

FACTORS INFLUENCING FUNCTIONAL LITERACY PERFORMANCE
AMONG ADULT BASIC EDUCATION STUDENTS,

by

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CHAPTER I

BACKGROUND AND STATEMENT OF THE PROBLEM

In our present educational system in the United States, there exists a substantial group of students who do not make adequate progress in their learning and subsequently retire from the formal system before they complete their secondary education. These former students are forced into adulthood; that is, they must now assume their own responsibility to survive in this complex society. In view of the economic hardships that our country is facing, the majority of these students are either unemployed or underemployed; consequently, they are handicapped in making a productive contribution to our society.

This group has been referred to by a variety of labels such as lower socioeconomic, culturally disadvantaged, under-educated, and functionally illiterate. The problems of the functionally illiterate are highlighted in a report made by the National Advisory Council on Adult Education (1974).

People with below the norm education can experience severe limitations on their ability to perform as citizens, on their ability to realize their full potential as individuals, on their ability to take advantage of leisure time activities. They also experience severe limitations on their ability to serve as economically active members of the work force. (p. 11)

Many of these adults revitalize their quest for knowledge in formal settings and enroll in adult basic education (ABE) programs in their communities. These programs were made possible with the passage of federal legislation in 1964. The Economic Opportunity Act of 1964 established the Adult Basic Education Program. Initially administered by the Office of Economic Opportunity and subsequently administered by the U.S. Office of Education with the passage of the Adult Education Act of 1966 (Title III of the 1966 Amendments to the Elementary and Secondary Education Act-P.L. 89-750), this program provided funds to state and local education agencies to meet the costs of instruction, to employ and train qualified adult educators, and to develop specialized curriculums appropriate for adult learners.

The purpose of the Adult Education Act was outlined by Russ-Eft, Rubin, and Holmen (1981):

It is the purpose of this title to expand educational opportunities for adults and to encourage the establishment of programs of adult public education that will (1) enable all adults to acquire basic skills necessary to function in society, (2) enable all adults who so desire to continue their education to at least the level of completion of secondary school, (3) make available to adults the means to secure training that will enable them to become more employable, productive, and responsive citizens. (p. 7)

The basic skills necessary for adults to function successfully in our society have been identified by the Adult Performance Level (APL) Study funded by the U.S. Office of Education in 1971. From that national study, functional

literacy is defined in terms of two dimensions--the application of a set of skills (reading, writing, computation, problem solving, and identification of facts and terms) to a set of general knowledge areas (government-and-law, consumer economics, health, occupational knowledge, and community resources).

This study examined these functional literacy skills and knowledge areas among adult basic education students. More specifically, this research addressed four major categories of factors, i.e., developmental, academic, current background, and past background, which may influence an adult's functional literacy performance.

Background of the Problem

The results of the Adult Performance Level Project's 1971 national survey contained some alarming statistics. Using three competency levels (APL 1, 2, and 3) which corresponded, respectively, to three proficiency levels (adults functioning with difficulty, functioning adults, and proficient adults), Northcutt (1975, p. 6) reported that 19.7% of the total adult population was functioning with difficulty and another 33.9% had less than proficient survival skills. Northcutt's data demonstrated that greater than fifty percent of the total adult population of the continental United States could perform basic literacy skills only at levels which were less than proficient.

The relevance of these findings to adult education is clear. In citing six influences on adult education in the 1980's, Apps (1980) included inflation, politics, the status of women, and the consumer movement among that list. Interesting, Northcutt (1975, p. 6) reported that 29.4% and 25.8% of all adults were functioning with difficulty in consumer economics and government-and-law respectively. Women comprised almost 58% of the lowest competency level. The challenge to adult education is to meet the tenets of the Adult Education Act in order that all adults can cope effectively in our society.

Little doubt should exist that functional literacy is a major problem which deserves national attention. Moreover, the additional problems of low participation and persistence in adult education programs is further complicating. If the adults who need educational programs are to be serviced effectively, research must begin to focus not only on a comprehensive understanding of the adult learner, but also on a re-analysis of current delivery systems targeted for those adults.

Current research has evoked a plethora of information on how a number of factors affect adult learning. Much is understood about the developmental functioning of adults, the influence of academic involvement on performance, and the sociodemographic characteristics of the adult learner. However, little is known about the influence that the

environment in which the learner subsists exerts on his or her literacy performance. What is lacking in current research is an inclusion of environmental factors into a multivariate analysis of the adult learner and his or her literacy performance.

Cross (1981) supported this notion by suggesting that adult education research go beyond the traditional class indicators in describing the adult learner. "By using easily measurable demographic descriptors," Cross asserts, "we fall in the trap of thinking that we must find the answer to equal educational opportunity and adult motivation for learning in variables which are at best only indirectly and remotely related to educational interests and aspirations" (p. 80). Cross continued her request for more educationally relevant terms to describe the adult learner by posing the following questions:

What have been their past experiences in school?
How do they think about school? How do they think
about their nonschool learning experiences? What
is their present life situation, and how can
education help them? (p. 80)

Previous adult basic education research has been criticized for addressing complex problems too narrowly. Jahns (cited in Griffith, 1970), in presenting an overview of adult basic education research by summarizing doctoral dissertation investigations conducted at Florida State University, wrote that "researchers are guilty of a major error of omission-- that of failing to establish the relationship between

classroom performance and societal performance" (p. 215). Griffith's (1970) criticism was also emphatic. He wrote, "One criticism stands out above all others regarding the literature on adult basic education: univariate solutions are being sought for multivariate problems" (p.5).

The multivariate complexity of functional literacy was addressed by Fortune (1981) in a policy paper interpreting a study which modified Northcutt's Adult Performance Level inventory to ascertain the functional literacy status among the adult American Indian and native Alaskan population. National Indian Management Systems collected data not only on demographic and biographic characteristics, but they also sought environmental data on the subjects' household and involvement in cultural activities. One of Fortune's six recommended study areas for adult educators stressed "a conduct of a secondary analysis of the data to investigate second and third order relationships (it is clear from the findings that significant higher order relationships exist and that adult Indian education can best be understood after these multivariate relationships in a multivariate world are understood)" (p. 43).

Although specific environments have been suggested in the literature, no definitive effort has been made to observe those factors' influence on adult literacy performance. Bloom (1964), Coleman (1966), and White (1976) each suggests that the cultural influence of the home and culturally

related environments may be an important correlate to educational performance. White offered a number of tentative hypotheses from the results of his meta-analysis of the relationship between socioeconomic status and academic achievement. One of White's tentative hypotheses was, "What is the casual relationship, if any, between home atmosphere and achievement" (p. 92).

It is evident that functional literacy performance can be best understood from a multivariate approach taking into account factors which are a manifestation of both formal school and environmental experiences. Because of the magnitude of this problem for the field of adult education, the following problem was selected for study.

Statement of the Problem

The problem investigated in this study was: How do selected developmental, academic, and environmental factors influence the functional literacy performance of adult basic education students?

Each of the three general factors requires clarification. The developmental and academic factors are each comprised of three variables. The environmental factor is more complex. Two broad categories of subfactors--current and past background--comprise the general environmental factor. The current background factor is subdivided into three subfactors which include: (a) a financial responsibility factor consisting of two variables, (b) an employment status factor

consisting of two variables, and (c) a factor involving an adult's reasons for returning to school. The past background factor consists of ten variables which correspond to ten subsets of an adult's home environment. The following outline displays the individual variables for each of the selected factors:

- I. Developmental Factor
 - A. Age
 - B. Intelligence (Verbal and Math)
- II. Academic Factor
 - A. Number of years of formal education attained
 - B. Number of hours completed while attending prior adult basic education and/or vocational education classes
 - C. Time since last school experience
- III. Current Background Factor
 - A. Financial responsibility
 - 1. Size of household family
 - 2. Total income of household family
 - B. Employment status
 - 1. Number of years of current employment
 - 2. Number of years of current unemployment
 - C. Reasons for returning to school
- IV. Past Background Factor
 - A. Cohesion
 - B. Expressiveness
 - C. Conflict
 - D. Independence
 - E. Achievement orientation
 - F. Intellectual-Cultural orientation
 - G. Active-Recreational orientation
 - H. Moral-Religious orientation
 - I. Organization
 - J. Control

CHAPTER II

REVIEW OF RELATED LITERATURE

The purpose of this chapter is to review literature in areas relating to the present study's research problem. The chapter is divided into three sections under the headings (a) the influence of cognitive developmental factors on academic performance, (b) current background factor implications suggested by motivation theory, and (c) the influence of home environment subsets on academic performance. Research and theory are drawn from a variety of sources. Studies from psychology, sociology, and education are reviewed in addition to adult education to aid in the conceptualization of the research problem.

The Influence of Cognitive Developmental Factors on Academic Performance

It is hypothesized in the present study that the selected developmental and academic factors will influence functional literacy performance. Developmental and academic factors are reviewed in this section under the headings (a) the concept of intelligence, (b) cross-sectional studies, (c) longitudinal studies, (d) the theory of fluid and crystallized intelligence, and (e) the academic factor: covariate of intelligence.

The Concept of Intelligence

Most everyone seems to know what is meant by intelligence, but efforts to provide a formal definition that is both meaningful and useful are elusive. In one definition, intelligence is an unseen, innate attribute of a person, part or all of which is genetically given. For example, Sir Cyril Burt (1955) formulated his definition of intelligence from the implications of "several lines of evidence" including observational, biological, physiological, and individual psychology. Following is Burt's concept of intelligence:

These converging lines of inquiry furnished strong presumptive evidence for a mental trait of fundamental importance defined by three verifiable attributes: first, it is a general quality; it enters into every form of mental activity; secondly, it is (in a broad sense of the word) an intellectual quality--that is, it characterizes the cognitive rather than the affective or conative aspects of conscious behavior; thirdly, it is inherited or at least innate: differences in its strength or amount are due to differences in the individual's genetic constitution. We thus arrive at the concept of an innate, general, cognitive ability. (p. 162)

In Wechsler's definition, an individual's capacity to learn is also stressed. According to Wechsler's (1944) definition, intelligence is "the aggregate or global capacity of the individual to act purposefully, to think rationally and to deal effectively with his environment" (p. 3).

Although Burt used the term ability, it is clear from his genetic-inheritance-innate components that he was implying basic potentialities. Botwinick (cited in Birren, 1977) comments on the term capacity as "a theoretical limit when

health, educational, opportunity, social background, motivation, and other factors do not detract from performance" (p. 581). Botwinick was sarcastically implying that these types of definitions of intelligence have underestimated the influence of many environmental factors.

Alternate definitions of intelligence focus on ability rather than on capacity. Ability in those definitions means what a person can do now--at the present time of testing. Baltes and Labouvie (cited in Eisdorfer, 1973) discussed the problems of defining the concept of intelligence:

Defining the concept simply exemplifies the problems inherent in delineating a rather global concept in a nomological net of antecedent-intervening-consequent relationships. Most definitions proposed stress selectively one or another component of this network, indicating that the search for a comprehensive definition of intelligence as yet is an unsuccessful one. (p. 159)

Because of these problems in defining intelligence, Baltes and Labouvie define intelligence as "that class of behaviors that is measured by available assessment devices" (p. 159).

The manner in which intelligence is conceptualized is important in the present study because generalizations and inferences may have taken form related to those definitions. The central research question of the cognitive developmentalists who have applied the concept of intelligence has been: Does intelligence advance, decline, or remain stable with age? The answer to this question is extremely important to adult

education. The cognitive developmentalists have addressed this question by their use of two basic research designs.

Cross-Sectional Studies

In the cross-sectional study of intelligence, subjects are selected by age to represent two or more age categories and they are subsequently tested with an intelligence inventory. Generalizations are made based on the performance outcomes for each age category.

The concept of the adult as a learner was operationalized with the research of E. L. Thorndike (1928) and his findings were subsequently supported by David Wechsler (1944). Both researchers concluded that adulthood is a ripe time for learning, thus dispelling the longstanding myth that "you can't teach old dogs new tricks."

Thorndike's generalizations were based on the performance of people who ranged in age from 14 to 50. Under a time restriction, the subjects were asked to perform a variety of tasks such as learning to write with the non-practiced hand, to acquire an artificial language, and to memorize poetry. Kidd (1959, p. 80) outlined three observations that Thorndike made about the adult as a learner:

1. The most advantageous period for learning is between 20 and 25 years of age.
2. There is a general decline in capacity for learning from this period to about 42 years, of approximately one per cent per year.

3. The influence of intellect upon the curve of ability in relation to age is slight. The ablest man and the ordinary man show very much the same curve.

Thorndike's contribution to adult learning was immense, particularly in terms of promoting an optimistic attitude about the adult learner. Two criticisms, however, are imminent: first, the use of time restrictions probably biased the results for the older subjects (Botwinick, 1973), and second, the tasks performed by the subjects were not indicative of the tasks which are generally performed by the adults for whom the results were generalized.

A decade later in 1939, Wechsler (1944) administered the ten subtests of the Wechsler Adult Intelligence Scale (WAIS) to 1,081 adults who ranged in age from 17 to 69. These New York State residents were selected so that the occupational distribution for each age resembled roughly the corresponding distribution in the national census data. Wechsler summarized his findings in this manner:

Intellectual ability as we measure it follows very closely the curve of growth and decline observed in other human traits of ability. It is a logistic curve which begins to level off in most instances at about age 15. From this age on test scores show negligible increments with age until a maximum is reached in the age interval 20 to 25. Beyond this age all test scores begin to decline. The decline at first is relatively slow, but after 35 become increasingly apparent. The decline is continuous for most abilities and by age 60 amounts, on the average, to a drop of about 25 per cent in test score. Some test scores decline more than others... the drop in Vocabulary and Information is relatively small, whereas the loss in rote memory and Block Design is considerable. (p. 132)

This differentiation of trends in abilities which Wechsler pointed out in his WAIS standardization contributed to further investigations involving selective ability trends. Botwinick (1973) commented on this differentiation of abilities. He stated, "Intelligence is not a unitary quality: there are intelligences" (p. 184). Since the dependent measure in the present study requires the use of primary abilities or "general factor intelligence" (Cervero, 1980), the results of these studies are important.

Trembly and O'Connor (1966) and Weiner (1964) reported that general ability factors do not decline with advancing age. Trembly and O'Connor concluded that "scores on a vocabulary, an acquired intellectual factor, showed a rapid early growth, then a gradually slower but constant growth through the full age range" (p. 12). Their findings were based on a population of 33,283 males (obviously generalizations cannot be made to females from this study) who ranged in age from 6 to 60. Incidentally, their conclusions on the vocabulary test were based on the vocabulary scale of the WAIS, thus contradicting the findings of Wechsler (1944).

Weiner (1964) used factor analysis to determine the results of "two general working populations." By administering the General Aptitude Test Battery to 2,800 equally distributed men and women, Weiner rejected his differential hypothesis in favor of the "hypothesis that there is no decrease in the prominence of the general ability or

intellectual factor as a concomitant of increasing age in successive age groups from 14 to 54" (p. 586). Those subtests which loaded heavily on the general ability factor were Name Comparison, Computation, Vocabulary, and Arithmetic Reasoning.

One of the most frequently referenced studies (see, e.g., Birren & Schaie, 1977; Cross, 1981; Eisdorfer & Lawton, 1973; Goulet & Baltes, 1970; Knox, 1977) in the literature on intelligence and aging is that of Horn and Cattell (1966a). The population used in their study comes closer to resembling an adult basic education population than any of the previously reviewed studies. Their sample consisted of 297 persons from four state prisons, one residential school for children, and a state employment office. The age categories were selected to represent "theoretically interesting phases of intellectual development from late childhood into adulthood" (p. 215).

Horn and Cattell's major finding was that if tests are composed largely of subtests which call for abilities such as inductive reasoning, figural relations, associative memory, and intellectual speed, then the results will show a decline with age. Conversely, the results will show a rise with age on those subtests which require abilities such as verbal comprehension, experiential evaluation, and associational fluency. Moreover, if tests show a balance between those two dimensions, then the results will indicate no change with age.

The findings of Horn and Cattell's study not only supported the findings of Trembly and O'Connor and Weiner, but the findings also provided support for the use of the intelligence and literacy inventories that have been selected for the present study.

Longitudinal Studies

A review of the literature on the longitudinal study of intellectual ability and aging conducted by Knox (1977) and Cross (1981) supported the notion that longitudinal studies generally show a greater increase in learning ability as related to age (Bayley & Oden, 1955; Burns, 1966; Owens, 1966). The two studies reviewed here were selected for their unique designs and to show that the general ability factor is still active among the elderly.

Blum, Jarvik, and Clark (1970) conducted a follow-up on a study that had begun between 1947 and 1949 involving 268 senescent twins. Interestingly, the minimum age level of that original group was 60. Of that original group, 73 had been retested at least once in the 1940's, 1950's, and 1960's. Thirty-five had survived to form the sample of the 1967 study (mortality is a problem associated with longitudinal designs).

The test battery consisted of the Stanford-Binet Vocabulary List 1 and a number of non-primary ability subtests of the Wechsler-Bellevue. The results of the vocabulary test

indicated a slight increase in raw scores as the subjects went from their seventh to eighth decades of their lives. As expected, the non-primary ability factors declined.

In another interesting longitudinal study, Schaie and Strother (1968) used a "cross-sequential" method to observe age and intelligence variations. They wrote that "the proposed design will be called the cross-sequential method since it involves the sequential analysis of data from two or more cross-sectional studies" (p. 672).

Schaie and Strother collected a stratified sample of 500 subjects who were assigned to 5-year age intervals from 20 to 70 years. The subjects were tested with the SRA Primary Abilities Test on a seven-year interval. The results for the two primary abilities, verbal meaning and number ability, were interesting.

For verbal meaning, cross-sectional data indicated that this ability peaked at age 35 and at age 55 for the longitudinal data. The cross-sequential (analysis of variance) revealed, however, that the decrement does not occur until age 60. For number ability, the cross-sequential analysis revealed a performance peak at age 65 (pp. 675-676).

The Theory of Fluid and Crystallized Intelligence

The theory of fluid and crystallized intelligence argues that the primary abilities of intelligence are organized at a general level into two dimensions. One dimension is

referred to as fluid intelligence which according to Horn and Cattell (1966b) is a manifestation of neuro-biological factors, i.e., it is rooted both in heredity and in the central nervous system. The other dimension is referred to as crystallized intelligence which as Cattell (1963) states, "loads more highly those cognitive performances in which skilled judgment habits become crystallized as a result of earlier learning application of some prior, more fundamental general ability" (pp. 2-3). Horn's (1967) concept of crystallized intelligence was stated simply as "a precipitate out of experience...it increases with a person's experience" (p. 23).

In differentiating between fluid and crystallized intelligence, Horn (1967) added an interesting comment. He stated that crystallized intelligence "results when fluid intelligence is 'mixed' with what can be called 'the intelligence of the culture'" (p. 23). In terms of the primary abilities which constitute this culture-bound intelligence, Horn and Cattell (1966b) made this determination:

Thus, in contrast to Gf (fluid intelligence), Gc (crystallized intelligence) will be measured most purely under conditions in which the subject must use concepts and aids representing relatively abstruse elements of the collective elements of a culture. Therefore Gc will be manifested in 'recall' primaries, like Verbal Comprehension and Mechanical Knowledge (number facility), and also in reasoning primaries like Judgement, General Reasoning, Formal Reasoning, and Experiential Evaluation. (p. 255)

Horn (1968) addressed the question of where and how crystallized intelligence is acquired. Labelling the process acculturation, Horn attributes the acquisition of crystallized intelligence to the home:

The major educational institutions of a society (including the home and its substitutes) are directed at instilling this intelligence in the persons (i.e., the young) who are expected to maintain the culture. Thus, as development proceeds, individual differences in extent of acculturation will increase. (pp. 246-247)

Horn (1967) addressed another area of concern for the present study: How do the primary abilities of crystallized intelligence relate to a general test such as the Adult Performance Level Assessment? For verbal comprehension, Horn would have responded that this ability would relate to "tests that require a person to recall information of his culture" (p. 24). For experiential evaluation, Horn's reply would have been tests that measure "social intelligence" (p. 24). Thus, it appears that a strong relationship between primary abilities and the APL Assessment exists.

Knox, Grotelueschen, and Sjogren (1968) provide evidence for Horn's concept of crystallized intelligence in an experiment in which the seventeen WAIS scores were correlated with scores from ten non-traditional programmed learning topics which were administered to 207 adult learners. For crystallized WAIS subtests, significant ($p < .001$) relationships were found between the Principles of Insurance, Government, and

Stockmarket topics and the Arithmetic, Vocabulary, Verbal Scaled, and Information subtests.

Sharon (1971) found that a large number of military personnel who had had no formal higher education scored as well or better than the average college sophomore on tests of academic achievement. His findings were based on 43,877 subjects who took the five subtests of the College-Level Examination Program (CLEP). The military sample scored higher on Social Science, Natural Science, and Humanities and lower on Mathematics and English Composition compared to the college sophomores. Sharon concluded that "life experiences may be conducive to the accumulation of knowledge in humanities, social sciences, and history" (p. 235).

