents (0 = no), whether the parents

Table 6

Summary of Stepwise Regression of Reading Achievement on Demographic & Background Variables

Step	Variable	R	R^2	$F(R^2)$	R^2 Change	$F(R^2$ Change)	β	r
1	Homework checked	.225	.051	3.63	.051	3.63	.17	.23*
2	Shares bedroom	.299	.089	3.28*	.039	2.84	-.27	-.20*
3	Meetings attended	.357	.128	3.22*	.038	2.89	.17	.14
4	Age	.389	.151	2.90*	.024	1.83	.17	.15
5	Gender	.399	.159	2.42*	.008	0.60	-.10	-.16
6	Lives with parents	.405	.164	2.06	.005	0.37	.07	.09
7	No. of siblings	.406	.164	1.74	.000	0.02	-.02	-.02

* $p < .05$.

always check the child's homework (0 = no), and whether the parents always attend meetings at school (0 = no).

Inspection of Table 6 reveals that the single most important predictor of reading achievement is whether the parents check the child's homework, $r = .23$, $p < .05$. As is usual in a stepwise multiple regression analysis, the most important single predictor enters the regression equation first. The next most important single predictor of reading achievement is whether the child shares a bedroom, $r = -.20$, $p < .05$. That the sign is negative indicates that children who share a bedroom do better on the reading portion of the WRAT-3. No other predictors are significantly correlated with reading achievement.

Using all seven demographic and background variables as predictors yields a multiple correlation of .406, which is equivalent to .164 of variance explained. Thus, one might argue that the demographic and background variables, which account for over 16% of the variance in reading scores, are better predictors than future time extension, future time density, and future time outlook, which only account for 3% of the variance in reading achievement. However, it is true of multiple regression that the proportion of variance in

the dependent variable explained by the predictors increases as the number of predictors increases. Taking a look only at the first three predictors in Table 6 shows that whether the parents always check their child's homework, whether the child shares a bedroom, and whether the parents always attend school meetings account for 12.8% of the variance in reading scores, which is not only greater than the variance accounted for by the three future time perspective variables, but is also significantly greater than zero, $F(3,66) = 3.22$, $p < .05$.

Table 7 summarizes the stepwise regression of arithmetic achievement on the demographic and background variables. With the exception of the dependent variable used, the analysis is parallel to that summarized in Table 6.

Table 7 shows that the single most important predictor of arithmetic achievement is whether the parents always attend meetings at school, $r = .38$, $p < .005$. The next most important single predictor of arithmetic scores on the WRAT-3 is the number of siblings, $r = -.20$, $p < .05$. (The negative sign indicates that the greater the number of siblings, the lower the score in arithmetic.) With the

Table 7

Summary of Stepwise Regression of Arithmetic Achievement on Demographic & Background Variables

Step	Variable	R	R^2	$F(R^2)$	R^2 Change	$F(R^2$ Change)	β	r
1	Meetings attended	.384	.148	11.76**	.148	11.76**	.33	.38**
2	No. of siblings	.410	.168	6.78**	.021	1.68	-.15	-.20*
3	Gender	.431	.186	5.02**	.017	1.41	-.17	-.17
4	Age	.442	.195	3.94*	.009	0.75	.09	.13
5	Lives with parents	.451	.203	3.26*	.008	0.65	.09	.08
6	Homework checked	.452	.204	2.69*	.001	0.06	-.03	.05
7	Shares bedroom	.452	.204	2.27*	.000	0.01	.01	.13

* $p < .05$. ** $p < .005$.

exception of these two variables, no other predictors are significantly correlated with reading achievement.

The seven demographic and background variables account for 20.4% of the variance in arithmetic scores, which is not only significantly greater than zero, F (7,62) = 2.27, p < .05, but is also greater than that accounted for by the three future time perspective variables (13.9%). Restricting the number of predictors to three to make the present analysis comparable to that using the future time perspective variables as predictors of arithmetic achievement, the proportion of variance in arithmetic scores explained (.186) by whether or not the parents attend school meetings, the number of siblings, and the child's gender is still greater than that accounted for by future time extension, future time density, and future time outlook.

The stepwise multiple regression analyses summarized in Tables 6 and 7 show that demographic and background variables account for more of the variance in reading and arithmetic achievement than the future time perspective variables. One question suggested by these results is whether some combination of future time perspective variables and demographic and background variables would

account for more of the variance in reading and arithmetic scores than either set of variables by itself.

Tables 8 and 9 summarize the regression of reading scores and arithmetic scores, respectively, on all three future time perspective variables and all seven demographic and background variables.