None of the studies previously reviewed addressed adult basic education populations. They do, however, suggest that when adults are presented with a test that is comprised of subtests that call for primary abilities the results of that test may show an increase with advancing age. The designs used to reach this conclusions are not without problems. Cross (1981) addressed some of the problems associated with cross-sectional and longitudinal designs:

Ironically, the greater incidence of illness among older age groups tends to exaggerate the decline in test scores in cross-sectional data, whereas in longitudinal studies there is the problem of selective dropout, with lower-ability adults tending to die off earlier or to be unavailable for retesting some years later. Another problem...lies in the fact that age cohorts from different generations have had quite different experiences...especially in cross-sectional designs. (p. 162)

The Academic Factor: Covariate
Of Intelligence

Cross's previously cited criticisms of cross-sectional and longitudinal studies of aging and intelligence have been supported by other researchers (Baltes & Labouvie, cited in Eisdorfer & Lawton, 1973; Botwinick, 1973; Schaie, cited in Goulet & Baltes, 1970) who contended that the differences between age groups on cognitive tasks may be due largely to cohort differences. In addition to these researchers, other researchers (Horn, 1967; Horn & Cattell, 1966b; Knox, 1977; Weiner, 1964) suggested that educational attainment is a significant covariate to intelligence (and which may explain some of the differences in age cohorts) which must be taken into account in conducting research involving cognitive performance.

Birren and Morrison (1961) provided convincing evidence for this point in their re-analysis of the WAIS standardization data. Although limited in its generalizability to ABE populations, particularly in terms of the racial composition of the 1955 sample selected for their study (all white), Birren and Morrison's study was particularly interesting both for their findings and the methodology which they used. Rather than compare factor groupings of several age groups, they analyzed the WAIS subtests along with age and education in the matrix of correlations. That is, the age and education of

each person were intercorrelated with the WAIS subtest scores just as if age and education were scores themselves.

Birren and Morrison found that 51% of the total variance in the correlation matrix was attributed to a large component of general intelligence. Interestingly, the age of the person was not at all important to this component; however, educational level was very important. Birren and Morrison concluded "that as a single variable, educational attainment for this population would be about as good as any single subtest in estimating the level of ability as measured by the common variance of the WAIS" (p. 364).

Also significant for the present study was Birren and Morrison's finding that coefficients on the second "aging" component exhibited a bipolar distribution with certain subtests (e.g., Vocabulary, Information, and Arithmetic) being positively associated with age and certain subtests (e.g., Digit Symbol, Object Assembly, and Picture Completion) being negatively associated with age. The concept of fluid and crystallized intelligence was further supported. Birren and Morrison concluded that "this aging component may have within it at least two concurrent, independent processes operating in opposite directions" (p. 368).

Another study which emphasized the relationship between education and intellectual performance within the framework of aging is that of Blum and Jarvik (1974). Using the same data which they used in their twenty-year follow-up study of

senescent twins (see the earlier review of Blum, Jarvik, and Clark, 1970 for a description of the sample and variables), Blum and Jarvik controlled for "initial ability" (WAIS vocabulary) and found that educational level (high versus low education) and intellectual functioning still correlated positively. These findings are particularly important to the present research because they support the use of educational attainment as an independent variable.

The conclusions reached thus far have been based on inferences obtained from the administration of standard intelligence tests. Gardner and Monge (1977) constructed their own test based on the learning interest of adults. Subscales of this test included topics such as Finance, Sports, Transportation, and Religion. Using education background and age (among other variables) as independent variables, Gardner and Monge offered the following conclusion as an implication for adult education:

From our perspective it seems that age differences get the most attention when adults, particularly middle aged and older adults, are the object of educational programs. The data presented here should persuade the reader that age, per se, is no more important and perhaps less important, than the level of prior education. (p. 378)

The use of non-traditional subject matter in adult education research was characteristic of two similar studies conducted by Sjogren and Knox (1965) and Sjogren, Knox, and Grotelueschen (1968). These two studies are particularly relevant to the present research because their results reflect

adult performances as a result of the subject's participation in actual learning activities. Although both studies involve individually studied programmed learning topics and generalizations to group lecture formats may be somewhat limited, the participants' reactions to the programmed format were favorable.

One aspect of the 1965 study involved the influence of prior knowledge and prior adult education participation on a variety of unfamiliar programmed learning topics such as Logic of Art, Sets, and the Solar System. Sjogren and Knox (1965) discussed their results in this manner:

Another result that was pervasive through the experiments was the apparent facilitative effect on performance of previous participation in adult education activities. The participation--non-participation classification accounted for a significant portion of the variance on all of the achievement test analysis. In some of the experiments the pretest scores indicated greater prior knowledge of the topic by the participant, but not in every case. The mental ability test (WAIS) means of the two categories did not differ significantly. (p. 104)

The 1968 study differed slightly from the 1965 study in terms of the programmed learning topics and the statistical analyses. Sjogren et al. (1968) presented 208 subjects with programmed topics in Government, Insurance, and Stocks. Analysis of variance was used to control for the effects of age, socioeconomic status, and sex between the participant--non-participant groups. Analysis of covariance controlled for

prior topic knowledge and intelligence. Recency of participation was significant for all three topics (Government, $p < .01$; Insurance, $p < .05$; Stock, $p < .01$).

In their attempt to understand why recency of participation in adult education activities significantly influences adult learning, Sjogren et al. (1968) attributed this occurrence to three reasons:

One possible explanation is that participants have developed their study skill to a higher level. They have 'learned how to learn'. A second explanation is that the level of formal education included in socioeconomic status provides only a gross estimate of learning background. A third is that participants have a more positive attitude and are highly motivated in the learning situation. (p. 9)

Another explanation for this relationship between the recency of adult education participation and academic performance may be that the skills that are required to perform achievement tasks are relatively active and have not had sufficient time to erode. This explanation was consistent with the conclusions reached by Fortune (1981), Houle (1964), and Sorenson (1930).

Fortune's (1981) study is particularly applicable to the present study because in his determination of the literacy status of adult American Indians and Alaskan natives, he used a modified version of the APL Assessment. Fortune found a non-linear relationship between educational attainment and literacy performance and he attributed that relationship to a number of factors including the "erosion of skills by misuse"

(p. 45). Although the non-linear relationship between educational attainment and performance was mainly influenced by persons who reported between thirteen and fifteen years of formal education, the bimodal nature of that group's literacy level membership may have led Fortune to conclude that the skills that they learned in their formal education had eroded.

Fortune based his findings on the percentages of adults who were representative of APL Level 1 (severe literacy needs) and APL Level 3 (satisfactory performance). Between the groups of adults who reported no formal education and the groups of adults who reported between one and six years of formal education, the percentages of adults who exhibited a severe literacy need "dropped markedly." For those adults who reported seven, eight, and nine years of formal schooling, Fortune reported that "slight decreases in percentages of satisfactory performances are observable" (p. 13). The groups who reported between ten and fifteen years of formal education exhibited a slight drop in severe needs and then a plateauing of percentages in that category.

The plateauing of percentages of the ten to fifteen years of formal education group led Fortune to this conclusion:

Percentages of the population demonstrating satisfactory levels of performance and reporting 10 to 12 years of formal education show commensurate slight increases in performance level membership. The Indian groups reporting 13 to 15 years show

a more marked increase in percentages performing at a satisfactory level and a movement toward a bimodal distribution of performance having severe need in one side and satisfactory performance in the other. This bimodal nature of performance distribution is the phenomenon that makes average. 3 R performance appears to be negatively associated with years of formal education. (p. 15)

Fortune's conclusion was based on data which did not include the subject's length of time since last participation in either adult education or the formal school. That datum may possibly explain the negative association and the skill erosion.

Current Background Factor Implications Suggested by Motivation Theory

It is hypothesized in the present study that the selected current background factors will influence functional literacy performance. The current background factor is reviewed in this section under the headings (a) motivation theory: three participation models, (b) studies supporting the current background factor implied by motivation theory, and (c) reasons for returning to school.

Motivation Theory: Three Participation Models

The mere act of persisting in an adult education activity is an indication of an adult's motivation to learn. It has generally been accepted that an adult's motivation is a result of the interaction between the individual and his environment (Boshier, 1973; Miller, 1967; Rubenson, cited in Bergsten,

1980). In her comparison of the similarities among the participation models of Boshier, Rubenson, and Miller, Cross (1981) made this point:

Roger Boshier has much in common with Rubenson and Miller in that all believe that motivation for learning is a function of the interaction between internal psychological factors and external environmental variables, or at least the participants perception and interpretation of environmental factors. (p. 119)

One reason that these models merge at this similar point is that each model incorporates Lewin's (1935) concept of environmental force-fields as its theoretical base. Moreover, Miller and Boshier each rely heavily on Maslow's (1970) hierarchy of needs concept. Each model, however, offers unique concepts.

Maslow's hierarchy of needs theory is evident within the models of Miller and Boshier. Miller (1967), for example, interpreted Maslow's two basic needs in this manner:

Survival...we tend to see it as a gain of marketable skills. Adult education is dominated by job training....The safety need reinforces this domination because in this culture the greatest perceived deprivation is an economic one, and the most general threat is the loss of a job. (p. 5)

Boshier used Maslow's concept of deficiency and growth motivated individuals in his congruency model. Deficiency motivated participants, according to Boshier (1973), "use educational activity more for achieving gratification of lower basic need, of neurotic need, as a means to an end... or as a response to cultural expectations" (p. 256). Both

Miller and Boshier view motivation for some adults in terms of a gratification of basic needs.

Miller presented his model in terms of positive and negative forces which differ in number and magnitude. The positive and negative forces interface with an individual and promote either participation or non-participation in adult education. Moreover, these forces change as a function of social class membership. For example, Miller listed as positive forces for members of the lower-lower class level who are engaged in "education for vocational competence" forces such as survival needs and changing technology. For the working class level engaged in the same activity, he listed satisfied survival needs and strong safety needs as positive forces. As the class level advances, some needs become satisfied and new needs emerge. In terms of those persons who are highly motivated, Miller (1967) wrote that "when strong social forces and strong personal needs move people toward a particular educational objective, the congruence should result in a high level of participation in programs relevant to that objective" (p. 4).

Boshier (1973) regarded congruence as characteristic of growth motivated participants. "Growth motivated participants," according to Boshier, "have satisfied lower-order needs and thus are inner-directed, autonomous, creative, and free from deterministic attitudes" (p. 256). This characterization was consistent with that observed by Shipp and

McKenzie (1981) of "active" learners. Growth motivated participants persist in adult education because they possess a high level of self/other congruence. Conversely, self/other incongruence is characteristic of deficiency motivated persons who ultimately drop out of adult education programs.

Rubenson's model is particularly relevant to the present study because it directly implicates the current environment. His model was described by Bergsten as ahistorical. Bergsten (1980) wrote an explanatory comment on the ahistorical nature of Rubenson's model:

The model is ahistorical in nature. This means that an individual behavior is more a result of changes in beliefs about current environment than from changes in the strength of past habits. Events that have occurred previously are of interest to the extent that they can modify present conditions. These events have left marks, in the current life space as preparedness for action, which here is considered as a hypothetical variable reflecting such factors as the individual's personality, ability, and convictions. Hence the entire model, except box 1 (previous experience), is surrounded by an imaginary box symbolizing the current environment. (p. 135)

Rubenson's model places a strong emphasis on how an individual perceives his current work and leisure roles and what he expects to gain from participation in adult education. An adult may place a strong value on participating in adult education. If that adult expects that participation will lead to desired outcomes, the resultant motivation may be directed toward learning.

Studies Supporting the Current
Background Factor Implied
By Motivation Theory

The implication drawn from the theories of adult motivation suggests that adults are motivated to the extent that their current, valued needs (whether real or perceived) can be satisfied by adult education. Newton (1977), drawing from Knox (1968) and Knowles (1973), emphasized current situations that are facing adults in her discussion of the adult learner. Two of her basic assumptions regarding the adult learner follow:

1. The adult readiness for learning is inherent in his societal role as a worker, parent, spouse, organization member, and the like. Since need is basic to wanting and readiness, the requirements and demands of the adult's present situation and aspiring roles in real life must dominate and supercede all other considerations in andragogy.
2. The adult's orientation to learning is here and now and problem centered. Immediate application of new coping skills largely motivates the adult to continue in an educational experience. (p. 362)

Boggs (1974) incorporated both the current situation and values into his interpretation of factors which influence the behavior-valuing patterns of low status people. He wrote that "behavior is affected not only by currently held values and beliefs, but by the current situation--the social and non-social constraints and pressures which limit the available alternatives" (p. 297).

The value (Rubenson calls this valence) that is placed on learning can direct an adult to engage in a learning

activity. Rossing and Long (1981) confirmed this in their study which involved evening school and community "non-credit" students. This exploratory study hypothesized that a significant relationship exists between the value which is placed on a learning topic and the desire to learn that information.

The students were directed to read ten experiments (each involving a different learning topic) and then rate each experiment as to its perceived value. Next, the students were directed to re-read each experiment and rate their desire to learn that information. Rossing and Long reported that "a significant and marked positive relationship was found between perceived value and desire for knowledge. The correlation was .84. Perceived value thus accounted for .71 of the variance in desire for knowledge" (p. 31).

An explanation for Rossing and Long's findings may be found in a report delivered to the Adult Education Association by Jane Zahn in 1967. Zahn (1969) reported that "adults will be more motivated to listen to and read content which may increase their competence in a current situation. If a strong need conflicts with the information given, the information will not be learned" (p. 91).

Zahn's results were supported by a study by Seeman (1967) who determined that control-relevant information or knowledge (e.g., health) is learned and is desired to be learned by people who exhibit low degrees of powerlessness (alienation).

In terms of motivation theory, those persons would be the active learner (Shipp & McKenzie, 1981) or the growth motivated participant (Boshier, 1973). Seeman (1967) concluded that "people who believe that the environment is one they can have an effect upon show that they are sensitive to potentially helpful cues about that environment whether those cues concern matters of health, of parole, or of politics" (p. 121).

Reasons for Participation in Adult Basic Education

It has been established that participation or motivation to learn is generally based on the desire to satisfy a need. Of importance to the present study are those specific reasons for returning to school. Particular attention, however, is placed on studies which specifically involve ABE/GED students. The purpose for this is twofold: first, the reasons for participation will be based on students who were actually involved in a program similar to the one that is the focus of the present study; second, the construction of the "reasons for returning to school" section of the questionnaire which is used in the present study will reflect those reasons of ABE/GED students.

Londoner (1972) conducted a study involving 134 adult high school students to determine the extent to which there was a correspondence between a teacher's ranking of the reasons why "adults-in-general" participate in high school

programs and the typical student's ranking of their own reasons. The statistical results of that study are not important to the present study; however, the order in which the students' reasons were ranked is important. The first five are as follows: (a) for self-improvement, (b) to obtain a high school diploma, (c) to improve one's job opportunities, (d) to increase one's earning capacity, and (e) to stand on one's own feet.

Walker, Ewert, and Whaples (1981) found the opposite order for the first two reasons from their study of ABE/GED students in three Maryland counties (Montgomery County, the site of the present study, was not one of the three). Their results are more useful than those of Londoner in that Walker et al. reported age differences. They found that for those who were under 30, the most frequent response was "to get a diploma in order to continue my education." The over 40 group was most likely to suggest self-improvement (p. 8).

From their study it is evident that many younger persons enroll in adult basic education for extrinsic purposes while many older persons enroll for intrinsic purposes. This view is generally consistent with the life-stage theory which has received support in the literature (Knox, 1978; Schaie & Willis, 1978).

One of the problems associated with asking GED preparatory students their reasons for participating in GED classes and then giving as one of their choices "to get my GED" is

that little is learned about the student's motivation other than the obvious. Nickse (1976) asked a better question to the first fifty graduates of a New York State external high school diploma program. His question was: Why do you want a high school diploma? Their responses to this question revealed more insight into their motivation for participation. Extrinsic reasons included: (a) to get a job, (b) to increase income, (c) to obtain a better-paying job, and (d) to meet licensing requirements. Intrinsic reasons included: (a) a need for increased self-esteem, (b) a promise made to a parent, and (c) a nagging reminder of a personal failure (p. 23).

A state-wide study conducted in Texas by Richardson (1974) with an adult basic education student sample revealed interesting replies. Richardson reported the following:

A relatively small percentage of adults surveyed in the questionnaire project reported participating for reasons related to occupational or economic improvement. Some of the major reasons were 'just to get an education,' personal improvement, improvement of social relations and acquisition of particular skills of knowledge. (p. 78)

The reasons why ABE/GED students participate in formal learning activities are varied. However, those reasons appear to rest on a continuum from extrinsic to intrinsic motivations. The use of factor analysis has revealed that reasons for participation load on a number of discrete factors (see, e.g., Boshier, 1971; Morstain & Smart, 1974). The

results of these two studies are not reported because the samples used in each of these studies are unlike the sample used in the present study.

A factor-analytic study by Burgess (1971) did use a sample of adult education students who resemble an ABE/GED population. The sample consisted of adults of a large metropolitan area who were selected from adult education classes.

Burgess administered the Reasons for Educational Participation Scale to 1,046 adult learners. His factor analysis of the results indicated that 69% of the variance was attributed to seven factors. Following is a listing of the seven factors accompanied by the reason which loaded (value in parenthesis) highest for that factor (pp. 18-25):

- Factor 1: The Desire to Know
To feed my appetite for knowledge (.82)
- Factor 2: The Desire to Reach a Personal Goal
To learn in order to secure personal advancement (.79)
- Factor 3: The Desire to Reach a Social Goal
To become a more effective citizen (.80)
- Factor 4: The Desire to Reach a Religious Goal
To better able to serve a church (.74)
- Factor 5: The Desire to Take Part in Social Activity
To experience the pleasure of meeting new people (.67)
- Factor 6: The Desire to Escape
To forget personal problems (.82)
- Factor 7: The Desire to Comply with Formal Regulations
To comply with orders of someone in authority (.80)

The results of Burgess' study have "reasons" which overlap with the reasons stated by other ABE/GED students. It appears that ABE/GED students' motivations for learning can be best understood if they are presented with a variety of reasons which span the intrinsic-extrinsic continuum.

The Influence of Home Environment Subsets on Academic Performance

The measurement of home environment subsets to determine their influence on academic performance has not been previously addressed in adult education research. However, there have been studies in adult education that have focused on "personological variables" and social status indicators and their association with persistence.

Although this section of the review of literature highlights those studies, the primary purpose of this section is to address the use of home environment subsets as an appropriate methodology for adult basic education research. This aspect of the present research (home environment) is exploratory, and the rationale for the use of home environment subsets rests on that methodology's use in research involving elementary and secondary school children. The literature is reviewed in this section under the headings (a) personological profile of the active learner, (b) the significance of the home environment, and (c) the influence of home environment subsets on academic performance.

Personological Profile of the
Active Learner

Adult education research has reported a plethora of information concerning the active adult learner. The general literature on participation was helpful in identifying attributes of the adult learner that may be grounded in the home environment subsets that are used in the present study.

Shipp and McKenzie (1981), for example, identified eight psychographic traits of the active adult learner, four of which are relevant to the present study. Using a structured indirect interview technique, Shipp and McKenzie interviewed 232 adult pedestrians in a downtown urban area. Discriminant functional analysis revealed that active learners can be differentiated from non-learners. The four traits that are relevant to the home environment subsets (in parenthesis) used in the present study follow:

1. thought patterns and life style conditioned by relatively long time perspective (Organization)
2. more emphasis on rational rather than emotional responses (Expressiveness and Conflict)
3. greater sense of personal freedom and choice (Independence)
4. greater willingness to take risks (Achievement Orientation) (p. 195)

An additional personological trait of the active adult learner was found in a study conducted by Brooks (1974). He focused on a variety of psychological and sociological

variables in an attempt to determine the factors which are associated with students dropping out of ABE programs.

Brooks's findings suggest that persisters are exposed to a greater degree of family cohesion (a home environment subset) than are non-persisters.

Fadale and Winter (1978) conducted a longitudinal study on "non-traditional" students who were enrolled in a two-year college developmental studies program. They concluded from the results of the Inventories of Personal and Interpersonal Values Scale that successful participants can be differentiated from unsuccessful participants. Interestingly, those values which characterize successful participants show some association with the home environment subsets that are measured in the present study. Those values and home environment subsets (in parenthesis) include (a) independence (Independence), (b) leadership (Orientation), (c) support (Cohesion), (d) achievement (Achievement Orientation), (e) decisiveness (Expressiveness), (f) orderliness (Control), and (g) benevolence (Moral-Religious emphasis).

London and Wenkert (1969) found support that the Intellectual-Cultural orientation and Active-Recreational orientation are associated with the active learner. Their findings were based on a factor analysis of the results obtained by interviewing a matched sample of men aged 21 to 59 who lived in the middle rental districts of Oakland,

California. Their conclusions were as follows:

Participation in adult education is positively associated with certain leisure styles. One style is membership and participation in formal organizations (with the notable exception of labor union membership). A second is minimal engagement in a wide variety of diverse leisure activities. A third is frequent participation in cultural events. (p. 3)

The studies previously reviewed in this section suggest that home environment subsets may be associated with selected personological traits of the active learner. One can only assume that active learners (by virtue of their active participation) interact with those environmental subsets to the extent that that interaction will influence specific learning behaviors.

The Significance of the Home Environment

It has been accepted that socioeconomic status is the most powerful predictor of participation in adult education (Anderson & Darkenwald, 1979; Johnstone & Riveria, 1965). Moreover, it has generally been accepted that socioeconomic status exerts a strong association with academic achievement (Hill, 1974).

The use of socioeconomic status (SES) as a predictor variable for academic performance has not gone uncriticized. Lavin (1965), for example, regards socioeconomic status as a summarizing variable. In other words, the construct SES

summarizes factors such as occupation, education, and income, which are neither completely overlapping nor completely independent.

White (1976) made a significant contribution to educational research from his meta-analysis of the relationship between SES and academic achievement. White synthesized 620 correlation coefficients from 100 studies that investigated the relationship between SES and achievement. Among those 100 studies, White found that correlations ranged from about .10 to .70. He attributed that variation to the fact that "the definition of socioeconomic status (SES) is often logically ambiguous and is not comparable across studies" (p. 8).

White categorized the variables used in the 100 studies into four categories: (a) traditional SES, (b) home atmosphere, (c) school resources, and (d) miscellaneous. The magnitude of the mean correlation between SES and achievement for the four types of SES measures was reported by White in this manner:

Income only (.315); Education only (.185); Occupation only (.201); Home Atmosphere only (.577); Income and Education (.230); Income and Occupation (.332); Education and Occupation (.328); Income, Education, and Occupation (.318) (p. 87)

The results clearly show that home atmosphere exerts a much more powerful influence on academic achievement than do traditional indicators of socioeconomic status. The

influence of the home on educational performance is further supported by the popular Coleman Report.

In summarizing the effects of the school on achievement of over 600,000 public school pupils, Coleman (cited in Mosteller, 1972) explicitly stated that "the sources of inequality of educational opportunity appear to lie first in the home itself and the cultural influence immediately surrounding the home" (p. 20). Jencks (1972) who re-examined Coleman's data reached the same basic conclusion. Jencks, however, was skeptical about the concept of family background. "Like heritability," Jencks wrote, "the concept of 'family background' has serious limitations. To begin with, we have rather fuzzy ideas about what aspects of family background influence test scores" (p. 77). Those aspects which Jencks referred to are discussed under the next heading.

The Influence of Home Environment Subsets on Academic Performance

Much of the impetus for examining environmental subsets came from the research of Kurt Lewin and his field theory of personality. Lewin (1935) proposed that "the dynamics of environmental influences can be investigated only simultaneously with the determination of individual differences and with general psychological laws" (p. 73). In terms of human behavior, Lewin wrote, "To understand or predict the psychological behavior (E) one has to determine for every

kind of psychological environment...the momentary whole situation, that is, the momentary structure and the state of the person (P) and of the psychological environment (E)" (p. 79).

Lewin's framework was provocative for the field of social psychology. His framework clearly suggested that the environment which surrounds an individual is differentiated into regions or subsets.

Bloom (1964) continued the momentum which was generated by Lewin. His following statement reflects Lewin's framework:

We regard the environment as providing a network of forces and factors which surround, engulf, and play on the individual. Somewhere between the total environment and the specific interaction or single experience is the view of the environment as a set of persisting forces which affect a particular human characteristic. (p. 187)

Bloom clearly delineated the environment into behavior related subsets in that statement. His concepts were utilized by other environmental interactionists such as Majoribanks.

Majoribanks (1979) applied Bloom's concept of environmental subsets directly to specific learning abilities. He proposed that the environment is a large rectangle which represents the total set of family conditions surrounding an individual. Within that larger rectangle are two overlapping smaller rectangles, one representing a sub-environment of social-psychological process variables which,

according to Majoribanks, are related to, for example, the development of verbal ability. The other smaller rectangle may represent another sub-environment associated with achievement motivation, for example. Majoribank's challenge to researchers "involves isolating, and then measuring, the pertinent sub-environment from a total set of environmental variables" (p. 4).

Three studies are exemplary of the challenge made by Majoribanks. Two were conducted by researchers from the University of Chicago, Dave (1963) and Wolf (1964), and the third by Majoribanks (1971) from the University of Oxford. These three studies represent the core of research involving the influence of home environment subsets on academic performance.

Dave conducted an extensive literature review within the framework of Dewey, Lewin, and Bloom. Based on that review, Dave constructed an interview schedule which was used to interview the parents of 60 children who were randomly selected from 19 schools in Illinois. Factor analysis of the variables resulted in six "press" variables which Dave labelled (a) achievement press, (b) language models, (c) academic guidance, (d) activeness in the family, (e) intellectuality in the home, and (f) work habits in the home.

The 60 children were administered the Metropolitan Achievement Test and multiple linear regression was used to determine the influence of the six home environment subsets on the achievement subtests. The home environment subsets accounted for the following percentages of the variance on these subtests: (a) 62.2 for word knowledge, (b) 53.1 for reading, (c) 50.3 for arithmetic problem solving, (d) 48.1 for word discrimination, (e) 46.8 for language, (f) 37.2 for spelling, and (g) 30.9 for arithmetic.

These results show that home environment subsets have differential relations with performance subtests. Clearly, the home environment influences word knowledge, reading, and arithmetic problem solving to a greater extent than for spelling and arithmetic. This strongly suggests that certain skills are reinforced by the home environment.

Wolf (1964) used Dave's same sample of 60 children to study the relationship between environmental process variables which were labelled (a) press for achievement, (b) press for language development, and (c) provisions for general learning. The Henmon-Nelson Test of Mental Ability was used to measure mental ability. Wolf found a multiple correlation of .76 between the press variables and the intelligence score. Generally the relationship between SES and intelligence ranges from about .20 to .40. Thus, Wolf's study clearly demonstrates the value of his methodology and the influence of environmental subsets on intelligence.

Majoribanks' (1971) study involved 185 eleven year old boys and their parents. Eight press variables were identified which included (a) press for achievement, (b) press for activeness, (c) press for intellectuality, (d) press for independence, (e) press for English, (f) press for ethlan-
guage, (g) press for mother dominance, and (h) press for father dominance. The parents were interviewed with a semi-structured interview schedule reflecting the press variables and the children were administered the SRA Primary Mental Abilities Test.

Multiple correlations were obtained between the home environment subsets and the four dimensions of the SRA. For Verbal Ability the coefficients ranged from .16 to .66 across the eight press variables. Each was significant beyond the .05 level. For Number Ability the coefficients ranged from .10 to .66. Only the .10 was not significant for father dominance. The results for Spatial and Reasoning were less impressive. Again, crystallized intelligences appeared to be supported by environmental influences--namely, the home.

Summary

The literature reviewed in this chapter revealed that the variance of functional literacy subtest scores is influenced by a variety of factors including developmental, academic, current background, and home environment subsets.

The literature also suggested that these factors are in some way interrelated with an individual's environmental perceptions and interactions centered at the core of that relationship.

The studies involving intellectual functioning and aging suggested that adults are characterized by a crystallized intelligence that is rooted in experience that has been supported by formal school involvement and aging. Variations of scores on tests which require this crystallized intelligence will be influenced by variations in age and formal school involvement.

The core of human motivation was pointed out in the literature to be a manifestation of an individuals' perception of his current environment. People act according to their need requirements and specific needs can be translated into specific learning expectations.

The literature involving the past background factor pointed to a methodology of measuring the environment in terms of subsets. This approach, used in several studies, demonstrated that specific sub-environments can influence specific learning behaviors.

CHAPTER III

FRAME OF REFERENCE AND HYPOTHESES

The purpose of this chapter is to provide a frame of reference and to state the research hypotheses which have been derived from the review of related literature. The chapter is divided into seven sections under the headings (a) theoretical framework, (b) hypotheses, (c) objectives of the study, (d) limitations of the study, (e) definitions of terms, (f) assumptions, and (g) significance of the study.

Theoretical Framework

The linear combination of specific variables is hypothesized to produce a significant multiple correlation with the adult performance level subtest scores. The rationale for hypothesizing these relationships becomes the theoretical framework of this study.

Hypotheses involving developmental variables derive their basis foremost from the theory of fluid and crystallized intelligence (Horn & Cattell, 1966b). According to that theory, adults will perform best on tests whose subtests require judgment, vocabulary usage, general knowledge, and arithmetic reasoning. Moreover, this performance advances with advancing age and experience. Since the academic variables have been found to be significant co-variates to

the developmental variables (Birren & Morrison, 1961), developmental and academic variables are hypothesized together to influence specific literacy subtest scores.

The motivational models of Miller (1967), Rubenson (cited in Bergsten, 1980), and Boshier (1973) provide the framework for hypothesizing the influence of current background variables on functional literacy subtests. The central theory which emerges from these models is that adults engage in educational activities to satisfy extrinsic and intrinsic needs. The expectation that adult education participation will provide the skills which are necessary to meet their needs creates a strong motivation to learn.

The inference drawn from these models can be stated by the following example. An adult perceives that the extent of his financial responsibilities has affected his personal or family's status. Thus, he may engage in self-directed study or in a formal adult education class to learn the skills which are necessary to plan a family budget (e.g., consumer economics). Or, expecting a better job, he enrolls in adult education classes to develop his basic skills that are prerequisite for better employment (e.g., occupational knowledge). This inference allows for current background variables to be hypothesized to influence specific literacy subtest scores.

The environmental interaction theory generated by Lewin (1935), Bloom (1964), and Majoribanks (1979) which was subsequently supported by Dave (1963) and Wolf (1964) postulated that the home environment consists of subsets which influence specific psychological behaviors such as reading and arithmetic reasoning. Although exploratory for the adult learner, this framework allows for home environment subsets to be hypothesized to influence specific literacy subtest scores.

Hypotheses

The hypothesized relationships did not come from the review of related literature with the same strength; therefore, it was necessary to vary their levels of statistical significance. The influence of the developmental and academic variables on tests of general knowledge has been established in past research. The .01 level of significance was used when they were exclusively hypothesized to influence a performance subtest. Although home environment subset variables have been positively correlated with achievement subtests at significant levels in a few studies, their limited use in pedagogic research and their exploratory use in the study warranted a .05 level of significance. The influence of current background variables on academic performance was inferred from motivation theory; therefore, the .10 level of significance was used when they were hypothesized

to influence a performance subtest. The hypotheses are as follows:¹

1. A linear combination of age, verbal intelligence, formal educational attainment, and prior adult education experience will produce a significant ($p < .01$) multiple correlation with the community resources subtest scores.

2. A linear combination of age, verbal intelligence, formal educational attainment, prior adult education experience, and current background variables will produce a significant ($p < .10$) multiple correlation with the occupational knowledge subtest scores.

3. A linear combination of age, verbal intelligence, formal educational attainment, prior adult education experience, and current background variables will produce a significant ($p < .10$) multiple correlation with the consumer economics subtest scores.

4. A linear combination of age, verbal intelligence, formal educational attainment, and prior adult education experience will produce a significant ($p < .01$) multiple correlation with the health subtest scores.

¹Different confidence levels for designation of the significance of a relationship have been proposed. The differences in the confidence levels were arrived at through considering (a) the definitive indications of the relationship in the review of research, (b) the reliability at which the variables were measured, and (c) the hypothetical theoretical importance of the variables as they were discussed in regard to adult learning theory.

5. A linear combination of age, verbal intelligence, formal educational attainment, and prior adult education experience will produce a significant ($p < .01$) multiple correlation with the government-and-law subtest scores.

6. A linear combination of age, verbal intelligence, formal educational attainment, and prior adult education experience will produce a significant ($p < .01$) multiple correlation with the identification of facts and terms subtest scores.

7. A linear combination of age, verbal intelligence, formal educational attainment, prior adult education experience, time since last school experience, and home environment subsets will produce a significant ($p < .05$) multiple correlation with the reading subtest scores.

8. A linear combination of age, verbal intelligence, formal educational attainment, prior adult education experience, time since last school experience, and home environment subsets will produce a significant ($p < .05$) multiple correlation with the writing subtest scores.

9. A linear combination of age, math intelligence, formal educational attainment, prior adult education experience, time since last school experience, and home environment subsets will produce a significant ($p < .05$) multiple correlation with the computation subtest scores.

10. A linear combination of age, verbal and math intelligence, formal educational attainment, prior adult

education experience, and home environment subsets will produce a significant ($p < .05$) multiple correlation with the problem solving subtest scores.

Objectives of the Study

By including environmental factors with factors which are generally understood to influence performance, the purpose of this study was to educe a comprehensive profile of the adult learner and his or her literacy performance. In order to satisfy this purpose, focus was placed on the following objectives:

1. To observe the individual contribution which each variable makes on each of the ten performance subtests.

2. To observe the relative comparative contribution which each variable makes on each of the ten performance subtests.

3. To observe which combination of variables best influences each of the ten performance subtests.

4. To test the influence of the selected variables on each of the ten performance subtests across sex and race categories.

Limitations of the Study

Although a comprehensive profile of the adult learner and his or her literacy performance was sought in this study, it was important to stress the following research limitations:

1. All of the subjects in this study were adult students attending adult basic education classes in Montgomery County, Maryland. Thus, generalizations of the findings to other populations, to other social, economic, or cultural environments, or to other units of analysis (e.g., state or national populations) may not be appropriate.

2. This study experienced the common problem of attrition among its adult student population. Thus, the resulting small sample size may be somewhat limiting to the external validity of the findings.

3. A multitude of environments exist in which the adult learner interacts. However, only one environment--the home--was addressed in this study.

4. This study did not measure functional competence. The content validity of the APL inventory as a measure of functional competence has been criticized by Cervero (1980) and James (1977). However, each author has concluded that it is a useful measure of adult basic education skills and that the test item content is relevant to the lives of many adult learners.

Definition of Terms

The following definitions have been provided to assist the reader:

Adult Basic Education Students: Students who are sixteen years of age or older and who do not possess a high school diploma and who are enrolled in a formal course to

improve their basic skills in reading, language, and mathematics. The population for this study are those students who are focusing their efforts toward a high school equivalency diploma (sometimes referred to as pre-GED and GED students).

Functional Literacy Performance: Scores obtained from each of the ten subtests of the Adult Performance Level Assessment (Form AA-1).

Intelligence: Verbal and math scores obtained from the Wesman Personnel Classification Test.

Academic Factor: Questionnaire responses which reflect a student's formal educational attainment, prior academic experience, and time since last involvement in an academic experience.

Current Background Factor: Questionnaire responses which reflect the student's employment status, financial responsibilities, and reasons for returning to school. These variables constitute environmental forces that influence an adult's current motivation to learn.

Past Background Factor: The student's perceptions of ten subsets of his home or family environment as measured by the Moos Family Environment Scale. Although this scale measures current perceptions, these perceptions are viewed as culminating from past experiences.

The following definitions of the ten family environment subsets are reprinted from Moos (1974a, p. 4).

Cohesion: The extent to which family members are allowed and encouraged to act openly and to express feelings directly.

Conflict: The extent to which the open expression of anger and aggression and generally conflictual interactions are characteristics of the family.

Independence: The extent to which family members are encouraged to be assertive, self-sufficient, to make their own decisions and to think things out for themselves.

Achievement Orientation: The extent to which different types of activities (e.g., school and work) are cast into an achievement oriented or competitive framework.

Intellectual-Cultural Orientation: The extent to which the family is concerned about political, social, intellectual, and cultural activities.

Active-Recreational Orientation: The extent to which the family participates actively in various kinds of recreational and sporting activities.

Moral-Religious Emphasis: The extent to which the family actively discusses and emphasizes ethical and religious issues and values.

Organization: Measures how important order and organization are in the family in terms of structuring the family activities, financial planning, and explicitness and clarity in regard to family rules and responsibilities.

Control: Assesses the extent to which the family is organized in a hierarchial manner, the rigidity of family rules and procedures and the extent to which family members order each other around.

The following definitions of the ten APL subtests are reprinted from the American College Testing Program (1978, pp. 13-18).

Identification of Facts and Terms: Items that focus on identification skills ask students to recall or recognize important facts and terms typically used in the five content areas defined by the APL. The emphasis here is on important, useful factual knowledge, not trite recall of trivia.

Reading: Items that focus on reading skill present a brief written stimulus chosen from a realistic document (e.g., sign, advertisement, announcement, and leaflet) in the given content area. Students then answer questions that probe their understanding of the written material. In some cases, the written material directly contains the correct answer; in others, students must interpret what they have read or translate it into other words.

Writing: Items that focus on writing skill test neither mere penmanship nor complex composition skills. Rather, these items tap the kinds of writing skill that adults use in everyday living--making lists, filling out forms, writing notes, and addressing envelopes. These items ask students to demonstrate that they can recognize appropriately written materials, that they know where on a form

certain information would be written, and that they know what types of information belong on certain forms or documents.

Computation: Items that focus on computation skills require that students understand specific problems and manipulate simple numerical quantities (e.g., time, money, weights, calories, and numbers) to arrive at appropriate solutions. The items are not abstract computation, but are always set in the context of real life situations (e.g., fuel reduction, mileage, taxes, diets). Hence, they represent real, not academic, computation skills.

Problem Solving: Items that focus on problem solving skills ask students to select appropriate solutions to the kinds of problems they face in everyday life--what agency or organization they should turn to for help in certain situations, how they can alleviate or eliminate certain problems, what procedures or tactics are appropriate for given situations.

Community Resources: The major goal is to understand how individuals use community resources including transportation systems, to achieve a more satisfactory way of life.

Occupational Knowledge: The major goal is to develop knowledge about occupations that will enable individuals to secure employment that fits their particular needs and interests.

Consumer Economics: The major goal is to know how to manage a family economy and to demonstrate an understanding of sound purchasing practices.

Health: The major goal is to understand the principles and practices that lead to good mental and physical health.

Government-and-Law: The major goal is to understand how the structures of government and the functions of the legal system delineate rights and obligations.

Assumptions

This study was guided within the framework of the following assumptions:

1. All of the students who were enrolled in the adult basic education classes received the same classroom instruction.

2. All of the students who were enrolled in the adult basic education classes belong to the same socioeconomic level.

Significance of the Study

This research has both theoretical and practical significance for adult basic education. The primary purpose was to educe a comprehensive profile of the adult learner and his or her literacy performance. This objective was theoretically consistent with the goals of the Adult Education Act of 1966 (see page 2) and with the notions of Cross (1981).

In her attempt to establish the relevancy of existing learning theories of adult learning (e.g., humanistic, behavioristic, and developmental), Cross (1981) maintained this position in her summation:

Thus, the theoretical orientations of teachers may be related more to the characteristics of their subject matter than to the characteristics of their students. I believe, however, that the profession of adult education will be advanced if adult educators are encouraged to think about the special characteristics of the adult learner and the context in which learning takes place. (p. 234)

Adult educators are ill-equipped to begin thinking about the special characteristics of the adult learner until research such as the present study begins to focus on those characteristics. This research goes beyond those traditionally explored characteristics and examines other characteristics that are unique to each student such as an adult's financial responsibility, employment history, reasons for returning to school, and perceptions of his or her family environment. These characteristics examined in this study may influence an adult's learning behavior, his reluctance to participate in formal ABE classes, and his motivation to withdraw from those classes.

From a practical standpoint, this study offers a new approach for resolving ABE programmatic problems. Adult basic education program administrators and teachers have little knowledge of the special characteristics of the ABE student beyond the traditional biographical information that is normally taken prior to the beginning of ABE classes.

Current and past background factor information would place program administrators and teachers in a better decision-making position. For example, they can adapt their curriculum to meet the current background needs of the individual student. This may help to reduce the weekly student attrition rate that is a common problem among ABE classes. In terms of program recruitment, administrators could use this new understanding of the ABE student to "sell" ABE to prospective students.

A multi-service delivery system could be developed for the ABE student from a comprehensive understanding of the adult learner. Program administrators and teachers could establish linkages with other community services (e.g., health and social service organizations) that can provide assistance to the adults who experience current background and home environmental barriers to participation and learning.

This study is particularly significant because it explores the home environment perceptions of ABE students. The results of his exploration have the potential of showing that the home environment plays a role that is as important or more important than developmental and academic factors. By combining current background factors with home environment factors, the findings can present a clear profile of the environmental factors which interface with the adult learner.

This should alert ABE teachers and administrators to begin to look outside the classroom for answers to the problems that affect the adult learner.

CHAPTER IV

METHODOLOGY

The purpose of this chapter is to describe the procedures that were used to answer the research problem: How do selected developmental, academic, and environmental factors influence the functional literacy performance of adult basic education students? The chapter is divided into six sections under the headings (a) design, (b) setting, (c) sample, (d) instrumentation, (e) data collection, and (f) data analysis. A summary is provided.