Inspection of Table 8 reveals that all ten predictors account for only 18.2% of the variance in reading scores. Note that this is only marginally higher than the 15.3% accounted for by the first three predictors to enter the regression equation when only the demographic and background variables were used (see Table 6). Indeed, restricting the analysis only to the first three predictors used in Table 8 yields results identical to those in Table 6. With respect to reading achievement, one must conclude that using both future time perspective variables and demographic and background variables as predictors produce results that are not superior to using demographic and background variables only.

As for arithmetic achievement (see Table 9), the results are very different. Using all ten predictors, the proportion of variance explained (.350) is clearly superior

Table 8

Summary of Stepwise Regression of Reading Achievement on Future Time Perspective, Demographic & Background Variables

Step	Variable	R	R^2	$F(R^2)$	R^2 Change	$F(R^2$ Change)	β	r
1	Homework checked	.225	.051	3.63	.051	3.63	.17	.23*
2	Shares bedroom	.299	.089	3.28*	.039	2.84	-.27	-.20*
3	Meetings attended	.357	.128	3.22*	.038	2.89	.18	.14
4	Future density	.392	.153	2.94*	.026	1.99	-.15	-.13
5	Age	.408	.166	2.55*	.013	0.98	.12	.15
6	Gender	.418	.175	2.22	.009	0.66	-.10	-.16
7	Lives with parents	.423	.179	1.93	.004	0.30	.07	.09
8	Future extension	.425	.181	1.68	.002	0.13	.05	.02
9	Future outlook	.426	.181	1.48	.001	0.06	.03	.04
10	No. of siblings	.426	.182	1.31	.000	0.01	-.01	-.02

* $p < .05$.

to that obtained using only the three future time perspective variables (.139, see Table 4) or the seven demographic and background variables (.204, see Table 7). Even if only the first three predictors in Table 9 are taken into account, the proportion of variance explained (.294) is still substantially greater than that accounted for either by the three future time perspective variables by themselves (.139) or by the first three demographic and background variables to enter the regression equation when only the seven demographic and background variables are used (.186, as shown in Table 7). Note that the first three predictors to enter the regression equation for arithmetic achievement when both future time perspective variables and demographic and background variables are used do constitute a combination of both sets of predictors: the first to enter the regression equation, whether the parents always attend school meetings, is a background variable, whereas the next two, future time density and future time extension, are part of the future time perspective set. One may thus conclude that using both sets of predictors, that is, both future time perspective variables and demographic and background variables, produces results that are superior to those

Table 9

Summary of Stepwise Regression of Arithmetic Achievement on Future Time Perspective, Demographic & Background Variables

Step	Variable	R	R^2	$F(R^2)$	R^2 Change	$F(R^2$ Change)	β	r
1	Meetings attended	.384	.148	11.76**	.148	11.76**	.37	.38**
2	Future density	.453	.205	8.66**	.058	4.89**	-.35	-.26*
3	Future extension	.542	.294	9.15**	.088	8.26**	.37	.12
4	No. of siblings	.569	.324	7.79**	.030	2.90	-.18	-.20*
5	Gender	.577	.333	6.39**	.009	0.85	-.12	-.17
6	Lives with parents	.586	.343	5.48**	.010	0.95	.11	.08
7	Future outlook	.590	.348	4.73**	.005	0.49	-.07	-.09
8	Homework checked	.591	.350	4.10**	.002	0.17	-.05	.05
9	Age	.592	.350	3.59**	.001	0.05	.02	.13
10	Shares bedroom	.592	.350	3.18**	.000	0.01	.01	.13

* $p < .05$. ** $p < .005$.

obtained using one set only, even after controlling for the total number of predictors used.

In the interest of comprehensiveness, one further question is worth asking, namely, "Can future time perspective be predicted by demographic and background variables?"

This question is answered in Tables 10, 11, and 12, which summarize the results of three stepwise regression analyses using the same seven demographic and background variables used in previous analyses and future time extension, future time density, and future time outlook, respectively, as dependent variables.

As Table 10 shows, using all seven demographic and background variables as predictors yields a multiple correlation of .382, which is equivalent to saying that 14.6% of the variance in future time extension can be accounted for. Note, however, that the F test for the total variance explained is significant only through the entry of the first four predictors (number of siblings, gender, whether the child lives with both parents, and whether the parents always check the child's homework), $F\ (4,65) = 2.55$, $p < .05$. Note also that only the first predictor is

Table 10

Summary of Stepwise Regression of Future Time Extension on Demographic & Background Variables

Step	Variable	R	R^2	$F(R^2)$	R^2 Change	$F(R^2$ Change)	β	r
1	No. of siblings	.266	.071	5.18*	.071	5.18*	.30	.27*
2	Gender	.336	.113	4.27*	.042	3.19	-.16	-.18
3	Lives with parents	.354	.125	3.14*	.012	0.91	-.11	-.09
4	Homework checked	.368	.136	2.55*	.011	0.81	.11	.09
5	Age	.376	.142	2.11	.006	0.43	-.07	-.11
6	Meetings attended	.380	.144	1.77	.003	0.20	-.04	-.10
7	Shares bedroom	.382	.146	1.51	.002	0.11	-.04	-.15

* $p < .05$.

significantly correlated with future time extension, and that the incremental variance explained by each of the next three predictors (and all subsequent ones) is not significantly greater than zero. One must conclude that demographic and background variables account for a small, albeit significant, proportion of the variance in future time extension.