Design

The procedures employed to answer research questions bear directly on the nature of those questions and the type of variables being investigated. In this study, all independent variables are classified as attribute variables. Kerlinger (1973), in discussing how active and attribute variables differ, described attribute variables:

All variables that are human characteristics--intelligence, aptitude, sex, socioeconomic status, field dependence, education, need for achievement, and attitudes, for example--are attribute variables. Subjects come to our studies with these variables (attributes) ready made. They are, so to speak, already manipulated. Early environment, heredity, and other circumstances have made individuals what they are. (p. 38)

Based on Kerlinger's description of attribute variables, an ex post facto research design was the appropriate design

to explore the influence of selected developmental, academic, and environmental factors on the functional literacy performance of adult basic education students. Kerlinger referred to attribute variables again in his definition of ex post facto research:

Ex post facto research is systematic empirical inquiry in which the scientist does not have direct control of independent variables because their manifestations have already occurred or because they are inherently not manipulable. Inferences about relations among variables are made, without direct intervention, from concomitant variation of independent and dependent variables. (p. 379)

The manipulation of the independent variables was unwarranted in this study; however, measurements were taken on the dependent variable (functional literacy performance) and on the independent variables (selected developmental, academic, and environmental factors). Inferences were drawn from the concomitant variation of the independent and dependent variables.

Setting

Montgomery County, Maryland covers approximately 500 square miles of land on the northwest border of Washington, D.C. Nearly 600,000 persons reside in this diverse area which is comprised of affluent suburban districts on its southern boundary and rural farming districts on its northern boundary. According to the 1982 Annual Report published by the county government, approximately two out

of every three adults are college educated, and the average household income tops \$39,000. The population averages 32 years of age.

Montgomery County administers one of the twentieth largest school districts in the United States and one of the largest ABE programs in the state. Approximately 5,000 adults participated in ABE, GED, and English for Speakers of other Languages (ESOL) programs during the 1981 school year. Montgomery County has over 20,000 adults who require literacy education services and over 30,000 foreign-born residents who require educational assistance in learning English. The Department of Adult Education and Summer School, Montgomery County Public Schools offers ABE courses throughout the year. Day and evening classes were held in 22 locations during the 1981 school year and in three locations during the 1982 summer program.

The instructional method was consistent throughout the various locations. Group lecture was supported by individual tutoring and instructional aides were used in the larger classes. Students were assigned to classes based on their performance on the Gates-MacGinity Reading Test which was administered on the day of registration.

This study was conducted during the summer session of 1982 in the following three summer school locations: Walter Johnson High School in Bethesda, Northwood High School in Silver Spring, and Richard Montgomery High School in Rockville.

Walter Johnson and Northwood classes were held on three nights a week (Monday, Tuesday, and Wednesday) from 7:00 to 9:40 p.m. Richard Montgomery classes met three days a week (Tuesday, Wednesday, and Thursday) from 9:00 to 11:40 a.m. Registration was held during the first class meeting on July 6. Classes ended after four weeks on August 2.

Sample

The sample for this study consisted of those students in each of the three summer school locations who were assessed as functioning at or above the sixth grade reading level as measured by the Gates-MacGinity Reading Test. The rationale for excluding those students who were in the lower skill development classes rested in the readability level of the Adult Performance Level Assessment which was the dependent measure in this study. A Fry readability analysis concluded that the total assessment can be read at or above the sixth grade level. The logistics of using subjects who read below the sixth grade level were beyond the resources of this researcher.

Of the 235 adults who completed registration forms on July 6, 123 adults met the sixth grade reading level criterion and comprised the initial sample. Students were assigned to classes by ABE counselors who were present at each of the three locations. A total of six classes were used in this study for data collection.

Since data were collected over the span of four weeks, student attrition among the initial sample was experienced. This datum and an in-depth description of the demographic characteristics of the sample are presented in chapter five.

Instrumentation

Four data collection instruments were employed in this study. These included a short questionnaire pertaining to demographic, academic, and current background variables; the Moos Family Environment Scale, for measuring the students' perceptions of ten subsets of their home environment; the Adult Performance Level Assessment, for measuring the ten literacy subtests; and the Wesman Personnel Classification Test, for measuring verbal and math intelligence.

The selection of data collection instruments was not an easy task. Several criteria were established to insure that those instruments were applicable to adult populations and to insure that the data collection burden was kept to a minimum. The following criteria were established by this researcher.

1. All instruments had to have been standardized with adult populations.
2. Group administration of all instruments was required.
3. Since the dependent measure required approximately ninety minutes to complete, the other three instruments had to possess relatively short completion times.
4. Reliability and validity data had to be within an acceptable range.

Questionnaire

In a short questionnaire designed by this researcher, participants were asked to respond to demographic, academic, and current background questions. These include name, age, sex, race, highest grade completed in the formal school, weeks, and hours of prior adult education and/or vocational education courses completed, time since last participation in either formal school or adult education/vocational education courses, size of household family, total income of household family, length of employment or unemployment, and reasons for returning to school.

Race and sex were used to determine if the hypotheses were valid for those two groups. The other variables were used to determine their influence on functional literacy performance.

Questionnaire Pilot Test

The questionnaire (see Appendix A for complete derivation) was pilot tested prior to its formal administration. Three groups of independent responses were obtained with the aid of 12 ABE students (four students in each group). The purpose of pilot testing the questionnaire was to determine its readability, clarity, burden, respondent reaction, and singularity of question meaning.

Corrections were made to items six, eight, eleven, fourteen, and fifteen as a result of the first pre-testing at the Adult Learning Center in Montgomery County, Virginia.

Items six and eleven were amended to include "after high school" and "including yourself," respectively. Items eight and fourteen were delineated into sub-items, e.g., 8a, 8b, etc. Students failed to make circles for each of the nine reasons in item fifteen, therefore, that had to be stressed before the second pre-testing.

The second pre-testing at the Herndon Adult Learning Center in Fairfax County, Virginia revealed that the amended directions for all items except item fifteen were followed. A closing statement was added to item fifteen to insure that nine circles were made.

The final pre-testing conducted at the Crossland Evening School in Prince Georges County, Maryland determined that all items were clearly understood. However, as a precaution, circles were drawn around the word "circle" whenever it appeared throughout the questionnaire.

Each group was asked to provide any additional reasons for their attendance in ABE classes; additional reasons were not suggested by the respondents. The average time for completion of the questionnaire was five minutes.

Adult Performance Level Assessment

Functional literacy performance was measured by the Adult Performance Level Assessment: Form AA-1 (see Appendix B). Constructed by the American College Testing Program (ACT), this 100-item inventory represents an adaptation of the definition and conceptual framework of the original APL

Project (Northcutt, 1975) to newly revised goal statements (twenty major objectives and eighty-three sub-objectives).

The APL Assessment was constructed by selecting items from two pretest administrations conducted in 1977 ($n=4,563$) and 1978 ($n=991$). The final APL Assessment contains 54 and 46 items from the 1977 and 1978 administrations, respectively. The final 100-item test utilizes a multiple choice format with a separate answer sheet. Table 1 provides estimates of the statistical characteristics for the five content and skill areas and the total assessment (American College Testing Program, 1978, p. 11).

Using the Kuder-Richardson Formula 20, internal consistencies of the five content areas ranged from .83 for occupational knowledge to .93 for community resources. For the five skill areas, internal consistencies range from .85 for identification of facts and terms to .90 for reading. This can be interpreted to mean that the ten subtests adequately represent ten distinct content and skill areas. The overall reliability estimate of .96 was considered acceptable for this study.

Scoring of the APL Assessment simply required counting the number of correct responses in each of the five content areas. Each skill was represented by a specific code; therefore, each code was summated to give the total correct responses for each skill. This scoring procedure yielded ten raw scores which corresponded to each of the ten subtests.

Table 1
 Estimates of Statistical Characteristics,
 APL Assessment Form AA-1

Content Area	<u>n</u> ^a	<u>r</u>	Error
Community Resources	20	.93	1.43
Occupational Knowledge	15	.83	1.46
Consumer Economics	25	.89	1.98
Health	20	.86	1.79
Government and Law	20	.85	1.89
Skill Area			
Identification of Facts and Terms	20	.85	1.84
Reading	20	.90	1.59
Writing	20	.89	1.66
Computation	20	.88	1.68
Problem Solving	20	.86	1.80
Total Assessment	100	.96	4.99

^aThe number of items for each subtest is represented

Moos Family Environment Scale

Family or home environment subsets were measured by the Moos Family Environment Scale: Form R (see Appendix C). The Real Form R asks people how they perceive their current family social environment. According to Moos (1974a), "The social climate perspective assumes that environments have unique 'personalities' just as people do" (p. 1).

The scale is subdivided into three broad dimensions which include the following: (a) a relationship dimension whose subscales (cohesion, expressiveness, and conflict) assess the nature and intensity of personal relationships within the family environment; (b) a personal growth dimension whose subscales (independence, achievement orientation, intellectual-cultural orientation, active-recreational orientation, and moral-religious emphasis) assess the basic directions along which personal growth and self-enhancement tend to occur in the family or home, and (c) a system maintenance dimension whose subscales (organization and control) assess the extent to which the environment is orderly, clear in its expectations, maintains control, and is responsive to change (Moos, 1974a).

The Family Environment Scale was selected for the measurement of home environment in the present study for a variety of reasons: first, its utilization of environmental subsets was consistent with the theoretical framework that had been established for the present study; second, this scale had been used in previous adult education research

(see, e.g., Jones, 1977), and third, the test-retest, internal consistency, and average item-subscale correlation data which are provided in the Family, Work, and Group Environment Preliminary Manual (Moos, 1974b) are categorized as adequate. According to that manual:

Using the Kuder-Richardson Formula 20, internal consistencies of the subscales ranged from .64 for independence to .79 for moral-religious emphasis. Average item to subscale correlations ranged from .45 for independence to .58 for cohesion. These coefficients were calculated on a sample of 814 persons. An eight week test-retest reliability coefficient was calculated on 47 members of nine families and ranged from .68 for independence to .86 for cohesion. (p. 6)

The Family Environment Scale consists of ninety statements which require a true-false response. Using a template, scoring was a matter of totalling the number of X's. Higher scores for each subset indicated a greater conformity to that sub-environment. Approximately fifteen minutes were required for orally administering the ninety statements.

Wesman Personnel Classification Test

Intelligence variables--verbal and math scores--were collected by the Wesman Personnel Classification Test: Form A (see Appendix D). Although the test's name implies its original purpose, Taylor (cited in Buros, 1953) submits in his Mental Measurement Yearbook review that "the reliability of the test appears to be adequate for any use for which it might prove valid" (p. 332). Loevinger (cited in Buros, 1953) adds support for its utility in her review. She wrote, "Overall, it appears to this reviewer to be an excellent

example of a short, general-population-level, general intelligence test, composed of verbal and numerical subtests" (p. 400).

The verbal subtest is composed of 40 two-part analogy items arranged in increasing difficulty. The numerical subtest is composed of twenty items, mainly arithmetic, processing from simple addition through more complex manipulation of fractions, square roots, and percentages. Although students are required to complete the subtest within a time frame (18 minutes for the verbal and 10 minutes for the numerical), Wesman (1965) pointed out that "the test is essentially a measure of power rather than speed" (p. 3). The entire inventory required approximately thirty-five minutes to complete in a group administration.

The test manual presents three types of validity evidence. The manual reports the relationship of the Wesman to the Otis Self-Administering Test of Mental Ability, the Otis General Intelligence Examination, and the Wonderlic Personnel Test. These correlations on six samples range from .68 to .84. Reliability data are also provided in the manual for a large number of groups using split half methods and for two groups using alternate forms. For students in the "evening high school" group, Wesman reported reliability coefficients of .83 for Verbal and .87 for Numerical (p. 24).

Data Collection

The primary concern regarding the collection of data was to minimize the interruption of the normal class schedule of the six classes that were investigated in this research. Therefore it was necessary to enlist the aid of the six classroom teachers and to provide them with an orientation session. The purpose of the June 22, 1982 orientation session was to establish a mutually agreeable timetable for data collection and to orient the teachers in the use of the data collection instruments. Of particular concern to the teachers was the anticipated lack of an incentive that would be provided to the students and the students' consequent reluctance to participate. It was suggested by the teachers that this researcher supply weekly feedback to the classes on their performance on the APL Assessment and the Wesman Personnel Classification Test and that those results be interpreted into their readiness to take the GED examination. Furthermore, it was decided to sequence the data collection in a manner that would minimize the interruption of the class activities.

Data were collected by the ABE counselors and the classroom teachers on the four consecutive Tuesdays from July 6 to July 27 at each of the three locations. Data were collected at Richard Montgomery during Tuesday morning classes and at Walter Johnson and Northwood during Tuesday evening classes.

The questionnaire data collection was incorporated into the normal registration and pre-testing procedures that were held during the first class sessions on July 6. During those sessions, the ABE counselors at each location administered the Gates-MacGinity Reading Test for class assignments, a short questionnaire for their departmental use, and the research questionnaire for the present study. This researcher was not present at any of the locations during the registration period; however, this researcher was present at one of the three locations on the following three Tuesdays.

It was anticipated that the largest student attrition would occur during the first week of the four-week session. Therefore, the dependent measure (APL Assessment) was administered on the second Tuesday (July 13). The Wesman Personnel Classification Test and the Moos Family Environment Scale were administered on the third (July 20) and fourth (July 27) Tuesdays, respectively.

Feedback of the APL results was given after the administration of the Wesman on the third Tuesday and feedback of the Wesman was given after the administration of the Moos on the fourth Tuesday. For the APL feedback, students were provided with 3 X 5 cards on which APL levels (1, 2, or 3) were printed for each of the three GED skills (reading, writing, and computation). A social security number or date of birth was printed on the card for student identification.

These results were discussed with the classes and emphasis was placed on correlating those APL skill levels with the students' readiness for the GED examination.

The same procedure was used for the Wesman feedback sessions. Raw verbal and numerical scores were provided along with the percentiles for each of those scores. The percentiles were determined from the test manual. Emphasis during the feedback sessions was placed on the students' comparative ranking in the two skills as compared to that of the group for whom the instrument had been normed. In both the APL and Wesman feedback sessions the students exhibited positive attitudes regarding their results.

Throughout the data collection process student anonymity was protected by the use of social security numbers and/or dates of birth. All tests were voluntarily taken by the students. The use of feedback was an incentive. Only one student refused to participate.

Data Analysis

The purpose of this study was to educe a comprehensive profile of the adult learner and his or her literacy performance. Specific focus was placed on the following objectives:

1. To observe the individual contribution which each variable makes on each of the ten performance subtests.
2. To observe the relative comparative contribution which each variable makes on each of the ten performance subtests.

3. To observe which combination of variables best influences each of the ten performance subtests.
4. To test the influence of the selected variables on each of the ten performance subtests across sex and race categories.

Data were measured at three levels. Sex and race were measured at the nominal level. Total family income, employment status, and reasons for returning to school were measured at the ordinal level. All other variables were measured at the interval level. All data in this study were computer analyzed utilizing selected procedures from the Statistical Package for the Social Sciences (SPSS) (Nie, 1975).

Ten research hypotheses were stated in the present study in the following manner: The linear combination of X_1, X_2, \dots, X_k will produce a significant multiple correlation with the Y scores. The most appropriate data analysis procedure was multiple regression analysis. The general form of the multiple regression equation is as follows:

$$Y = b_1X_1 + b_2X_2 + \dots + b_kX_k + a$$

where \underline{Y} represents each dependent variable score, \underline{a} represents the regression constant, \underline{b} represents the regression coefficients, and \underline{X} represents each independent variable value.

The appropriateness of multiple regression analysis to the hypotheses stated in the present study was supported by Kerlinger (1973):

Multiple regression analysis can be conceived as a refined and powerful method of 'controlling' variance. It accomplishes this the same way analysis of variance does: by estimating the magnitudes of different sources of influence on Y, different sources of variance on Y, the analysis of the interpretations of all the variables. It tells how much of Y is presumably due to X_1 , X_2 , ... X_k . It gives some idea of the relative amounts of influences of the X's. And it furnishes tests of the statistical significance of the combined influences of X's on Y and of the separate influence of each X. In short multiple regression analysis is an effective and powerful hypotheses-testing and inference making technique, since it helps the scientist study, with relative precision, complex interrelations between independent variables and a dependent variable, and thus helps him to 'explain' the presumed phenomenon represented by the dependent variable. (p 631)

From Kerlinger's description of multiple regression analysis, it was clear that the objectives of this study could be accomplished. By regressing each subtest score on all of the independent variables by the forward step-wise inclusion procedure (Nie, 1975, p. 345), three observations were made: (a) the individual contribution that each hypothesized variable made, (b) the relative comparative contribution of each hypothesized variable, and (c) the linear combination of independent variables which produced significant multiple correlations with the subtest scores.

Descriptive statistics for the profile of the sample and their performance on the Wesman Personnel Classification Test, the Moos Family Environment Scale, and the Adult Performance Level Assessment were accomplished by the use of the SPSS subprograms Frequency for the nominal and ordinal

level variables and Condescriptive for the interval level variables. A cross-tabulation of age by reason for returning to school was conducted after age was recoded into two categories to determine if there were some salient "reasons" for high and low age categories.

Secondary Analysis

A secondary analysis was performed on subgroups by sex and race. The purpose of this secondary analysis was to determine if the ten research hypotheses were valid for those categories of groups. The secondary analysis was performed by selecting each of the four subgroups, i.e., males, females, whites, and non-whites, from the data files and repeating the multiple regression procedure for each of those subgroups.

Summary

The problem investigated in this study was: How do selected developmental, academic, and environmental factors influence the functional literacy performance of adult basic education students? All variables included in this study were classified as attribute variables; therefore, an ex post facto research design was the appropriate design to address this multivariate problem. One hundred and twenty-three ABE students who were attending a four-week summer school session in Montgomery County, Maryland comprised the initial sample. Student attrition was experienced in this study. These 123

adults were selected on the basis of their having scored on or above the sixth grade reading level as measured by the Gates-MacGinity Reading Test.

Data were collected on the four consecutive Tuesdays from July 6 to July 27, 1982 in six classrooms at three ABE locations. On each Tuesday, one of the four data collection instruments was administered by the ABE counselors and teachers in the following sequence: (a) a questionnaire which gathered demographic, academic, and current background information; (b) the APL Assessment whose subtests measured functional literacy performance; (c) the Wesman Personnel Classification Test which determined a verbal and numerical intelligence score; and (d) the Moos Family Environment Scale which measured ten subsets of the adults' home environment.

The questionnaire was pilot tested prior to its formal administration. Three groups of independent responses were obtained from a total of 12 ABE students who were attending classes in Montgomery and Fairfax counties in Virginia and Prince Georges County, Maryland. Appropriate modifications were made for difficult questionnaire items.

The data collection process was preceded by an orientation session conducted by this researcher for the ABE teachers and counselors who collected the data. It was determined at that session that this researcher provide

feedback to the students on the APL and Wesman results as an incentive for their participation in the data collection process.

Ten research hypotheses were stated in the following manner: the linear combination of X_1, X_2, \dots, X_k will produce a significant multiple correlation with the Y scores. Multiple regression analysis was used to meet the objectives of this study. All data were computer analyzed by the SPSS procedures. Specifically, each literacy performance score was regressed by the forward stepwise inclusion procedure on all of the independent variables.

In order to assess the unique contributions of sex and race, a secondary analysis of the data was performed. The ten multiple regressions were repeated across sex and race subgroups to determine if the ten hypotheses were valid for those groups.

CHAPTER V

RESULTS

The purpose of this chapter is to present the results of the primary and secondary analyses of the data. The chapter is divided into four sections under the headings (a) initial sample attrition patterns, (b) final sample description, (c) primary analysis results, and (d) secondary analysis results. A summary is provided.

Initial Sample Attrition Patterns

Student attrition was experienced during the four-week data collection period. Of the 235 adults who registered for the 1982 adult education summer school session, 123 students scored at or above the sixth grade reading level criterion and comprised the initial sample. Although attrition was anticipated, the primary concern of this researcher was the rate of attrition. Generally, attrition among ABE populations approaches 50%. Hill (1981), for example, experienced an attrition rate of over 75% among an initial sample of 300 students during her six-week data collection period. Table 2 presents the initial sample attrition patterns for the three summer school locations of the present study.

It is important to note that the determination of a final sample was based only on those students who completed

TABLE 2
INITIAL SAMPLE ATTRITION PATTERNS

Location	Registered <u>n</u>	Initial Sample <u>n</u> ^a	Final Sample <u>n</u> ^b	Attrition Rate (%)
Walter Johnson	92	39	25	35.9
Richard Montgomery	41	16	11	31.3
Northwood	102	68	40	41.2
Totals	235	123	76	38.2

^aStudents in this group scored on or above the 6.0 grade level on the Gates-MacGinity Reading Test.

^bStudents in this group completed all four data collection instruments.

all four data collection instruments. Students who completed less than the four instruments were excluded from the final sample because of the logistics involved in providing "make-up" testing during the short four-week period. The 38.2% attrition rate experienced in this research resulted in a final sample consisting of 76 adults.

Final Sample Description

Seventy-six adults who resided in Montgomery County, Maryland during the summer of 1982 were examined in the present study. As a group, they represented a typical ABE sample both on the state and national levels. The final sample possessed demographic characteristics (age, sex, race, educational level, total family income, and employment status) similar to those of ABE groups reported by Hill (1981) in Prince Georges County, Maryland and by Walker et al. (1981) in Baltimore, Howard and Prince Georges counties in Maryland. Moreover, the demographic characteristics of the final sample complemented those reported in national participation surveys (e.g., see Anderson & Darkenwalk, 1979).

The 30 males and 46 females in the final sample ranged between 16 and 56 years of age with greater than 50% of the sample below 24 years of age and 75% below 35 years of age. The mean age of the group was 28.1 years.

Educationally, greater than 50% of the sample completed 10 years of formal schooling and had been out of school for five years or less. Interestingly, one individual had been out of school for 42 years. Two-thirds of the adults had no prior adult education experience. Racially, there were 44 whites and 32 non-whites. Twenty-one of the non-whites were black.

Current background questionnaire responses described a group that was equally distributed along the total family income continuum. Although 10 adults refused to respond, 13 adults cited family incomes at less than \$10,000 and 13 adults cited family incomes at greater than \$30,000. The mean total family income was in the \$14,000 to \$22,000 bracket. These incomes reflected an average household size of four persons.

Current employment and unemployment among the group was almost equally distributed. Fifty-five percent were currently employed and 44% were currently unemployed. In the unemployed group, 17 adults had been unemployed for less than one year.

The final sample consisted of students who were participating in ABE primarily for the same extrinsic and intrinsic reasons as those adults reported by Burgess (1971) and Nickse (1976) and cited in chapter two. Extrinsically, the final sample expected that participation would prepare them for a job (73%) and/or college (76%). Intrinsically,

80% of the adults responded that they were participating "to feel better about myself." Obviously, the group was not participating to get away from home for a few hours (86% responded "not-at-all") or to meet new people (95% responded "not-at-all").

A crosstabulation of age groups (16 through 24 and 25 through 56) by reasons for participating in ABE was performed to determine if a systematic relationship could be observed for those two variables. Only the chi-square statistic for Reason 8, "just for the sake of getting an education," was significant ($p = 0.014$). Interestingly, Reason 8 was dominated by those adults in the younger age group (16 through 24) as a primary or secondary reason. This finding is consistent with that found by Walker et al. (1981) who reported that "the most common response of those participants under thirty was, 'to get my GED'" (p. 8).

A comparison of the demographic data for the adults who comprised the final sample and those who dropped out of the initial sample was made. The purpose of this comparison was to determine if those who dropped out were representative of the final sample. The data of that comparison are provided in Table 3.

It appears that dropouts did not differ markedly from the persisters on any demographic variable except prior adult education experience. The mean for the prior adult

TABLE 3

COMPARISON OF DEMOGRAPHIC DATA FOR FINAL SAMPLE AND DROPOUTS

Demographic Variables	Final Sample (<u>N</u> = 76)	Dropouts (<u>N</u> = 47)
Age	\bar{x} = 28.1	\bar{x} = 24.6
Sex	Males = 40% (<u>N</u> =30) Females = 60% (<u>N</u> =46)	Males = 46% (<u>N</u> =22) Females = 54% (<u>N</u> =25)
Race	Whites = 58% (<u>N</u> =44) Non-Whites = 42% (<u>N</u> =32)	Whites = 53% (<u>N</u> =25) Non-Whites = 47% (<u>N</u> =22)
Formal Educational Attainment	\bar{x} = 9.5 grade level	\bar{x} = 10.2 grade level
Total Family Income	\bar{x} = \$14,000 - \$22,000	\bar{x} = \$14,000 - \$22,000
Time Since Last School Experience	\bar{x} = 8.1 years	\bar{x} = 7.4 years
Prior Adult Education Experience ^a	\bar{x} = 62.4 hours	\bar{x} = 7.1 hours
Household Size	\bar{x} = 4	\bar{x} = 4
Years Currently Employed	55%	51%
Years Currently Unemployed	44%	49%

^aPrior adult education experience did not meet the normal distribution assumption because 67% of the population reported no prior adult education experience. The population reporting no prior experience was more prominent among males than females.

Analyses of Appendices F and G which report regression analyses for the population subdivided for males and females show that the variable operates as normal for females but not for males. The occurrence of this phenomenon may result in less variance explanation being attributed to prior adult education experience. However, because of the lack of relative importance of this variable to the other independent variables, no attempted data transformation will be employed.

education experience of the final sample, however, was inflated because four of the 76 adults had accumulated over 3,200 participation hours.

Primary Analysis Results

Three of the four objectives that were stated in chapter four can be addressed by the results of the primary analysis. Restating those objectives succinctly, each of the ten performance subtests scores was analyzed to observe the individual contribution of each independent variable, to observe the relative comparative contribution of each independent variable, and to observe which combination of variables best influences each performance subtest.

In this section, each of the ten research hypotheses is stated followed by the results of the primary analysis. The forward stepwise inclusion procedure of multiple regression analysis was used. The summary table for each of the ten analyses illustrates the order of the stepwise output according to the order of inclusion that was determined by the respective contribution of each variable to the explained variance (Nie, 1975). Means and standard deviations for all variables are presented in Appendix E.

Hypothesis 1: A linear combination of age, verbal intelligence, formal educational attainment, and prior adult education experience will produce a significant ($p < .01$) multiple correlation with the community resources subtest scores.

Twenty-seven of the 29 independent variables produced multiple correlation coefficients which were significant at the .01 level. Since each of the four hypothesized independent variables were included among the 27 significant variables, hypothesis one was accepted. Multiple R's ranged from .50 for math intelligence to .75 for years of current employment and explained 55.7% of the community resources scores variance. The results of the stepwise regression of the community resources scores on all independent variables are provided in Table 4.

Almost half of the total explained variance was influenced by math intelligence ($r^2 = .25$). Moreover, the first nine variables combined to explain all but 5% of the total variance. Only one of the four hypothesized variables--prior adult education experience ($r^2 = .46$)--was included among the first nine variables.

After controlling for the effects of all other independent variables, only four of the 27 significant variables exerted an independent significant ($p < .01$) influence on the dependent variable. Interestingly, prior adult education experience (Beta = .31, $F = 5.21$) was the only one of

TABLE 4
 STEPWISE ANALYSIS OF VARIANCE SUMMARY OF COMMUNITY RESOURCES
 SCORES REGRESSED ON ALL INDEPENDENT VARIABLES

VARIABLES	Order of Entry	SS _{reg}	SS _{res}	df	MS _{reg}	MS _{res}	<u>F</u>
Math IQ	1	78.847	235.824	1/74	78.847	3.187	24.742*
Reason 5	2	108.812	205.859	2/73	54.406	2.820	19.293*
Reason 3	3	123.164	191.507	3/72	41.055	2.660	15.435*
Reason 7	4	130.875	183.796	4/71	32.589	2.589	12.639*
Subset 10 (Control)	5	138.311	176.360	5/70	27.662	2.519	10.980*
Prior Ad. Ed. Exp.	6	145.855	168.816	6/69	24.309	2.447	9.936*
Reason 1	7	151.478	163.193	7/68	21.640	2.340	9.017*
Total Family Income	8	155.024	159.647	8/67	19.378	2.383	8.132*
Subset 6 (Intellectual-Cult.)	9	158.958	155.713	9/66	17.662	2.359	7.486*
Verbal IQ	10	162.336	152.335	10/65	16.234	2.344	6.927*
Subset 7 (Act.-Recreational)	11	165.205	149.466	11/64	15.019	2.335	6.431*
Reason 2	12	166.016	148.655	12/63	13.835	2.360	5.863*
Reason 8	13	166.935	147.736	13/62	12.841	2.383	5.389*
Household Size	14	167.794	146.877	14/61	11.985	2.408	4.978*
Subset 2 (Expressiveness)	15	168.699	145.979	15/60	11.246	2.433	4.622*
Subset 4 (Independence)	16	169.245	145.426	16/59	10.578	2.465	4.291*
Subset 1 (Cohesion)	17	169.998	144.673	17/58	9.999	2.494	4.009*
Age	18	170.784	143.887	18/57	9.488	2.524	3.759*

TABLE 4 -continued

VARIABLES	Order of Entry	SS _{reg}	SS _{res}	df	MS _{reg}	MS _{res}	<u>F</u>
Time Since Last School	19	172.401	142.270	19/56	9.074	2.541	3.572*
Reason 6	20	172.902	141.769	20/55	8.645	2.578	3.354*
Subset 5 (Achievement)	21	173.715	140.956	21/54	8.272	2.610	3.169*
Subset 8 (Moral-Rel. Emp.)	22	174.282	140.389	22/53	7.922	2.649	2.991*
Reason 4	23	174.774	139.896	23/52	7.599	2.690	2.825*
Subset 3 (Conflict)	24	175.056	139.615	24/51	7.294	2.738	2.664*
Reason 9	25	175.182	139.489	25/50	7.007	2.790	2.512*
Subset 9 (Organization)	26	175.255	139.416	26/49	6.741	2.845	2.369*
Formal Ed. Att.	27	175.355	139.317	27/48	6.495	2.902	2.238*
Years Current Employ.	28	175.395	139.276	28/47	6.264	2.963	2.114**

*p<.01

**p<.05

the four hypothesized variables among that list. Math intelligence (Beta = .36, $F = 7.27$), reason 5 (Beta = -.34, $F = 5.58$), and subset 6 (Beta = .23, $F = 2.75$) rounded out that list of four. Although this research is not directly concerned with predicting community resources literacy performance, math intelligence, not enrolling in ABE just to get away from home for a few hours (reason 5 stated negatively), prior adult education experience, and the intellectual-cultural orientation of the family (subset 6) are the best predictors of community resources literacy performance.

Although hypothesis one was accepted as stated, the findings suggest that community resources performance can be understood better by an alternate hypothesis. Age, verbal intelligence, and formal educational attainment do influence community resources performance. However, these variables contribute little to a comprehensive understanding. A linear combination of math intelligence, prior adult education experience, total family income, reasons for participation, and home environment subsets produces a better understanding of an adult's community resources performance.

Hypothesis 2: A linear combination of age, verbal intelligence, formal educational attainment, prior adult education experience, and current background variables will produce a significant ($p < .10$) multiple correlation with the occupational knowledge subtest scores.

Twenty-six of the 29 independent variables produced multiple correlation coefficients which were significant at the .01, .05, and .10 levels. Since prior adult education experience was not within the established significance level, hypothesis two was not accepted. Multiple R's ranged from .29 for verbal intelligence to .68 for time since last school experience and explained 45.6% of the occupational knowledge scores variance. Table 5 provides the stepwise output for the occupational knowledge scores regressed on all independent variables.

The addition of a current background variable--years of current unemployment--on step 2 to verbal intelligence on step 1 doubled the amount of explained variance. Interestingly, the only significant academic variable--formal educational attainment on step 11--appeared after two developmental, five current background, and two past background variables. This suggests that an adult's proficiency in occupational knowledge is influenced by developmental, current background, and home environment factors before the influence of the formal school.

Seven of the 29 variables exerted an independent significant influence on the dependent variable. In addition to

TABLE 5

STEPWISE ANALYSIS OF VARIANCE SUMMARY OF OCCUPATIONAL KNOWLEDGE
 SCORES REGRESSED ON ALL INDEPENDENT VARIABLES

VARIABLES	Order Of Entry	SS _{reg}	SS _{res}	df	MS _{reg}	MS _{res}	F
Verbal IQ	1	12.591	140.409	1/74	12.591	1.897	6.636**
Years Current Unemploy.	2	25.052	127.948	2/73	12.526	1.753	7.147*
Age	3	29.754	123.246	3/72	9.918	1.712	5.794*
Reason 2	4	35.444	117.556	4/71	8.861	1.656	5.352*
Reason 9	5	41.286	111.714	5/70	8.257	1.596	5.174*
Total Family Income	6	44.608	108.392	6/69	7.435	1.571	4.732*
Years Current Employ.	7	48.896	104.104	7/68	6.985	1.531	4.563*
Subset 4 (Independence)	8	51.821	101.179	8/67	6.478	1.510	4.289*
Subset 3 (Conflict)	9	54.334	98.666	9/66	6.037	1.495	4.038*
Math IQ	10	56.168	96.832	10/65	5.617	1.490	3.770*
Formal Ed. Att.	11	58.259	94.741	11/64	5.296	1.480	3.578*
Subset 10 (Control)	12	59.936	93.064	12/63	4.995	1.477	3.381*
Reason 5	13	61.705	91.295	13/62	4.747	1.472	3.224*
Subset 2 (Expressiveness)	14	63.341	89.559	14/61	4.524	1.470	3.078*
Reason 1	15	64.232	88.768	15/60	4.282	1.479	2.894*
Reason 6	16	65.261	87.739	16/59	4.079	1.487	2.743*
Subset 1 (Cohesion)	17	66.029	86.971	17/58	3.884	1.499	2.590*
Subset 8 (Moral-Rel. Emp.)	18	66.185	86.185	18/57	3.712	1.512	2.455*

TABLE 5 -continued

VARIABLES	Order of Entry	SS _{reg}	SS _{res}	df	MS _{reg}	MS _{res}	F
Reason 7	19	67.463	85.537	19/56	3.551	1.524	2.325**
Reason 4	20	67.966	85.034	20/55	3.398	1.546	2.198**
Household Size	21	68.452	84.548	21/54	3.260	1.567	2.082**
Reason 8	22	68.809	84.191	22/53	3.128	1.589	1.969**
Subset 6 (Intellectual-Cult.)	23	69.073	83.927	23/52	3.003	1.614	1.861**
Subset 5 (Achievement)	24	69.301	83.699	24/51	2.888	1.641	1.759**
Reason 3	25	69.432	83.568	25/50	2.777	1.671	1.662***
Subset 7 (Act.-Recreational)	26	69.569	83.431	26/49	2.676	1.703	1.571***
Subset 9 (Organization)	27	69.681	83.319	27/48	2.581	1.736	1.487
Prior Ad. Ed. Exp.	28	69.722	83.278	28/47	2.490	1.772	1.405
Time Since Last School	29	69.805	83.195	29/46	2.407	1.808	1.331

* $p < .01$ ** $p < .05$ *** $p < .10$

age, verbal intelligence, and math intelligence, four current background variables were significant and included the following: (a) reason 2, to increase income on my present job (Beta = $-.34$, $F = 5.22$, $p < .01$), (b) reason 9, to change my life-style (Beta = $.24$, $F = 2.99$, $p < .05$), (c) total family income (Beta = $.23$, $F = 2.45$, $p < .05$), and (d) years of current employment (Beta = $-.35$, $F = 4.05$, $p < .01$).

The findings suggest an alternate hypothesis which would be more useful in understanding occupational knowledge performance. It appears that a linear combination of developmental and current background variables produces a better understanding of an adult's occupational knowledge performance.

Hypothesis 3: A linear combination of age, verbal intelligence, formal educational attainment, prior adult education experience, and current background variables will produce a significant ($p < .10$) multiple correlation with the consumer economics subtest scores.

All of the 29 independent variables produced multiple correlation coefficients which were significant at the .05 and .01 levels. Hypothesis three, therefore, was accepted. Multiple R's ranged from .44 for verbal intelligence to .76 for subset 10 and explained 57.3% of the consumer economics scores variance. The stepwise output for the consumer economics scores regressed on all independent variables is provided in Table 6.

TABLE 6

STEPWISE ANALYSIS OF VARIANCE SUMMARY OF CONSUMER ECONOMICS
 SCORES REGRESSED ON ALL INDEPENDENT VARIABLES

VARIABLES	Order of Entry	SS _{reg}	SS _{res}	df	MS _{reg}	MS _{res}	F
Verbal IQ	1	152.778	620.629	1/74	152.778	8.387	18.216*
Total Family Income	2	217.692	555.716	2/73	108.846	7.613	14.298*
Reason 4	3	254.975	518.432	3/72	84.992	7.200	11.804*
Age	4	296.232	477.176	4/71	74.058	6.720	11.019*
Subset 4 (Independence)	5	311.767	461.641	5/70	62.353	6.595	9.455*
Subset 1 (Cohesion)	6	325.267	448.141	6/69	54.211	6.495	8.347*
Years Current Employment	7	334.673	438.735	7/68	47.810	6.452	7.410*
Subset 3 (Conflict)	8	343.626	429.782	8/67	42.953	6.415	6.696*
Time Since Last School	9	353.146	423.262	9/66	38.905	6.413	6.067*
Reason 3	10	357.883	415.524	10/65	35.788	6.393	5.598*
Math IQ	11	364.697	408.710	11/64	33.154	6.386	5.192*
Reason 9	12	372.255	401.153	12/63	31.021	6.366	4.872*
Subset 8 (Moral-Rel. Emp.)	13	377.479	395.929	13/62	29.037	6.386	4.547*
Reason 8	14	384.494	388.914	14/61	27.464	6.376	4.308*
Reason 2	15	397.748	380.660	15/60	26.183	6.344	4.127*
Subset 5 (Achievement)	16	400.070	373.338	16/59	25.004	6.328	3.952*
Reason 5	17	408.251	365.157	17/58	24.015	6.296	3.814*
Reason 1	18	413.608	359.800	18/57	22.978	6.312	3.640*

TABLE 6 -continued

VARIABLES	Order of Entry	SS _{reg}	SS _{res}	df	MS _{reg}	MS _{res}	<u>F</u>
Reason 6	19	419.362	354.046	19/56	22.072	6.322	3.419*
Subset 6 (Intellectual-Cult.)	20	427.569	345.839	20/55	21.378	6.288	3.400*
Years Current Unemployment	21	433.167	240.241	21/54	20.627	6.301	3.274*
Subset 9 (Organization)	22	436.401	337.007	22/53	19.836	6.359	3.120*
Prior Ad. Ed. Exp.	23	438.206	335.202	23/52	19.052	6.446	2.956*
Subset 7 (Act.-Recreational)	24	439.875	333.533	24/51	18.328	6.540	2.803*
Reason 7	25	440.764	332.644	25/50	17.631	6.653	2.650*
Formal Ed. Att.	26	441.724	331.683	26/49	16.989	6.769	2.510*
Household Size	27	442.079	331.329	27/48	16.373	6.903	2.372*
Subset 2 (Expressiveness)	28	442.451	330.957	28/47	15.802	7.042	2.244**
Subset 10 (Control)	29	442.841	330.567	29/46	15.270	7.186	2.125**

*p<.01**p<.05

The similarities and differences between the stepwise output for community resources and occupational knowledge are interesting. Again verbal intelligence on step 1 is followed by a current background variable--total family income. Whereas formal educational attainment was the first academic variable to appear in the occupational knowledge stepwise output and time since last school experience was not significant, time since last school experience on step 9 was the first academic variable that appeared in the consumer economics output. Moreover, formal educational attainment appeared on the 26th step for consumer economics.

Again, current background, developmental, and past background factors appeared to influence consumer economics performance before academic factors. The ranking of the magnitudes of the simple correlation coefficients substantiates this assertion. The first four coefficients are as follows: (a) verbal intelligence ($r = .44$), (b) math intelligence ($r = .42$), (c) total family income ($r = .40$), and (d) reason 4, to prepare for college ($r = .22$). Prior adult education experience ($r = .09$) had the highest correlation coefficient of the academic factors.

For occupational knowledge performance, none of the academic variables exerted an independent significant influence. The same situation held true for consumer economics included following: one developmental variable (verbal

intelligence, Beta = .58, $F = 10.55$, $p < .01$), three home environment subsets (independence, Beta = .27, $F = 3.43$, $p < .01$; achievement orientation, Beta = -.25, $F = 3.05$, $p < .01$; moral-religious emphasis, Beta = .21, $F = 1.82$, $p < .10$), and five current background variables (total family income, Beta = .29, $F = 5.31$, $p < .01$; years of current employment, Beta = -.30, $F = 3.81$, $p < .01$; reason 4, to prepare myself for college, Beta = .21, $F = 3.36$, $p < .05$; reason 5, to get away from home for a few hours, Beta = .25, $F = 3.06$, $p < .01$; reason 6, to meet new people, Beta = -.23, $F = 1.76$, $p < .05$).

Although age, formal educational attainment, and prior adult education experience do influence consumer economics performance, their influence is slight. The findings suggest an alternate hypothesis which would be more useful in understanding consumer economics performance. It appears that a linear combination of verbal intelligence, current background variables, and home environment subsets produces a better understanding of an adult's consumer economics performance.

Hypothesis 4: A linear combination of age, verbal intelligence, formal educational attainment, and prior adult education experience will produce a significant ($p < .01$) multiple correlation with the health subtest scores.