Inspection of Table 11 reveals that all seven demographic and background variables account for only 13.0% of the variance of future time density. Moreover, after the entry of the first three predictors (age, number of siblings, and whether the child lives with both parents), the proportion of total variance explained ceases to be significantly greater than zero. As with future time extension, only the first predictor to enter the regression equation is significantly correlated with future time density, $r = -.31$, $p < .005$, and only the first predictor accounts for a significant increment in variance explained, $F(1,68) = 7.02$, $p < .05$. These results lead one to conclude that demographic and background variables do account for a small, but significant, proportion of the variance in future time density.

Table 11

Summary of Stepwise Regression of Future Time Density on Demographic & Background Variables

Step	Variable	R	R^2	F(R^2)	R^2 Change	F(R^2 Change)	β	r
1	Age	.306	.094	7.02*	.094	7.02*	-.29	-.31**
2	No. of siblings	.342	.117	4.42*	.023	1.75	.17	.16
3	Lives with parents	.350	.122	3.07*	.006	0.43	-.08	-.08
4	Shares bedroom	.354	.125	2.33	.003	0.21	-.06	-.13
5	Homework checked	.357	.127	1.87	.002	0.16	.04	.00
6	Gender	.359	.129	1.55	.001	0.09	-.03	-.09
7	Meetings attended	.360	.130	1.32	.001	0.06	.03	-.05

* $p < .05$. ** $p < .005$.

As for future time outlook, not only is it the case that no demographic or background variable is significantly correlated with it, the whole set is not: all seven predictors account for only 6.9% of the variance in future time outlook, a percentage that is not significantly greater than zero.

Summary

A total of seventy Puerto Rican fourth- and fifth-graders ranging in age from nine to twelve (M = 10.3) participated in the study. The sample consisted of thirty males and forty females. Only 57.1% live with both parents, and most (72.9%) have to share a bedroom, presumably with a sibling, of whom the average child had two. The parents involved seem, on the whole, to be supportive of their children's academic endeavors, as evidenced by their checking homework and report cards and participation in school meetings.

Future time extension, future time density, and future time outlook are not, as a group, related to reading achievement, as the nonsignificant results from a stepwise multiple regression analysis indicate, nor is each by itself related to reading achievement, which leads one to conclude

Table 12

Summary of Stepwise Regression of Future Time Outlook on Demographic & Background Variables

Step	Variable	R	R^2	$F(R^2)$	R^2 Change	$F(R^2$ Change)	β	r
1	No. of siblings	.153	.023	1.63	.023	1.63	.19	.15
2	Meetings attended	.204	.042	1.46	.018	1.28	.12	.11
3	Homework checked	.232	.054	1.25	.012	0.84	.13	.09
4	Age	.251	.063	1.09	.009	0.64	.08	.11
5	Gender	.261	.068	0.94	.005	0.35	.07	.07
6	Shares bedroom	.262	.069	0.77	.001	0.04	.03	.04
7	Lives with parents	.262	.069	0.66	.000	0.02	-.02	.04

that the results support neither Hypothesis 1 nor Subhypotheses 1a, 1b, and 1c.

Future time extension, future time density, and future time outlook are somewhat related to arithmetic achievement, accounting for 13.9% of the variance. However, only future time density is significantly correlated ($r = -.26$) with arithmetic achievement, but not in the direction predicted. One may thus conclude that there is some support for Hypothesis 2, but not for Subhypotheses 2a, 2b, and 2c.

There are no significant differences in future time perspective due to gender, that is, the results constitute support for Hypothesis 3.

Additional analyses revealed the following: Even controlling for the number of predictors used, demographic and background variables account for more of the variance in both reading achievement (12.8% vs. 3.9%) and arithmetic achievement (18.6% vs. 13.9%) than the future time perspective predictors. Moreover, the variance accounted for in both dependent variables is significantly greater than zero.