Twenty-seven of the 29 independent variables produced multiple correlation coefficients which were significant at

the .01 level. Since formal educational attainment was not included among the 27 variables, hypothesis four was not accepted. Multiple R's ranged from .45 for math intelligence to .75 for subset 8 and explained 56.1% of the health scores variance. The 27 independent variables are presented in the stepwise output format in Table 7.

More than half of the explained health subtest score variance was attributed to the first three variables--math intelligence ($r^2 = .20$), verbal intelligence ($r^2 = .26$), and time since last school experience ($r^2 = .31$). The remaining 25% of the explained variance was distributed among the remaining 24 variables. Although all 27 variables were significant at the .01 level, the gradual plateauing of the multiple R's after step 3 suggested that their significance was dependent upon their linear combination. As a matter of fact, the multiple R change from step 4 through step 11 was .105 and the multiple R change from step 12 through step 27 was only .047.

None of the hypothesized independent variables had either a significant independent influence or a moderate positive or negative relationship (r) with the dependent variable. The findings suggest that an alternate hypothesis for understanding health performance would involve an adult's math intelligence, verbal intelligence, and time since last school experience.

TABLE 7

STEPWISE ANALYSIS OF VARIANCE SUMMARY OF HEALTH SCORES
REGRESSED ON ALL INDEPENDENT VARIABLES

VARIABLES	Order of Entry	SS _{reg}	SS _{res}	df	MS _{reg}	MS _{res}	F
Math IQ	1	126.225	509.815	1/74	126.225	6.889	18.322*
Verbal IQ	2	163.457	472.583	2/73	81.728	6.474	12.625*
Time Since Last School	3	195.068	440.972	3/72	65.023	6.125	10.617*
Subset 3 (Conflict)	4	221.391	414.649	4/71	55.348	5.840	9.477*
Reason 3	5	245.471	390.568	5/70	49.094	5.780	8.799*
Reason 4	6	263.731	372.309	6/69	43.955	5.396	8.146*
Reason 7	7	275.740	360.290	7/68	39.393	5.298	7.435*
Subset 6 (Intellectual-Cult.)	8	284.512	351.527	8/67	35.567	5.247	5.778*
Total Family Income	9	292.506	343.534	9/66	32.501	5.205	6.244*
Reason 5	10	300.492	335.548	10/65	30.049	5.162	5.821*
Subset 2 (Expressiveness)	11	306.916	329.124	11/64	27.901	5.143	5.426*
Subset 4 (Independence)	12	313.346	322.694	12/63	26.112	5.122	5.098*
Reason 6	13	318.307	317.732	13/62	24.485	5.125	4.778*
Subset 5 (Achievement)	14	325.295	311.745	14/61	23.164	5.111	4.533*
Reason 9	15	331.070	304.969	15/60	22.071	5.083	4.342*
Reason 1	16	335.614	300.426	16/59	20.976	5.092	4.119*
Reason 8	17	341.208	294.831	17/58	20.072	5.083	3.948*

TABLE 7 -continued

VARIABLES	Order of Entry	SS _{reg}	SS _{res}	df	MS _{reg}	MS _{res}	F
Subset 1 (Cohesion)	18	348.040	287.999	18/57	19.336	5.053	3.827*
Household Size	19	350.452	285.587	19/56	18.445	5.099	3.617*
Subset 7 (Act.-Recreational)	20	353.512	282.527	20/55	17.676	5.137	3.441*
Reason 2	21	354.753	281.286	21/54	16.893	5.209	3.243*
Prior Ad. Ed. Exp.	22	355.647	280.393	22/53	16.166	5.290	3.056*
Subset 10 (Control)	23	355.935	280.105	23/52	15.474	5.387	2.873*
Subset 9 (Organization)	24	356.245	279.945	24/51	14.844	5.486	2.706*
Age	25	356.391	279.649	25/50	14.256	5.593	2.549*
Years Current Employment	26	356.485	279.554	26/49	13.711	5.705	2.403*
Subset 8 (Moral-Rel. Emp.)	27	356.563	279.476	27/48	13.206	5.822	2.268*

*p<.01

Hypothesis 5: A linear combination of age, verbal intelligence, formal educational attainment, and prior adult education experience will produce a significant ($p < .01$) multiple correlation with the government-and-law subtest scores.

All of the 29 independent variables produced multiple correlation coefficients which were significant at the .01 level. Hypothesis five, therefore, was accepted. Multiple R's ranged from .42 for formal educational attainment to .83 for subset 8 and explained 69.2% of the government-and-law scores variance. Table 8 presents the stepwise output for all independent variables.

The percentage of explained variance of the dependent variable scores almost doubled with the addition of two home environment subsets--cohesion ($r^2 = .29$) and independence ($r^2 = .35$) on steps 2 and 3, respectively, to formal educational attainment ($r^2 = .18$) on step 1. Moreover, when these two subsets were added to formal educational attainment, they combined to contribute to more than half of the total explained variance. The addition of the 10 variables on steps 4 through 13 contributed 28% to the total variance explained. Interestingly, those ten variables on steps 4 through 13 were either current background or home environment variables. The remaining 6.2% of explained variance was distributed among the 16 variables on steps 14 through 29. Age, verbal intelligence, and prior adult

TABLE 8

STEPWISE ANALYSIS OF VARIANCE SUMMARY OF GOVERNMENT-AND-LAW
 SCORES REGRESSED ON ALL INDEPENDENT VARIABLES

VARIABLES	Order of Entry	SS _{reg}	SS _{res}	df	MS _{reg}	MS _{res}	F
Formal Ed. Att.	1	991.820	4545.812	1/74	991.820	61.430	16.146*
Subset 1 (Cohesion)	2	1592.867	3944.765	2/73	796.433	54.038	14.738*
Subset 4 (Independence)	3	1946.182	3591.450	3/72	648.727	49.881	13.005*
Reason 7	4	2259.565	3278.066	4/71	564.891	46.170	12.235*
Reason 5	5	2511.003	3026.628	5/70	502.201	43.238	11.615*
Reason 6	6	2716.166	2821.466	6/69	452.694	40.891	11.071*
Subset 10 (Control)	7	2859.850	2677.782	7/68	408.550	39.379	10.375*
Subset 7 (Act.-Recreational)	8	2975.487	2562.144	8/67	371.936	38.241	9.726*
Reason 3	9	3071.261	2466.370	9/66	341.251	37.369	9.132*
Household Size	10	3241.150	2296.482	10/65	324.115	35.330	9.174*
Years Current Employment	11	3325.031	2213.601	11/64	302.185	34.588	8.737*
Years Current Unemployment	12	3446.227	2091.405	12/63	287.186	33.197	8.651*
Total Family Income	13	3501.658	2035.973	13/62	269.358	32.838	8.203*
Subset 6 (Intellectual-Cult.)	14	3555.456	1982.175	14/61	253.961	32.495	7.815*
Subset 5 (Achievement)	15	3628.292	1909.340	15/60	241.886	31.822	7.601*
Math IQ	16	3654.531	1883.101	16/59	228.408	31.917	7.156*
Reason 4	17	3695.393	1842.238	17/58	217.376	31.763	6.844*
Reason 8	18	3717.192	1820.439	18/57	206.511	31.938	6.466*

TABLE 8 -continued

VARIABLES	Order of Entry	SS _{reg}	SS _{res}	df	MS _{reg}	MS _{res}	<u>F</u>
Reason 9	19	3742.828	1794.803	19/56	196.991	32.050	6.146*
Age	20	3759.950	1777.681	20/55	187.998	32.321	5.816*
Subset 9 (Organization)	21	3776.028	1761.603	21/54	179.811	32.622	5.512*
Reason 1	22	3794.070	1743.562	22/53	172.458	32.897	5.242*
Subset 2 (Expressiveness)	23	3803.439	1734.192	23/52	165.367	33.350	4.959*
Time Since Last School	24	3809.243	1728.389	24/51	158.718	33.890	4.683*
Verbal IQ	25	3815.711	1721.920	25/50	152.628	34.438	4.432*
Prior Ad. Ed. Exp.	26	3819.794	1717.837	26/49	146.915	35.058	4.191*
Reason 2	27	3826.441	1711.191	27/48	141.720	35.650	3.975*
Subset 3 (Conflict)	28	3828.619	1709.013	28/47	136.736	36.362	3.760*
Subset 8 (Moral-Rel. Emp.)	29	3830.025	1707.606	29/46	132.070	37.122	3.558*

*p < .01

education experience were among the variables which contributed the 6.2% to the total explained variance. Formal educational attainment (Beta = $-.37$, $F = 8.8$, $p < .01$) was the best predictor of government-and-law performance.

The findings suggest that government-and-law performance can be better understood from an alternate hypothesis. It appears that a linear combination of formal educational attainment, current background variables, and home environment subsets produces a better understanding of an adult's government-and-law performance.

Hypothesis 6: A linear combination of age, verbal intelligence, formal educational attainment, and prior adult education experience will produce a significant ($p < .01$) multiple correlation with the identification of facts and terms subtest scores.

Twenty of the 29 independent variables including those hypothesized produced multiple correlation coefficients which were significant at the .01 level. Hypothesis six, therefore, was accepted. Multiple R's for all of the independent variables that entered the regression equation (28) ranged from .42 for total family income to .69 for subset 7. The total variance explained was 47.9%. The results of the stepwise regression of the identification of facts and terms scores on all independent variables are found in Table 9.

TABLE 9

STEPWISE ANALYSIS OF VARIANCE SUMMARY OF IDENTIFICATION OF FACTS
AND TERMS SCORES REGRESSED ON ALL INDEPENDENT VARIABLES

VARIABLES	Order of Entry	SS _{reg}	SS _{res}	df	MS _{reg}	MS _{res}	F
Total Family Income	1	97.675	445.522	1/74	97.675	6.021	16.224*
Verbal IQ	2	140.142	403.055	2/73	70.071	5.521	12.691*
Age	3	176.891	366.307	3/72	58.964	5.088	11.590*
Reason 5	4	189.722	353.475	4/71	47.431	4.979	9.527*
Reason 6	5	197.961	345.237	5/70	39.592	4.932	8.028*
Subset 6 (Intellectual-Cult.)	6	208.890	334.307	6/69	34.815	4.845	7.186*
Reason 3	7	218.442	324.756	7/68	31.206	4.776	6.534*
Reason 7	8	224.307	318.890	8/67	28.038	4.760	5.891*
Years Current Employment	9	229.498	313.700	9/66	25.500	4.753	5.365*
Subset 8 (Moral-Rel. Emp.)	10	234.646	308.551	10/65	23.465	4.747	4.943*
Formal Ed. Att.	11	237.423	305.775	11/64	21.584	4.778	4.518*
Time Since Last School	12	242.236	300.961	12/63	20.186	4.777	4.226*
Subset 3 (Conflict)	13	224.910	298.287	13/62	18.839	4.811	3.916*
Reason 2	14	247.200	295.997	14/61	17.657	4.852	3.638*
Prior Ad. Ed. Exp.	15	248.879	294.318	15/60	16.592	4.905	3.382*
Reason 8	16	250.617	292.580	16/59	15.664	4.959	3.159*
Subset 1 (Cohesion)	17	252.543	290.654	17/58	14.855	5.011	2.964*
Subset 10 (Control)	18	254.199	288.998	18/57	14.122	5.070	2.785*

TABLE 9 -continued

VARIABLES	Order of Entry	SS _{reg}	SS _{res}	df	MS _{reg}	MS _{res}	F
Subset 4 (Independence)	19	255.298	287.899	19/56	13.437	5.141	2.614*
Reason 4	20	256.205	286.992	20/55	12.810	5.218	2.455*
Subset 5 (Achievement)	21	257.064	286.134	21/54	12.241	5.299	2.310*
Household Size	22	258.221	284.976	22/53	11.737	5.377	2.183**
Subset 2 (Expressiveness)	23	258.911	284.286	23/52	11.257	5.467	2.059**
Math IQ	24	259.413	283.784	24/51	10.809	5.564	1.943**
Subset 9 (Organization)	25	259.726	283.471	25/50	10.389	5.669	1.832**
Reason 1	26	259.857	283.341	26/49	9.944	5.782	1.728***
Years Current Unemployment	27	260.022	283.175	27/48	9.630	5.899	1.632***
Subset 7 (Act.-Recreational)	28	260.112	283.085	28/47	9.290	6.023	1.542***

*p < .01**p < .05***p < .10

Almost 33% of the explained variance was attributed to the linear combination of the first three variables--total family income ($\underline{r}^2 = .18$), verbal intelligence ($\underline{r}^2 = .26$), and age ($\underline{r}^2 = .32$). The addition of the variables on steps 4 through 14 showed slight increases in multiple \underline{R} values and almost miniscule increases in multiple \underline{R} values from step 15 through step 28. This trend inferred a dependent relationship among the selected variables.

The dependency of the selected variables to each other for statistical significance was reinforced by the number of significant ($\underline{p} < .01$) Betas among the 28 variables. Verbal intelligence (Beta = .35, $\underline{F} = 6.04$) was the only variable that contributed an independent significant influence on the dependent variable. Moreover, only six of the 28 variables had simple \underline{r} values that were greater than .20. Verbal intelligence ($\underline{r} = .38$) was the only hypothesized variable among that list of six variables.

Literacy performance in identification of facts and terms appears to be significantly influenced by the linear combination of the hypothesized variables and a host of other selected variables. Verbal intelligence is the "best" predictor for that skill with the remaining hypothesized variables making significant additive contributions to the variance explained.

Although prior adult education experience on step 15 was significant as hypothesized, the current and past

background variables on steps 1 through 14 are more useful in understanding identification of facts and terms performance. A linear combination of age, verbal intelligence, formal educational attainment, current background variables, and home environment subsets produces a better understanding of an adult's identification of facts and terms performance.

Hypothesis 7: A linear combination of age, verbal intelligence, formal educational attainment, prior adult education experience, time since last school experience, and home environment subsets will produce a significant ($p < .05$) multiple correlation with the reading subtest scores.

Twenty-six of the 29 independent variables produced multiple correlation coefficients which were significant at the .01 level. Two of the hypothesized variables--prior adult education experience and subset 2-- were not entered into the regression equation; therefore, hypothesis seven was not accepted. Multiple R's ranged from .53 for verbal intelligence to .74 for reason 1 and explained 55.4% of the reading scores variance. Table 10 shows the stepwise output for the reading scores regressed on all independent variables.

Half of the variance explained was attributed to verbal intelligence ($r^2 = .28$). The addition of the developmental and current background variables on steps 2 through 5 showed appreciable changes in the percentage of variance

TABLE 10

STEPWISE ANALYSIS OF VARIANCE SUMMARY OF READING SCORES
 REGRESSED ON ALL INDEPENDENT VARIABLES

VARIABLES	Order of Entry	SS _{reg}	SS _{res}	df	MS _{reg}	MS _{res}	F
Verbal IQ	1	124.840	327.515	1/74	124.840	4.426	28.207*
Math IQ	2	148.310	304.045	2/73	74.155	4.165	17.804*
Age	3	162.012	290.344	3/72	54.004	4.033	13.392*
Reason 4	4	171.821	280.535	4/71	42.955	3.951	10.871*
Reason 9	5	182.815	269.540	5/70	36.563	3.851	9.496*
Reason 8	6	188.915	263.441	6/69	31.486	3.818	8.246*
Subset 4 (Independence)	7	193.581	258.774	7/68	27.655	3.806	7.267*
Subset 5 (Achievement)	8	201.017	251.338	8/67	25.127	3.751	6.698*
Subset 3 (Conflict)	9	207.170	245.186	9/66	23.019	3.715	6.196*
Subset 8 (Moral-Rel. Emp.)	10	215.092	237.264	10/65	21.509	3.650	5.893*
Time Since Last School	11	219.869	232.487	11/64	19.988	3.633	5.502*
Reason 3	12	226.634	225.721	12/63	18.886	3.583	5.271*
Reason 6	13	231.971	220.384	13/62	17.844	3.555	5.020*
Formal Ed. Att.	14	235.035	217.231	14/61	16.788	3.563	4.712*
Subset 6 (Intellectual-Cult.)	15	237.604	214.752	15/60	15.840	3.579	4.426*
Reason 5	16	240.027	212.328	16/59	15.002	3.599	4.169*
Years Current Employment	17	242.878	209.478	17/58	14.287	3.612	3.996*

TABLE 10-continued

VARIABLES	Order of Entry	SS _{reg}	SS _{res}	df	MS _{reg}	MS _{res}	F
Total Family Income	18	244.939	207.416	18/57	13.608	3.639	3.740*
Subset 7 (Act.-Recreational)	19	246.016	206.340	19/56	12.948	3.685	3.514*
Subset 10 (Control)	20	247.195	205.161	20/55	12.360	3.730	3.313*
Years Current Unemployment	21	248.519	203.836	21/54	11.834	3.775	3.135*
Subset 1 (Cohesion)	22	248.998	203.357	22/53	11.318	3.837	2.950*
Household Size	23	249.454	202.902	23/52	10.846	3.902	2.780*
Reason 7	24	249.997	202.359	24/51	10.417	3.968	2.626*
Subset 9 (Organization)	25	250.339	202.016	25/50	10.014	4.040	2.478*
Reason 1	26	250.659	201.696	26/49	9.641	4.116	2.342*

* $p < .01$

explained that totalled 12.8%. The remaining 15% of explained variance was distributed among the 21 variables on steps 6 through 26. The percentage of variance explained was slightly more than one percent for each current and past background variable on steps 5 through 12. Interestingly, time since last school experience was included on step 11. Beginning with reason 6 on step 13, the percentages of variance explained was less than one percent for each remaining step.

Four variables exerted significant ($p < .05$) independent influences on reading performance. Those four included the following: (a) verbal intelligence (Beta = .55, $F = 11.18$), (b) math intelligence (Beta = .29, $F = 4.90$), (c) reason 8, just for the sake of getting an education (Beta = .26, $F = 3.77$), and (d) subset 5, achievement orientation (Beta = $-.34$, $F = 5.27$).

The data suggest a more useful alternate hypothesis for understanding reading performance. It appears that the selected developmental variables, particularly verbal intelligence, are the primary factors in functional reading performance. Time since last school experience, math intelligence, reasons for participation, and home environment subsets make significant additive contributions to the comprehensive understanding of an adult's reading performance.

Hypothesis 8: A linear combination of age, verbal intelligence, formal educational attainment, prior adult education experience, time since last school experience, and home environment subsets will produce a significant ($p < .05$) multiple correlation with the writing subtest scores.

Twenty-seven of the 29 variables produced multiple correlation coefficients which were significant at the .01 level. Interestingly, two hypothesized variables--verbal intelligence and prior adult education experience--failed to enter the regression equation. Hypothesis eight, therefore, was not accepted. Multiple R's ranged from .45 for formal educational attainment to .84 for reason 4 and explained 70.4% of the writing scores variance. The stepwise output for the writing scores regressed on all independent variables is displayed in Table 11.

Formal educational attainment contributed 20% of the variance explained. The reasons for participation and home environment subsets on steps 2 through 9 contributed an additional 38.5% to the explained variance. The remaining 12% of the explained variance was distributed among the 18 variables on steps 10 through 27. Age and time since last school experience were among those variables on steps 10 through 27.

Interestingly, formal educational attainment was negatively related to writing performance ($r = -.45$). This suggests that an inverse relationship exists between those two variables.