Using both future time perspective and demographic and background variables as predictors makes no difference in

reading achievement when the number of predictors is limited to three: the results are identical with those obtained using demographic and background variables only. However, using the same constraint, there is a substantial difference for arithmetic achievement, where not only is the variance explained by the first three predictors (20.4%) greater than that using only future time perspective variables (13.9%) or only demographic and background variables (20.4%), but the first three variables to enter the regression come from both sets of predictors.

Finally, the results indicate that demographic and background variables can account for some of the variance of future time extension (14.6%) and future time density (13.0%) but very little (6.9%) of the variance of future time outlook.

CHAPTER V

DISCUSSION

The purpose of this study was to explore the relationship between future time perspective and the academic achievement level of Puerto Rican elementary school children.

It examined three dimensions of future time perspective: future time extension, future time density, and future time outlook. These three dimensions were chosen because they represented both the quantitative and qualitative aspects of future time perspective.

The study also explored the relationship of demographic and background information and the academic achievement levels of the children; as well as the relationship of demographic and background information and future time perspective.

The findings of the study offered no support to the premise that future time perspective was related to the reading achievement of the children. Nor were each of the dimensions of future time perspective individually related to the reading achievement of the children.

The findings did indicate a relationship between future

time perspective and the arithmetic achievement of the children. Future time density was found to be related to arithmetic achievement but not in the direction that was hypothesized. In this study, higher scores in arithmetic were associated with lower future time density.

The sex of the child made no difference in the relationship between future time perspective and academic achievement in reading or arithmetic. This was the anticipated outcome.

In addition to the primary findings of the study, additional relationships were explored.

Reading achievement was found to be related to parents' checking their children's homework on a regular basis. This was, in fact, the best predictor of reading achievement for the children. Reading achievement was also found to be higher in children who reported sharing their bedrooms with someone else, a somewhat counter intuitive finding.

Arithmetic achievement was found to be related to parents' attending school meetings. This was the best predictor of arithmetic achievement in the children. Arithmetic achievement was also found to be higher for the children who had a lower number of sibs.

A combination of future time perspective plus demographic and background variables did not produce results that were any better than using the demographic and background variables alone when examining reading achievement.

However, this combination was better than using future time perspective alone or demographic and background variables alone when examining arithmetic achievement.

The additional analyses showed a relationship between demographic and background variable on the one hand and future time extension and density on the other. No such relationship was found between demographic and background variables and future time outlook.

A discussion of these findings is presented in the following sections.

Future Time Perspective and Reading Achievement:

The children in this study were able to respond to the questions in each of the dimensions of future time perspective. The mean future time extension was thirty-one years, the mean future time density was twenty-seven years and the mean future time outlook was between the intervals "much better" and "very much better".

The mean reading achievement level of the seventy children was at the 4.6 grade level. Therefore,these children could not be categorized as underachievers in reading because they were all students in the fourth and fifth grades. Nevertheless, the results of the study did not support the hypothesis that their future time perspective was related to their reading achievement.

It is possible that the three future time perspectives chosen did not tap the relationship to reading achievement, and that other aspects of this muti-dimensional construct might prove more suitable. For example, a child's view of how much control he/she has over the future, or how predictable the future is (Heimburg,1963) might be explored and may yield results.

Future Time Perspective and Arithmetic Achievement:

Future time perspective was found to be related to the arithmetic achievement level of the children.

The mean arithmetic achievement level of the seventy children was at the 4.3 grade level. Once again, these children could not be categorized as underachievers in arithmetic, because they were all students in the fourth and fifth grades.

Of the three dimensions of future time perspective, only future time density was significantly correlated with arithmetic achievement. However, the correlations went in the opposite direction of that which was anticipated. In other words, the lower the future time density, the higher the arithmetic score.

A possible explanation for the correlation between future time perspective as a whole and arithmetic function could be that the dimensions required the evaluation process and reasoning skills similar to the mind set associated with arithmetical computation. For example, a stepwise progression, reasoning with numbers, and analysis.

Since future time density is related to arithmetic achievement but not in the expected direction, the density component may pull for more intuitive , fantasy-like or creative assertions as well as abstractions and associations, a more holistic approach or mind set.

Future Time Perspective and Gender:

The premise that future time perspective and academic achievement levels would be no different for boys and girls was supported. The largest relative difference between girls and boys was found in future time extension, followed by

future time density ,trailed by future time outlook. The mean future time extension for boys was 35 years, for girls 28 years. The mean future time density for boys was 28 items, for girls it was 27 items. Generally speaking, the feeling tone for the future was positive, with the future appearing as a better time, an expression of hope. Both girls and boys were able to express themselves in terms of future time perspective. Clinicians and teachers could connect ideas about the future generated by young patients and students into their treatment and projects.

Additional Findings

It is interesting to see the demographic and background variables that were related to the academic achievement of the children in the study. The significant variables for reading achievement were whether the parent checked the homework assignments and whether the children shared a bedroom. Both of these activities involved an interpersonal component and a sharing of information and dialogue. The child brings and shows the parent the homework, the parent acknowledges it, makes comments and/or corrections, offers praise, support, encouragement or is not all together pleased. In all instances, there is a communication between

the parent and child. These factors point to the importance of parental concern and attention. Knowledge of these type of findings suggest ways to promote and improve parental effectiveness in supporting their children's efforts and outcomes in school.

In some ways, the children who share a bedroom also would appear to have more opportunity for verbal interactions. They can ask a brother or sister for assistance with reading, or can help a younger brother or sister with a reading task, yielding more practice of their own reading skills.

In the classroom setting, reading in the fourth and fifth grades continues to be a a subject that has the interpersonal quality: reading out loud, and reading together.

The significant variables for arithmetic achievement were the number of school meetings the parent attends and the number of brothers and sisters. In this case, the more meetings the parent attended the better the arithmetic achievement. The lower the number of brothers and sisters, the higher the arithmetic achievement. Overall, this could represent the parents ability to monitor more closely fewer

children. Parental concern and attentiveness in this instance is more indirect. Numerical reasoning requires individual concentration, attention to detail, and precision in computation, and these seem to be made easier with fewer distractions. Once, again, using both sets of predictors for arithmetic -- future time perspective variables and demographic and background variables -- provided better results for arithmetic achievement.

Of further interest, was the question, "Can future time perspective be predicted by demographic and background variables?". In this case, the number of brothers and sisters was related to future time extension for a small albeit significant proportion of the variance. The age of the child was related to future time density, that is, the older the child, the lower the density. It may well be that the older child is attempting to be more realistic in the number of things likely to be achieved. In no case was there significance between future time outlook and demographic and background variables. In view that the mean future time outlook was positive, this was a pleasing result.

Conclusions

This study was a preliminary investigation into the

relationship between future time perspective and the academic achievement level of Puerto Rican children. Three dimensions of future time perspective were examined: future time extension, future time density, and future time outlook. Seventy (70) children from an elementary public school in a South Bronx community of New York City participated.

The research literature indicated that future time perspective is generally associated with a higher academic achievement level, and that future time perspective was influenced by culture and socialization.

Since no studies were found that directly explored the temporality and academic achievement of Puerto Rican students, and high school dropout rates were high in this population, this study sought to examine their future time perspective as it related to academic achievement.

The results did not offer support to previous findings relating future time perspective to academic achievement. In the area of reading, no dimension of future time perspective was related to achievement. The results did support the previous findings in the area of arithmetic, but not in the direction predicted as described above. The study hypothezied that there would be no relationship between future time

perspective and academic achievement for boys and girls and this was supported by the investigation.

One of the main ideas that the author wanted to explore was whether Puerto Rican children were underachieving and later dropping out of school at a high rate because of an underdeveloped future time perspective. From the findings, it is concluded that the Puerto Rican children in this study were able to conceptualized the future, and they were able to entertain notions of what was yet to be. This was true of all three dimensions in the study. Yet, the results showed that the children's future time perspective had little to do with academic achievement per se. Could it be that the three dimensions chosen for the study -- extension, density, and outlook -- were not optimal. Since future time perspective is a multi-dimensional construct, other dimensions, such as future time attitude, comprising the degree to which the future is viewed as predictable, and felt to be under the individual's control, might be used in future studies.

The study did show that nine to twelve year old children were able to conceptualize the future in terms of extension, density, and outlook. Time orientation might be more fluid than developmental theory suggests, and less stage-specific.

Further study in this area would be beneficial.

Some implications for use by clinicians is that a knowledge of a child's future time perspective could be incorporated into treatment in order to explore present behaviors (adaptive or maladaptive), and connect these to future options, hopes, and dreams.

Teachers and counselors can utilize a knowledge of a child's future time perspective to provide support and guidance by enabling children and rewarding them step-by-step and building connections between present performance and expected outcomes.

This study was limited by the small age interval used -- ages nine to twelve -- and that only grades four and five participated. Additionally, the group was homogeneous as far as socioeconomic status. These factors may have restricted significant findings. Studies that would compare and contrast groups on these features would be beneficial for future study.

Another factor that may play a role, is that the children were reflecting the future time perspectives of the agents of socializations, i.e. parents, teachers, the media, peers. Comparing and contrasting these perceptions would also

be beneficial in the further study of the impact of future time perspective on academic achievement.

The children who participated in this study were generally enthusiastic, mindful, and put effort into the completion of tasks required. Somewhere between the fifth grade and high school these features are diverted from academics or the curriculum/school factors fail to promote continued aspirations through academic success.