TABLE 11

STEPWISE ANALYSIS OF VARIANCE SUMMARY OF WRITING SCORES
REGRESSED ON ALL INDEPENDENT VARIABLES

VARIABLES	Order of Entry	SS _{reg}	SS _{res}	df	MS _{reg}	MS _{res}	F
Formal Ed. Att.	1	309.688	1235.193	1/74	309.688	16.692	18.553*
Subset 1 (Cohesion)	2	428.522	1116.359	2/73	214.261	15.293	14.011*
Subset 2 (Expressiveness)	3	559.276	985.605	3/72	186.425	13.689	13.619*
Reason 5	4	653.436	891.446	4/71	163.359	12.556	13.011*
Subset 7 (Act.-Recreational)	5	716.107	828.775	5/70	143.221	11.840	12.097*
Reason 6	6	768.198	776.683	6/69	128.033	11.256	11.374*
Reason 3	7	839.305	705.577	7/68	119.901	10.376	11.555*
Reason 7	8	871.211	673.670	8/67	108.901	10.055	10.831*
Reason 9	9	904.253	640.629	9/66	100.473	9.706	10.351*
Subset 9 (Organization)	10	926.242	618.640	10/65	92.624	9.518	9.732*
Subset 10 (Control)	11	947.943	596.939	11/64	86.177	9.327	9.239*
Household Size	12	964.486	580.395	12/63	80.374	9.213	8.724*
Math IQ	13	982.036	562.845	13/62	75.541	9.078	8.321*
Years Current Unemployment	14	995.272	549.610	14/61	71.091	9.010	7.890*
Years Current Employment	15	1016.977	527.904	15/60	67.799	8.798	7.706*
Reason 8	16	1031.482	513.400	16/59	64.468	8.702	7.409*
Subset 6 (Intellectual-Cult.)	17	1042.590	502.292	17/58	61.329	8.660	7.082*

TABLE 11 -continued

VARIABLES	Order of Entry	SS _{reg}	SS _{res}	df	MS _{reg}	MS _{res}	F
Subset 4 (Independence)	18	1054.171	490.711	18/57	58.565	8.609	6.803*
Age	19	1062.881	482.001	19/56	55.941	8.607	6.499*
Subset 5 (Achievement)	20	1072.201	472.680	20/55	53.601	8.594	6.238*
Total Family Income	21	1079.340	465.541	21/54	51.397	8.621	5.962*
Subset 8 (Moral-Rel. Emp.)	22	1084.544	460.338	22/53	49.297	8.686	5.676*
Subset 3 (Conflict)	23	1085.970	458.911	23/52	47.216	8.825	5.350*
Reason 1	24	1087.106	457.775	24/51	45.296	8.976	5.046*
Reason 2	25	1087.509	457.373	25/50	43.500	9.147	4.755*
Time Since Last School	26	1087.706	457.175	26/49	41.834	9.330	4.484*
Reason 4	27	1087.852	457.030	27/48	40.291	9.521	4.232*

*p < .01

Eight variables significantly ($p < .05$) influenced writing performance after all other variables had been controlled. Those eight included the following:

(a) formal educational attainment (Beta = $-.32$, $F = 8.62$), (b) subset 1, cohesion (Beta = $-.37$, $F = 10.16$), (c) subset 2, expressiveness (Beta = $.20$, $F = 4.98$), (d) reason 5, to get away from home for a few hours (Beta = $.34$, $F = 8.52$), (e) reason 6, to meet new people (Beta = $-.38$, $F = 10.29$), (f) reason 3, to get a license for a particular job (Beta = $.38$, $F = 9.65$), (g) subset 9, organization (Beta = $.23$, $F = 4.27$), and (h) math intelligence (Beta = $.14$, $F = 2.00$).

Interestingly, three of the eight variables that independently influenced writing performance were home environment subsets and three of the eight were current background variables (reasons for returning to school). In the absence of verbal intelligence and prior adult education experience making any contribution to writing performance and with formal educational attainment making a significant negative contribution, the influence of current and past background factors on writing performance was amplified.

The findings suggest an alternate hypothesis which would be more useful in understanding an adult's writing performance. A linear combination of formal educational

attainment, reasons for participation, and home environment subsets produces a better understanding of an adult's writing performance.

Hypothesis 9: A linear combination of age, math intelligence, formal educational attainment, prior adult education experience, time since last school experience, and home environment subsets will produce a significant ($p < .05$) multiple correlation with the computation subtest scores.

Twenty-eight of the 29 independent variables produced multiple correlation coefficients which were significant at the .01 level. Since subset 4, independence, failed to enter the regression equation, hypothesis nine was not accepted. Multiple R's ranged from .39 for subset 1 to .82 for reason 4 and explained 67.1% of the computation scores variance. The stepwise output for the computation scores regressed on all independent variables is displayed in Table 12.

The addition of the first 14 variables explained 62.6% of the computation scores variance. Moreover, 10 of the first 14 variables possessed Betas that were significant at the .05 level. Only the Betas for subset 6 and subset 2 were not significant among those 14.

Since prior adult education experience and formal educational attainment were included among those 10 significant variables, the independent influence of two academic variables on a functional literacy subtest was observable

TABLE 12

STEPWISE ANALYSIS OF VARIANCE SUMMARY OF COMPUTATION SCORES
 REGRESSED ON ALL INDEPENDENT VARIABLES

VARIABLES	Order of Entry	SS _{reg}	SS _{res}	df	MS _{reg}	MS _{res}	F
Subset 1 (Cohesion)	1	217.875	1209.112	1/74	217.875	16.339	13.334*
Subset 6 (Intellectual-Cult.)	2	294.123	1132.864	2/73	147.062	15.519	9.476*
Reason 6	3	371.801	1055.186	3/72	123.934	14.655	8.457*
Years Current Employment	4	438.081	988.906	4/71	109.520	13.928	7.863*
Verbal IQ	5	503.600	923.386	5/70	100.720	13.191	7.635*
Prior Ad. Ed. Exp.	6	555.014	871.972	6/69	92.502	12.637	7.320*
Formal Ed. Att.	7	599.651	827.335	7/68	85.664	12.167	7.041*
Subset 9 (Organization)	8	648.355	778.632	8/67	81.044	11.621	6.974*
Subset 2 (Expressiveness)	9	696.732	730.254	9/66	77.415	11.046	6.997*
Reason 3	10	728.748	698.239	10/65	72.875	10.742	6.784*
Household Size	11	792.369	634.618	11/64	72.034	9.916	7.264*
Total Family Income	12	827.658	599.329	12/63	68.971	9.513	7.250*
Reason 7	13	874.956	552.031	13/62	67.304	8.904	7.559*
Math IQ	14	893.463	533.524	14/61	63.818	8.746	7.297*
Years Current Unemployment	15	909.424	517.563	15/60	60.628	8.626	7.029*
Reason 1	16	917.677	509.310	16/59	57.355	8.632	6.644*
Subset 8 (Moral-Rel. Emp.)	17	923.068	503.919	17/58	54.298	8.688	6.250*

TABLE 12 -continued

VARIABLES	Order of Entry	SS _{reg}	SS _{res}	df	MS _{reg}	MS _{res}	F
Subset 10 (control)	18	929.000	497.986	18/57	51.611	8.737	5.907*
Reason 9	19	935.878	491.109	19/56	49.257	8.769	5.617*
Age	20	943.063	483.924	20/55	47.153	8.799	5.359*
Reason 2	21	948.800	478.187	21/54	45.181	8.855	5.102*
Subset 7 (Act.-Recreational)	22	951.489	475.497	22/53	43.250	8.972	4.821*
Time Since Last School	23	952.941	474.046	23/52	41.432	9.116	4.545*
Reason 5	24	954.152	472.835	24/51	39.756	9.271	4.288*
Subset 3 (Conflict)	25	955.294	471.693	25/50	38.212	9.434	4.050*
Subset 5 (Achievement)	26	956.044	470.943	26/49	36.771	9.611	3.826*
Reason 8	27	957.087	469.900	27/48	35.478	9.790	3.621*
Reason 4	28	957.274	469.713	28/47	34.188	9.994	3.421*

*p < .01

for the first time in the present study. Formal educational attainment was again negatively related to the dependent variable ($r = -.25$). Consistent with the findings for the writing subtest, it appears that an inverse relationship exists between formal educational attainment and writing performance.

The independent significant ($p < .05$) influence of math intelligence (Beta = .22, $F = 3.26$) was expected. However, the inclusion of five current background variables among the list of 10 independent variables that each possessed a significant independent influence on the dependent variable was not expected. The five current background variables were as follows: (a) reason 6, to meet new people (Beta = $-.42$, $F = 9.12$), (b) reason 3, to get a license for a particular job (Beta = .39, $F = 8.87$), (c) household size (Beta = $-.30$, $F = 8.31$), (d) total family income (Beta = .23, $F = 4.03$), and (e) reason 7, to feel better about myself (Beta = $-.20$, $F = 3.58$). Rounding out that list of 10 "best" variables was another home environment subset--subset 9, organization (Beta = .28, $F = 5.58$).

Although hypothesis nine was not accepted as stated because of the exclusion of one home environment subset from the regression equation, functional computation performance appears to be influenced by a variety of factors both independently of and in linear combination with all other selected variables. Home environment as well as academic

and current background variables each contribute independent and combinative influences on computation performance.

Age and time since last school experience were significant hypothesized variables; however, the data suggest that current background variables have more utility in understanding computation performance. An alternate hypothesis suggests that a linear combination of verbal and math intelligence, prior adult education experience, formal educational attainment, current background variables, and home environment subsets produces a better understanding of an adult's computation performance.

Hypothesis 10: A linear combination of age, verbal and math intelligence, formal educational attainment, prior adult education experience, and home environment subsets will produce a significant ($p < .05$) multiple correlation with the problem solving subtest scores.

Twenty-three of the 29 independent variables produced multiple correlation coefficients which were significant at the .01 and .05 levels. Age was significant at the .10 level. Subset 3 was not significant at any of the selected levels and subset 2 did not enter into the regression equation. Hypothesis ten, therefore, was not accepted. Multiple R's for the 27 variables that entered the regression equation ranged from .48 for verbal intelligence to .67 for subset 3 and explained 45.0% of the problem solving scores

variance. Table 13 presents the stepwise output for the problem solving scores regressed on all independent variables.

When the six variables on steps 2 through 7 were added to verbal intelligence on step 1, the change in the percentage of variance explained was appreciable. Those first seven variables contributed 37.7% to the total variance explained. Except for age, each of the hypothesized variables was represented among those first seven variables. The percentage of variance explained by each of the final 20 variables, however, was negligible (less than 1%).

Verbal and math intelligence exerted the strongest relationship to the dependent variable ($r = .48$ and $.37$, respectively). The strength of verbal intelligence's association to the dependent variable, however, was a result of its linear dependence to the other independent variables. Only math intelligence (Beta = $.27$, $F = 3.17$) and reason 3, to get a license for a particular job (Beta = $.32$, $F = 3.99$) influenced problem solving performance independently (and significantly, $p < .05$) of the other variables.

The data suggest an alternate hypothesis for problem solving performance that excludes age and includes reasons for participation. A linear combination of verbal and math intelligence, formal educational attainment, prior adult

TABLE 13

STEPWISE ANALYSIS OF VARIANCE SUMMARY OF PROBLEM SOLVING
 SCORES REGRESSED ON ALL INDEPENDENT VARIABLES

VARIABLES	Order of Entry	SS _{reg}	SS _{res}	df	MS _{reg}	MS _{res}	F
Verbal IQ	1	126.304	415.643	1/74	126.304	5.617	22.487*
Time Since Last School	2	154.844	387.103	2/73	77.422	5.303	14.600*
Math IQ	3	167.860	374.087	3/72	55.953	5.196	10.769*
Reason 3	4	181.901	360.046	4/71	45.475	5.071	8.968*
Subset 9 (Organization)	5	193.008	348.939	5/70	38.602	4.985	7.744*
Prior Ad. Ed. Exp.	6	198.674	343.274	6/69	33.112	4.975	6.656*
Formal Ed. Att.	7	204.152	337.795	7/68	29.165	4.968	5.871*
Years Current Unemployment	8	208.747	333.200	8/67	26.093	4.973	5.247*
Total Family Income	9	213.623	328.324	9/66	23.736	4.975	4.771*
Subset 6 (Intellectual-Cult.)	10	217.178	324.770	10/65	21.718	4.996	4.347*
Subset 7 (Act.-Recreational)	11	221.374	320.574	11/64	20.125	5.009	4.018*
Reason 2	12	225.572	316.375	12/63	18.798	5.022	3.743*
Subset 4 (Independence)	13	229.627	312.320	13/62	17.664	5.037	3.506*
Subset 1 (Cohesion)	14	232.636	309.311	14/61	16.617	5.071	3.277*
Years Current Employment	15	234.481	307.466	15/60	15.632	5.124	3.051*
Reason 4	16	235.920	306.028	16/49	14.745	5.187	2.843*
Subset 5 (Achievement)	17	237.039	304.908	17/58	13.943	5.257	2.652*
Subset 8 (Moral-Rel. Emp.)	18	237.993	303.955	18/57	13.222	5.333	2.479*

TABLE 13 -continued

VARIABLES	Order of Entry	SS _{reg}	SS _{res}	df	MS _{reg}	MS _{res}	F
Reason 8	19	238.872	303.075	19/56	12.572	5.412	2.323*
Reason 6	20	239.938	302.009	20/55	11.997	5.491	2.185**
Subset 10 (Control)	21	240.998	300.949	21/54	11.476	5.573	2.059**
Reason 5	22	241.880	300.067	22/53	10.995	5.662	1.942**
Household Size	23	242.514	299.434	23/52	10.544	5.758	1.831**
Age	24	243.365	298.582	24/51	10.140	5.855	1.732***
Reason 9	25	243.759	298.189	25/50	9.750	5.964	1.635***
Reason 7	26	243.991	297.956	26/49	9.384	6.081	1.543***
Subset 3 (Conflict)	27	244.118	297.829	27/48	9.041	6.205	1.457

* $p < .01$ ** $p < .05$ *** $p < .10$

education experience, reasons for participation, and home environment subsets produces a better understanding of an adult's problem solving performance.

Secondary Analysis Results

The purpose of this section is to report the results of the secondary analysis of the data that was performed to determine if the ten research hypotheses were valid for sex (male and female) and race (white and non-white) subgroups. This section is divided into four sub-sections under the headings (a) males, (b) females, (c) whites, and (d) non-whites.

Males (n = 30)

Five of the ten hypotheses were valid for males. Hypothesis one (community resources) was accepted for both the total sample and for males. Hypotheses four (health), seven (reading), eight (writing), and ten (problem solving) were not accepted for the total sample and for males. The independent variable output for each of the ten literacy performance subtests for males is provided in Appendix F.

Unique to the male subgroup was its performance in health (hypothesis four) and computation (hypothesis nine). Hypothesis four was accepted for all subgroups except males and hypothesis nine was accepted as tenable only for males.

Also unique to the male subgroup was the presence of two "best" predictor variables. The Betas for age and time since last school experience were significant for each of

the performance subtest except occupational knowledge and writing. No other variables had significant Betas throughout the secondary analysis.

Females (n = 46)

The independent variable output for each of the ten literacy performance subtests for females is provided in Appendix G. Four of the ten hypotheses were valid for females. Hypothesis three (consumer economics) was accepted for both the total sample and for females. Hypotheses eight (writing), nine (computation), and ten (problem solving) were not accepted for both the total sample and for females.

Unique to the female subgroup was its performance in consumer economics and reading. Hypothesis three (consumer economics) which was accepted for the total sample was accepted only for females. Conversely, hypothesis seven (reading) which was not accepted for the total sample was accepted for females.

Interesting among the performance subtest findings for females was the dominance of math intelligence as the first variable that appeared in seven of the ten regression analyses. Coefficients of determinations (r^2) for math intelligence ranged from .17 for writing performance to .40 for government-and-law performance. This indicates that considerable portions of the subtest scores variance for females were influenced by math intelligence.

Whites (n = 44)

Six of the ten research hypotheses which were valid for the total sample were valid for whites. Of those six, only hypothesis one (community resources) was accepted by both the total sample and the subgroup. The remaining five hypotheses (two, seven, eight, nine, and ten) were not accepted by both the total sample and the white subgroup. The independent variable output for each of the ten literacy performance subtests for whites is displayed in Appendix H.

None of the ten literacy performance findings was unique for whites. Moreover, only two of the ten hypotheses (hypothesis one, community resources and hypothesis four, health) were accepted for whites. Interestingly, total family income appeared first in five of the ten multiple regressions and math intelligence in three.

Non-Whites (n = 32)

Half of the ten research hypotheses which were valid for the total sample were valid for non-whites. Interestingly, each of those five hypotheses (two, seven, eight, nine, and ten) was not accepted for both groups. As a matter of fact, only hypothesis four (health) which was not valid for the total sample was accepted as stated for non-whites. The independent variable output for each of the ten literacy performance subtests for non-whites is provided in Appendix I.

Except for hypothesis one (community resources), the non-whites did not differ from whites in terms of accepting or failure to accept the remaining nine hypotheses. This suggested that, for the most part, ethnicity was not a distinguishing factor among the sampled adults in terms of functional literacy performance.

Summary

This chapter presented the attrition patterns of the initial sample, a description of the final sample, and the results of the primary and secondary analysis of the data. A summary of those findings follows.

Of the 235 adults who registered for the 1982 adult education summer school session, 123 students scored at or above the sixth grade reading level criterion and comprised the initial sample. Attrition was experienced during the data collection period and resulted in 76 students completing the four data collection instruments. Questionnaire responses revealed that those final 76 adults were similar in demographic characteristics to ABE students both on the state and national levels.

Four of the ten research hypotheses were accepted as tenable. Included among those four were hypothesis one (community resources), hypothesis three (consumer economics), hypothesis five (government-and-law), and hypothesis six (identification of facts and terms). Alternate hypotheses,

however, were suggested which have more utility in understanding functional literacy performance. Table 14 presents a summary of the primary analysis findings.

For community resources, age, verbal intelligence, and formal educational attainment contributed little to the comprehensive understanding of that performance. A linear combination of math intelligence, prior adult education experience, current background variables, and home environment subsets produces a better understanding of that performance.

For community resources, the findings suggest the alternate hypothesis that a linear combination of verbal intelligence, current background variables, and home environment subsets produces a better understanding of that performance. Government-and-law performance can be better understood using formal educational attainment, current background variables, and home environment subsets as independent variables. Identification of facts and terms performance is better understood using age, verbal intelligence, formal educational attainment, current background variables, and home environment subsets as independent variables.

Two hypothesized academic variables--prior adult education experience and formal educational attainment--were not significant for hypotheses two and four, respectively. Those hypotheses were not accepted; however, alternate hypotheses were suggested.

TABLE 14
SUMMARY OF PRIMARY ANALYSIS FINDINGS

Hypotheses	Accepted ^a	Indep. Var. ^b	Sig. Var. ^c	n.s. ^d
1: Community Resources	Yes (.01)	4	4	---
2: Occupational Knowledge	No (.10)	16	15	Prior Ad. Ed. Exp.
3: Consumer Economics	Yes (.10)	16	16	---
4: Health	No (.01)	4	3	Formal Ed. Att.
5: Government-and-Law	Yes (.01)	4	4	---
6: Identification of Facts and Terms	Yes (.01)	4	4	---
7: Reading	No (.05)	15	13	Prior Ad. Ed. Exp.; Subset 2
8: Writing	No (.05)	15	13	Prior Ad. Ed. Exp.; Verbal IQ
9: Computation	No (.05)	14	13	Subset 4
10: Problem Solving	No (.05)	15	12	Age; Subset 2; Subset 3

^aParenthesized values indicate level of significance.

^bData indicate the number of the 29 independent variables hypothesized.

^cData indicate the number of hypothesized independent variables found to be significant

^dThis column lists non-significant hypothesized independent variables.

For occupational knowledge, developmental and current background variables are more useful as independent variables. Health performance is better understood using math intelligence, verbal intelligence, and time since last school experience as independent variables.

Four of the five hypotheses involving functional literacy skills were not accepted as stated. For hypothesis seven (reading), prior adult education experience and one of the ten home environment subsets (subset 2, expressiveness) were not included in the final regression equation. Verbal intelligence and prior adult education were excluded from the independent variable output for hypothesis eight (writing). Hypothesis nine (computation) was not accepted because of the absence of one home environment subset (subset 4, independence) from the final regression equation. Age and subset 3, conflict, although among the explanatory variables for hypothesis ten (problem solving), were not within the established level of significance and subset 2, expressiveness, failed to enter into the final regression equation.

Alternate hypotheses were stated for hypotheses seven, eight, nine, and ten. For reading performance, developmental variables, time since last school experience, reasons for participation, and home environment subsets provide a better understanding of that performance. For writing

performance, a linear combination of formal educational attainment, reasons for participation, and home environment subsets produces a better understanding of that performance.

An alternate hypothesis for computation suggests using verbal and math intelligence, prior adult education experience, formal educational attainment, current background variables, and home environment subsets as independent variables. Problem solving performance is better understood from a linear combination of verbal and math intelligence, formal educational attainment, prior adult education experience, reasons for participation, and home environment subsets.

A secondary analysis of the data was performed to determine if the ten hypotheses were valid for sex and race subgroups. Of the ten hypotheses for the total sample, five were valid for males, four were valid for females, six were valid for whites, and five were valid for non-whites.

Unique to the male subgroup was its performance in health and computation. Hypothesis four (health) was accepted as tenable for all subgroups except males and hypothesis nine (computation) was accepted only for males. Unique to the female subgroup was its performance in consumer economics (hypothesis three was accepted only for females and the total sample) and reading (hypothesis seven was accepted only for females).

The secondary findings for the racial subgroups were interesting. Except for hypothesis one (community resources), non-whites did not differ from whites in terms of accepting or failure to accept the remaining nine hypotheses.

CHAPTER VI

SUMMARY, CONCLUSIONS, DISCUSSION AND RECOMMENDATIONS

The purposes of this final chapter are to provide a summary of the research that was described in the preceding five chapters, to draw conclusions based on the findings, to discuss those findings, and to offer recommendations for further research. The sections which follow correspond to these aims.

Summary

The problem investigated in this study was: How do selected developmental, academic, and environmental factors influence the functional literacy performance of adult basic education students? The primary objective of this research was to educe a comprehensive profile of the adult learner and his or her literacy performance. The literature reviewed revealed that the variance of functional literacy subtest (Adult Performance Level Assessment) scores is influenced by a variety of factors including developmental, academic, current background, and home environment subsets.