The findings of this study can only be presented as a preliminary investigation of future time perspective in Puerto Rican children, and its relationship to their academic achievement. Much is left to inference and speculation, and many questions remain. A broader understanding of cultural differences, dimensions of future time perspective , and the importance of academic achievement to children would assist members of the help professions in the delivery of services.

APPENDIX A

CONSENT FORM

ENGLISH

SPANISH

THE CITY COLLEGE
OF
THE CITY UNIVERSITY OF NEW YORK
NEW YORK, N. Y. 10031

CLINICAL PSYCHOLOGY
DOCTORAL PROGRAM
DEPARTMENT OF PSYCHOLOGY
NAC Bldg., 8th Floor 8/107

(212) 650-5674

CONSENT FORM

Dear Parent:

I am a doctoral student doing a study about children and their points of view concerning the future. This study consists of asking questions about how the child thinks and feels about his/her own future. It will also look at how the child is doing in reading and arithmetic.

There are no risks or discomforts associated with this study, and it will in no way affect your child's school record or grades. It will be conducted at the school during regular class time or at a prearranged time, if necessary.

Participation is voluntary and participants are free to withdraw at any time.

If you would like your child to take part in the study, please sign and return the form below.

I have read and understood the above, and I consent to have my child participate in this study under the specified terms.

Child's Name_____Class_____

_____
Parent Signature

THE CITY COLLEGE
OF
THE CITY UNIVERSITY OF NEW YORK
NEW YORK, N. Y. 10031

CLINICAL PSYCHOLOGY
DOCTORAL PROGRAM
DEPARTMENT OF PSYCHOLOGY
NAC Bldg., 8th Floor 8/107

(212) 650-5674

CONSENTIMIENTO

Estimado padre:

Yo soy una estudiante en el programa doctoral haciendo un estudio acerca de los puntos de vista de muestros niños sobre el futuro. Este estudio consiste en contestar preguntas sobre como el niño o la niña piensa y se siente cuando piensa en su propio futuro. También, el estudio verá como los niños están funcionando en lectura y aritmética.

No hay riesgos o molestias asociado con el estudio, y no afectará los estudios escolares de su niño. Será conducido durante el horario escolar o a otra hora arreglada de antemano.

Participación es voluntaria, y los participantes pueden retirarse en cualquier momento.

Si desea que su niño participe en este estudio, por favor devuelva la forma abajo incluida, con su firma.

Yo he leído y he entendido lo antedicho y consiento en que mi niño participe en el estudio bajo los términos especificados.

Nombre del Niño_____Clase_____

_____
Firma del padre

APPENDIX B

QUESTIONNAIRE

QUESTIONNAIRE

NAME_____ DOB_____AGE____ F/M GRADE_____

FAMILY COMPOSITION:

1._____6._____

2._____7._____

3._____8._____

4._____9._____

5._____10._____

TOTAL_____

HOME DESCRIPTION:

TOTAL BEDROOMS:_____SHARE ROOM/OWN ROOM

FAVORITE TOYS:_____ELECTRONIC/OTHER

PARENTAL ATTITUDE TOWARD EDUCATION:

1. Does your parent look at your homework? Yes____No____Sometimes____

2. Does your parent come to the school for meetings? Yes____No____Sometimes____

3. Does your parent look at your report card? Yes____No____Sometimes____

4. Is your parent pleased when you get a good grade? Yes____No____Sometimes____

TOTALS ____ ____ ____

APPENDIX C

FUTURE TIME EXTENSION

FUTURE TIME EXTENSION

NAME_____DOB_____AGE_____M/F GRADE_____

TELL ME TEN THINGS THAT MAY HAPPEN TO YOU DURING THE REST OF YOUR LIFE? (AFTER EACH RESPONSE) AND HOW OLD MIGHT YOU BE WHEN THAT HAPPENS? FOR EXAMPLE, "I WILL BUY A CAR. I WILL BE 20 YEARS OLD.

1._____AGE_____

2_____AGE_____

3._____AGE_____

4._____AGE_____

5._____AGE_____

6._____AGE_____

7._____AGE_____

8._____AGE_____

9._____AGE_____

10._____AGE_____

PRESENT AGE_____ LAST AGE REPRESENTED_____

EXTENSION_____

APPENDIX D

FUTURE TIME DENSITY

FUTURE TIME DENSITY

NAME_____DOB_____AGE____M/F GRADE_____

CHILDREN ALL THINK ABOUT THEIR FUTURE AT TIMES, WHAT IS GOING TO HAPPEN. THEY WONDER WHAT LIFE WILL BRING, WHAT WILL HAPPEN IN THE FUTURE AS THEY GROW UP. THEY MAKE GUESSES ABOUT WHAT MIGHT HAPPEN IN THEIR LIVES. I WOULD LIKE YOU TO MAKE SOME GUESSES NOW. WHAT DO YOU EXPECT MIGHT HAPPEN IN YOUR FUTURE? YOU DON'T HAVE TO BE SURE THAT WHAT YOU GUESS WILL HAPPEN WILL REALLY HAPPEN, A GOOD GUESS IS GOOD ENOUGH.

DO YOU THINK YOU'LL HAVE A FAMILY? YES_____NO_____UNSURE_____
TELL ME MORE ABOUT THAT:_____

_____

_____

_____

_____

DO YOU THINK YOU'LL HAVE AN EDUCATION? YES_____NO_____UNSURE_____
TELL ME MORE ABOUT THAT:_____

_____

_____

_____

_____

DO YOU THINK YOU'LL HAVE A JOB OR CAREER? YES_____NO_____UNSURE_____
TELL ME MORE ABOUT THAT:_____

_____

_____

_____

_____

DO YOU THINK YOU'LL HAVE MONEY OR THINGS? YES_____NO_____UNSURE_____
TELL ME MORE ABOUT THAT:_____

_____

_____

_____

_____

DO YOU THINK YOU'LL HAVE FUN AND DO THINGS BESIDES WORK? YES_____NO_____UNSURE_____
TELL ME MORE ABOUT THAT:_____

_____

_____

_____

_____

DO YOU THINK YOU'LL BE HEALTHY AND STRONG? YES_____NO_____UNSURE_____
TELL ME MORE ABOUT THAT:_____

_____

_____

_____

_____

TOTALS: FAMILY_____

EDUCATION_____

JOB/CAREER_____

MONEY/THINGS_____

FUN/LEISURE_____

HEALTH_____

OVERALL TOTAL_____

APPENDIX E

FUTURE TIME OUTLOOK

FUTURE TIME OUTLOOK

NAME DOB AGE M/F GRADE

WHEN YOU THINK ABOUT THE FUTURE DO YOU FEEL IT WILL BE VERY MUCH WORSE, MUCH WORSE, A LITTLE WORSE, THE SAME. A LITTLE BETTER, MUCH BETTER, VERY MUCH BETTER, THAN YOUR TIME AND LIFE AS IT IS NOW?

1. VERY MUCH WORSE
2. MUCH WORSE
3. LITTLE WORSE
4. THE SAME
5. LITTLE BETTER
6. MUCH BETTER
7. VERY MUCH BETTER

APPENDIX F

WIDE RANGE ACHIEVEMENT TEST

REVISION 3

WRAT3

WIDE RANGE ACHIEVEMENT TEST □ REVISION 3

NAME _____ GENDER □M □F

DATE _____ BIRTH DATE _____ AGE _____

SCHOOL _____ GRADE _____

REFERRED BY _____ EXAMINER _____

BLUE TEST SCORES

	Raw Score	Std. Score	%ile	Grade Score	Absolute Score
READING					
SPELLING					
ARITHMETIC					

Use only standard scores for comparisons

SPELLING/A MEASURE OF WRITTEN ENCODING

by Gary S. Wilkinson

NAME _____ '82

(3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15)

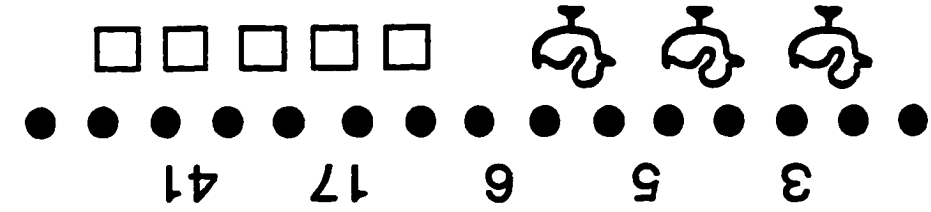
1 _____	17 _____	31 _____
2 _____	18 _____	32 _____
3 _____	19 _____	33 _____
4 _____	20 _____	34 _____
5 _____	21 _____	35 _____
6 _____	22 _____	36 _____
7 _____	23 _____	37 _____
8 _____	24 _____	38 _____
9 _____	25 _____	39 _____
10 _____	26 _____	40 _____
11 _____	27 _____	
12 _____	28 _____	
13 _____	29 _____	
14 _____	30 _____	
15 _____		

5/10 RULES

Name/Letter Writing		
Word Spelling	+	
Total Spelling		

WIDE RANGE
15 Ashley Place Suite 1A Wilmington DE 19804-3314

WRAT3 ARITHMETIC/A MEASURE OF NUMBER COMPUTATIONS



3 Fingers | 8 Fingers | 9 or 6? | 42 or 28?

3 pennies, spend 1? | 3 + 4 apples? | 9 marbles, lose 3? (15)

REDUCE ALL ANSWERS TO LOWEST TERMS

1 + 1 = ____	5 - 1	2 + 7 = ____	8 - 4 = ____	32 + 24 + 40
1	2	3	4	5
9 + 3	36 - 15	3 x 4 = ____	68 + 23	7 x 6
6	7	8	9	10
23 x 3	33 - 17	6 ÷ 2 = ____	$4\overline{)16}$	17 x 4
11	12	13	14	15
724 - 597	229 + 5048 + 63 + 1381	$\frac{15}{5}$ = ____	$9\overline{)4527}$	$\frac{1}{3} + \frac{1}{3}$ = ____
16	17	18	19	20
$2\frac{1}{2} + 1\frac{1}{2}$ = ____	823 x 96	.42 = ____ %	$\frac{1}{4} \times \frac{1}{2}$ = ____	38 x 2.4
21	22	23	24	25

Go to Next Page

WRAT 3 ARITHMETIC/A MEASURE OF NUMBER COMPUTATIONS

26 $\frac{3}{10} + \frac{3}{4} =$

Ans: _____

27
$$\begin{array}{r} 6\frac{1}{4} \\ 1\frac{5}{8} \\ +\ 4\frac{1}{2} \\ \hline \end{array}$$

28 $\frac{2}{5}$ of 35 = _____

29 $27\overline{)384}$

30
$$\begin{array}{r} 6.23 \\ \times\ 12.7 \\ \hline \end{array}$$

31 $2 - \_\_\_\_ = \frac{1}{4}$

32
$$\begin{array}{r} 10\frac{1}{4} \\ -7\frac{2}{3} \\ \hline \end{array}$$

33 Add:

$$\begin{array}{r} -X-Y-23 \\ X-Y+22 \\ \hline \end{array}$$

34 15% of 175 =

Ans: _____

35 Write as common fraction in lowest terms:

.075 = _____

36 $\frac{r^2 - 5r - 6}{r + 1}$

Ans: _____

37 $3p - q = 10$

$2p - q = 7$

$p =$ _____ $q =$ _____

38 Reduce:

$\frac{K^2 + K}{K^2} \cdot \frac{3K - 3}{K^2 - 1}$

Ans: _____

39 $f(x) = 3x^2 + x - 7$

Find $f(-2)$

Ans: _____

40

5 RULE / 15 MINUTES

Oral Arithmetic _____ Written Arithmetic _____ Total Arithmetic _____

WRAT3 READING/A MEASURE OF WRITTEN DECODING

CAUTION: EXAMINER USE ONLY!

A B O S E R T H U P I V Z J Q (15)

1 **in** in	2 **cat** kat	3 **book** buuk	4 **tree** tree
5 **how** how	6 **animal** an-ĭ-măl	7 **even** ee-vĕn	8 **spell** spel
9 **finger** fing-gĕr	10 **size** sīz	11 **felt** felt	12 **split** split
13 **lame** laym	14 **stretch** strech	15 **bulk** bulk	16 **abuse** ă-byoos, -byooz
17 **contemporary** kŏn-tem-pŏ-rer-ee	18 **collapse** kŏ-laps	19 **contagious** kŏn-tay-jŭs	20 **triumph** trī-ŭmf
21 **alcove** al-kohv	22 **bibliography** bib-li-og-ră-fee	23 **horizon** hŏ-rī-zŏn	24 **municipal** myoo-nis-ĭ-păl
25 **unanimous** yoo-nan-ĭ-mŭs	26 **benign** bi-nīn	27 **discretionary** di-skresh-ŏ-ner-ee	28 **stratagem** strat-ă-jĕm
29 **seismograph** sīz-mŏ-graf	30 **heresy** her-ĕ-see	31 **itinerary** ī-tin-ĕ-rer-ee	32 **usurp** yoo-surp, -zurp
33 **irascible** i-ras-ĭ-bĕl	34 **pseudonym** soo-dŏ-nim	35 **oligarchy** ol-ĭ-gahr-kee	36 **covetousness** kuv-ĕ-tŭs-nes
37 **heinous** hay-nŭs	38 **egregious** i-gree-jŭs	39 **omniscient** om-nish-ĕnt	
40 **assuage** ă-swayj	41 **disingenuous** dis-in-jen-yoo-ŭs	42 **terpsichorean** turp-si-kŏ-ree-ăn	
5/10 RULES			

Letter Reading	
Word Reading +	
Total Reading	

OBSERVATIONS/REMARKS:

WIDE RANGE
15 Ashley Place Suite 1A Wilmington DE 19804-1314

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