A theoretical framework was developed from the literature that became the rationale for stating ten research hypotheses. Each hypothesis included one of the ten literacy subtests as its dependent variable. A linear combination of

specific independent variables was hypothesized to produce a significant multiple correlation with the subtest scores.

Essentially, three models were constructed within the theoretical framework. The developmental and academic variables comprised the first model. Hypotheses involving developmental variables derived their bases foremost from the theory of fluid and crystallized intelligence (Horn & Cattell, 1966b). From that theory, older experienced adults perform best on tests which require judgment and general knowledge. Academic variables were found to be significant co-variates to the developmental variables, therefore, they were hypothesized together to influence specific subtests.

The second model involved the motivational models of Miller (1967), Rubenson (in Bergsten, 1980), and Boshier (1973) which provided the framework for hypothesizing the influence of current background variables. The central theory which emerged from those models was that people act according to their need requirements and specific needs can be translated into specific learning expectations.

The environmental interaction theories of Lewin (1935), Bloom (1964), and Majoribanks (1979) formed the basis of the third model. These theories which were subsequently supported in pedagogic research rationalized that specific sub-environments (home environment subsets) can influence specific learning behaviors.

All independent variables included in this study were classified as attribute variables. An ex post facto research design was the appropriate design to address the multivariate research problem. One hundred and twenty-three ABE students who were attending a four-week summer school session in Montgomery County, Maryland comprised the initial sample. Data were collected between July 6 and July 27, 1982 inclusive and involved the following four instruments: (a) a demographic questionnaire, (b) the Adult Performance Level Assessment, (c) the Wesman Personnel Classification Test, and (d) the Moos Family Environment Scale. At the close of the data collection period, 76 adults had completed all four instruments and comprised the final sample.

The forward stepwise inclusion procedure of multiple regression analysis was used to determine the tenability of the ten research hypotheses. A secondary analysis of the data was performed to determine if the ten hypotheses were valid for sex and race subgroups.

Four of the ten research hypotheses were accepted. Included among those four were hypothesis one (community resources), hypothesis three (consumer economics), hypothesis five (government-and-law), and hypothesis six (identification of facts and terms).

The remaining six hypotheses were not accepted as stated. Included among those six were hypothesis two

(occupational knowledge), hypothesis four (health), hypothesis seven (reading), hypothesis eight (writing), hypothesis nine (computation), and hypothesis ten (problem solving).

The findings for each of the ten hypothesis suggested an alternate hypothesis which has more utility in understanding functional literacy performance. Current background variables and home environment subsets contributed greatly to the comprehensive understanding of functional literacy performance.

Age has little utility in understanding literacy performance in community resources, government-and-law, reading, writing, computation, and problem solving. Formal educational attainment has little utility in understanding occupational knowledge, consumer economics, and health. Functional literacy performance in community resources, government-and-law, and writing is not understood comprehensively by an ABE student's verbal intelligence. The prior adult education experience of an ABE student has little utility in understanding occupational knowledge, consumer economics, government-and-law, identification of facts and terms, reading, and writing.

The secondary analysis revealed that specific hypotheses which were not accepted for the total sample were accepted by specific subgroups and vice versa. Hypothesis four (health) was accepted for all subgroups except males

and hypothesis nine (computation) was accepted only for males. Hypothesis three (consumer economics) and hypothesis seven (reading) were accepted only for the female subgroup.

The secondary findings for the racial subgroups were generally consistent. Except for hypothesis one (community resources), whites and non-whites were consistent in terms of accepting or failure to accept the remaining nine hypotheses.

Conclusions

The findings of the primary and secondary analysis of the data suggest the following conclusions for adult basic education students:

1. Community resources performance is influenced primarily by an adult's math intelligence. Current background and home environment factors influence that performance more than the influences of age, verbal intelligence, and formal educational attainment.
2. Occupational knowledge performance is influenced primarily by developmental (age, verbal intelligence, and math intelligence) and current background factors. Developmental, current background, and home environment factors influence that performance more than the influence of the academic factor.
3. Consumer economics performance is influenced primarily by verbal intelligence, current background factors, and

home environment perceptions. These factors influence consumer economics performance more than the influence of academic factors.

4. Health performance is influenced primarily by an adult's verbal intelligence, math intelligence, and time since last school experience. The time that has elapsed since an adult's last school experience is more important in understanding health performance than an adult's formal educational attainment and prior adult education experience.

5. Government-and-law performance is influenced primarily by an adult's formal educational attainment; however, an inverse relationship exists between that performance and formal educational attainment. The home environment and current background factors play important roles in influencing government-and-law performance.

6. Identification of facts and terms performance is influenced primarily by an adult's total family income, verbal intelligence, and age. Formal educational attainment and home environment perceptions play important roles in an adult's performance of that skill.

7. Reading performance is influenced primarily by an adult's verbal intelligence. The time that has elapsed since an adult's last school experience is more important to his or her reading performance than his or her prior

adult education experience. Current background and home environment perceptions play important roles in an adult's reading performance.

8. Writing performance is influenced primarily by an adult's formal educational attainment; however, an inverse relationship exists between that performance and formal educational attainment. The home environment and current background factors play important roles in influencing writing performance. An adult's verbal intelligence and prior adult education experience do not influence his or her writing performance.

9. Computation performance is influenced primarily by developmental, academic, current background, and home environment factors. The adult's age and time since last school experience, however, have little utility in understanding an adult's computation performance.

10. Problem solving performance is influenced primarily by an adult's math intelligence. Verbal intelligence, academic factors, and home environment factors play important roles in influencing an adult's problem solving performance. Age, however, has little utility in understanding that performance.

11. Sex is a distinguishing factor in the functional literacy performance of ABE students.

12. Race is not a distinguishing factor in the functional literacy performance of ABE students.

Discussion

According to the established theory, developmental and academic factors covary to produce a positive influence on functional literacy performance. The conclusions revealed that that model was not consistently supported.

Although developmental and academic variables were represented in the findings, age, formal educational attainment, and prior adult education experience did not consistently emerge together as a significant factor in functional literacy performance.

Age had little utility in understanding two knowledge areas--community resources and government-and-law--and four skill areas--reading, writing, computation, and problem solving. Several mediating factors may have been operating which could explain those outcomes. First, age as a primary factor in academic performance has been diminished because of the changing technology of our society. Today's adults have an easy access to technology in the home via television, home computers, the computerized formats in billing, etc. Intellectual growth today may not be a function of chronological age but a function of the exposure to technology.

Second, age as a variable may have been restricted in its variance because the sample was dominated by adults 35 years of age and younger. Since the Betas for age among the male subgroup were consistently significant across eight hypotheses, it appears that the female subgroup was more

restricted in its age variation. This restriction among the female subgroup coupled with the fact that 60% of the sample were females further diminishes age as an influential factor.

Third, the inclusion of math intelligence as a developmental variable may have detracted from age's utility. Two explanations may account for this detraction. These include: (a) math intelligence has been used sparingly in previous research in ABE; therefore, the quantitative aspects of adult learning have not been addressed sufficiently and (b) math intelligence consistently appeared as the first variable in the regression analysis for females who not only dominated the sample but also were more restricted in their age variation.

Fourth, the APL Assessment may contain bias for developmental factors. The APL objectives may be culturally bias for older adults who may be limited, for example, in their exposure to community resources. Too, the qualitative experiential aspects of the APL Assessment may be neutralized by the quantitative objective aspects. Thus, those older adults whose knowledge is grounded in experience were performing at a disadvantage.

Formal educational attainment had little utility in understanding three knowledge areas--occupational knowledge, consumer economics, and health. Moreover, formal educational attainment was inversely related to government-and-law

and writing performance. Several factors may explain those results. These factors include: (a) formal educational attainment was limited as a variable because 71% of the sample was distributed among the 9th, 10th, and 11th grades, (b) the formal school has failed to translate basic skills into functional life-coping skills, (c) those adults who completed the higher grades may have been promoted through their persistence in school rather than through their academic abilities; therefore, the intellectual disparity between the high and low grade levels was reduced, (d) those students who completed the lower grade levels were older and had more experiential knowledge in government-and-law, (e) the writing subtest was biased for females who not only dominated the sample but also completed the lower grades. Those females may have had more experience making lists, filling out forms, writing notes, and addressing envelopes.

Prior adult education experience was not an important factor in an adult's occupational knowledge, consumer economics, government-and-law, identification of facts and terms, reading, and writing. Among the factors which may explain this are: (a) prior adult education was a restricted variable because 67% of the adults studied had no prior adult education experience and (b) ABE programs are making the same mistake as the formal school, i.e., neglecting to translate basic skills into functional life-coping skills.

The conclusions regarding the current background factor strongly supported the theoretical model from which it was generated. Of particular importance is the evidence that the current environmental perceptions held by adults are more influential in terms of adult learning than are past school experiences. An adult's ability to channel current environmental stimuli into learning behaviors is a distinguishing factor between adults as learners and children as learners.

Interestingly, the results for the current background factor showed a striking correspondence between current environment need and literacy performance. Total family income, for example, produced a direct positive influence on consumer economics performance. Whites who comprised 58% of the sample had their total family income influencing five of the ten subtests as the primary factor. This was not unexpected because whites reported total family incomes throughout the total range from less than \$6,000 to more than \$30,000. Non-whites, however, reported total family incomes basically under the \$18,000 bracket.

Another interesting current background finding was the influence of years of current unemployment on occupational knowledge performance. This was a classic example of current environmental need which was translated into a performance outcome.

The exploratory aspect of this study involved the use of home environment subset perceptions of ABE students. The findings indicate that the home environment subset perceptions held by ABE students influenced functional literacy performance. The results also showed that those perceptions were, in many cases, more influential than academic factors. Although the pedagogic research was supported, home environment subset perceptions for ABE students did not influence academic performance as strongly as those perceptions did for the school children.

Several factors may explain this difference between adults and children regarding home environment research. These factors include the following: (a) the current environment perceptions held by adults may diminish their past (home) background perceptions, (b) while a child's environmental perceptions are primarily focused on the home, an adult's environmental perceptions go beyond the home, (c) the results from the pedagogic research may be misleading since correlations were taken between the parents' perceptions and the childrens' performance, (d) ABE students may be reluctant to offer accurate perceptions of their home environment.

Sex was a distinguishing factor in the functional literacy performance of ABE students. In addition to the explanations previously cited for males and females, it is possible that the literacy subtests are sex specific. That

is, some performances are male oriented and others are female oriented. For example, computation performance was a skill found to be unique to males. Traditionally, mathematics has been preferred more by males than females.

Conversely, consumer economics performance was a knowledge area found to be unique to females. Again, this area has been traditionally dominated by females.

Race was not a distinguishing factor in the functional literacy performance of ABE students. For the most part, whites and non-whites did not differ in their performances. The rationale for this consistency may include the following: (a) literacy transcends race in our present society because whites and non-whites are experiencing the same current background perceptions and (b) integration in the formal schools has reduced the literacy gap especially for the younger adults in the sample.

Recommendations

The following are offered as recommendations for further research:

1. From a methodological perspective, a replication of this study is recommended that involves a larger sample of ABE students. Attrition is a major problem in ABE; therefore, several hundred students are necessary to comprise an initial sample. Moreover, if the data collection period could be condensed to span one or two weeks, the final sample would be larger and more representative of ABE populations.

2. A limiting feature of the present study was the inclusion of only one past background factor--the home. New research which includes work, religious, recreational, and volunteer environments as past background factors in a multivariate analysis of functional literacy performance may account for portions of the variance currently unexplained.

3. Age may no longer be an important factor in adult learning. An examination into the factors that may have diminished its influence requires attention.

4. An evaluation of current ABE programs requires attention to examine their delivery systems. Special focus should be placed on the extent to which basic skills are translated into life-coping skills.

5. A relationship exists between unemployment status and functional literacy. An investigation involving the dynamics of that relationship and the implications of those dynamics for adult education requires attention.

6. The current background factor was shown to be important to adult learning. Additional research is needed which focuses on the ABE student's need requirements and learning behaviors.

7. The home environment factor was shown to be important to adult learning. Additional research is needed to investigate the influence of the home on adult learning behaviors.

REFERENCES

- American College Testing Program. Users guide: APL assessment form AA-1. Iowa City, Iowa: Author, 1978
- Anderson, R.E., & Darkenwald, G.G. Participation and persistence in american adult education: Implications for public policy and future research from a multi-variate analysis of a national data base. New York: College Entrance Examination Board, 1979. (ERIC Document Reproduction Service No. ED 181 186)
- Apps, J.W. Six influences on adult education in the 1980's. Lifelong Learning: The Adult Years, June 1980, pp. 4-7; 30.
- Bayley, N. & Oden, M.H. The maintenance of intellectual ability in gifted adults. Journal of Gerontology, 1955, 10, 91-107.
- Birren, J.E., & Morrison, D.F. Analysis of the WAIS subtests in relation to age and education. Journal of Gerontology, 1961, 16, 363-369.
- Birren, J.E., & Schaie, K.W. (Eds.). Handbook of the psychology of aging. New York: Van Nostrand Reinhold Company, 1977.
- Bloom, B.S. Stability and change in human characteristics. New York: John Wiley Inc., 1964.
- Blum, J.E., Jarvik, L.F., & Clark, E.T. Rate of change on selective tests of intelligence: A twenty year longitudinal study of aging. Journal of Gerontology, 1970, 25, 171-176.
- Blum, J.E., & Jarvik, L.F. Intellectual performance of octogenarians as a function of education and initial ability. Human Development, 1974, 17, 364-374.
- Boggs, D.L. An interpretive review of social science research on behaving-valuing patterns of low status people. Adult Education, 1974, 24, 293-312.
- Boshier, R. Motivational orientations of adult education participants: A factor analytic exploration of Houle's typology. Adult Education, 1971, 21, 3-26.
- Boshier, R. Educational participation and dropout: A theoretical model. Adult Education, 1973, 23, 255-282.
- Botwinick, J. Aging and behavior. New York: Springer, 1973.

- Brooks, W.M. An investigation of certain factors contributing to dropping out in an Ontario adult basic education program (Doctoral dissertation, University of Toronto, 1973). Dissertation Abstracts International, 1974, 35, 152A.
- Burgess, P. Reasons for adult participation in group educational activities. Adult Education, 1971, 22, 3-29.
- Burns, R.B. Age and mental ability: Re-testing with thirty three years interval. British Journal of Educational Psychology, 1966, 36, 116.
- Buros, O. (Ed.). The fourth mental measurement yearbook. Highland Park, New Jersey: The Gryphon Press, 1953.
- Burt, C. The evidence for the concept of intelligence. British Journal of Educational Psychology, 1955, 25, 158-177.
- Cattell, R.B. Theory of fluid and crystallized intelligence: A critical experiment. Journal of Educational Psychology, 1963, 54, 1-22.
- Cervero, R.M. Does the Texas adult performance level test measure functional competence? Adult Education, 1980, 30, 152-156.
- Coleman, J., et al. Equality of educational opportunity. Washington, D.C.: Dept. of Health, Education & Welfare, 1966.
- Cross, K.P. Adults as learners. San Francisco: Jossey-Bass, 1981.
- Dave, R.H. The identification and measurement of environmental process variables that are related to educational achievement. Unpublished doctoral dissertation, University of Chicago, 1963.
- Eisdorfer, C., & Lawton, M.P. The psychology of adult development and aging. Washington, D.C.: American Psychological Association, 1973.
- Fadale, L.M., & Winter, G.M. Non-traditional students in post-secondary career programs: Success characteristics. Career Education Quarterly, 1978, 3, 29-35.

- Fortune, J. Policy implications of the findings of the status of educational attainment and performance of adult American Indians and Alaska Natives. Virginia Polytechnic Institute and State University, 1981. (Mimeographed)
- Gardner, E., & Monge, R.H. Adult age differences in cognitive abilities and educational background. Experimental Aging Research, 1977, 3, 337-383.
- Goulet, L.R., & Baltes, P.B. (Eds.). Life-span developmental psychology: Research and theory. New York: Academic Press, 1970.
- Griffith, W.S., & Hays, A.P. (Eds.). Adult basic education: The state of the art. Washington, D.C.: U. S. Government Printing Office, 1970.
- Hill, T.H. An analysis of the relationship of socioeconomic status and self-concept to success and sex in adult basic education programs. Columbia, Missouri: Missouri University, 1974. (ERIC Document Reproduction Service No. ED 094 303)
- Horn, J.L. Intelligence--why it grows, why it declines. Trans-Action, 1967, 5, 23-31.
- Horn, J.L. Organization of abilities and the development of intelligence. Psychological Review, 1968, 75, 242-259.
- Horn, J.L., & Cattell, R.B. Age differences in primary ability factors. Journal of Gerontology, 1966a, 21, 210-220.
- Horn, J.L., & Cattell, R.B. Refinement and test of the theory of fluid and crystallized general intelligences. Journal of Educational Psychology, 1966b, 57, 253-270.
- Houle, C. Who stays--and why? Adult Education, 1964, 14, 225-233.
- Huck, S.W., Cormier, W.H., & Bounds, W.H. Reading statistics and research. New York: Harper & Row, 1974.
- James, W.B. What APL is--and is not. Adult Literacy and Basic Education, 1977, 1, 13-20.
- Jencks, C., et al. Inequality: A reassessment of the effect of family and schooling in America. New York: Harper & Row, 1972.

- Johnstone, J.W., & Rivera, R.J. Volunteers for learning. Chicago: Aldine, 1965.
- Jones, E.V. The importance of perceived social support system characteristics in predicting persistence in adult basic education. Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University, 1977.
- Jordan, G.E. Educator's crock or panacea: Implications of the adult performance level project. Adult Literacy and Basic Education, 1977, 1, 45-50.
- Kerlinger, F.N. Foundations of behavior research (2nd ed.). New York: Holt, Rinehart, & Winston, 1973.
- Kidd, J.R. How adults learn. New York: Association Press, 1959.
- Knowles, M. The adult learner: A neglected species. Houston: Gulf Publishing Co., 1973.
- Knox, A.B. Interest and adult education. Journal of Learning Disabilities, 1968, 1, 22-229.
- Knox, A.B. Adult development and learning. San Francisco: Jossey-Bass, 1977.
- Knox, A.B., Grotelueschen, A., & Sjogren, D.D. Adult intelligence and learning ability. Adult Education, 1968, 18, 188-196.
- Lavin, D.E. The prediction of academic performance. New York: Russel Sage Foundation, 1965.
- Lewin, K. A dynamic theory of personality. New York: McGraw-Hill, 1935.
- London, J., & Wenkert, R. Leisure styles and adult education. Adult Education, 1972, 22, 267-281.
- Majoribanks, K. Environmental correlates of diverse mental abilities. Journal of Experimental Education, 1971, 39, 64-68.
- Majoribanks, K. Families and their learning environments. London: Routledge & Kegan Paul, 1979.
- Maslow, A.H. Motivation and personality (2nd ed.). New York: Harper & Row, 1970.

- Miller, H. Participation of adults in education: A force-field analysis. Brookline, Massachusetts: Center for the Study of Liberal Education, 1967. (ERIC Document Reproduction Service No. ED 011 996)
- Moos, R.H. Preliminary manual for the family, work, and group environment scales. Palo Alto, California: Consulting Psychologists Press, 1974a.
- Moos, R.H. The social climate scales: An overview. Palo Alto, California. Consulting Psychologists Press, 1974b.
- Morstain, B.R., & Smart, J.C. Reasons for participation in adult education courses: A multivariate analysis of group differences. Adult Education, 1974, 24, 83-98.
- Mosteller, F., & Moynihan, D.P. (Eds.). On equality of educational opportunity. New York: Random House, 1972.
- National Advisory Council on Adult Education. A target population in adult education. Washington, D.C.: U. S. Government Printing Office, 1974.
- Newton, E.S. Andragogy: Understanding the adult as a learner. Journal of Reading, 1977, 20, 361-363.
- Nickse, R. A report on adult learners: A profile of fifty adult life skill, competency-based, applied performance assessment system graduates. Syracuse, New York: Regional Learning Service of Central New York, 1976 (ERIC Document Reproduction Service No. ED 120 500)
- Nie, N., et al. Statistical package for the social sciences (2nd ed.). New York: McGraw-Hill, 1975.
- Northcutt, N. Adult functional competency: A summary. Austin: University of Texas, 1975.
- Owens, W.A. Age and mental ability: A second follow-up. Journal of Educational Psychology, 1966, 57, 311-325.
- Richardson, C. Participation in Texas programs of adult basic education: An identification and analysis of factors related to rates of enrollment, attendance, and completion in adult basic education. Austin: Texas Department of Community Affairs, Office of Education, Information, and Training, 1974. (ERIC Document Reproduction Service No. ED 099 662)

- Rossing, B.E., & Long, H.B. Contributions of curiosity and relevance to adult learning motivation. Adult Education, 1981, 32, 25-36.
- Russ-Eft, D.F., Rubin, D.P., & Holmen, R.E. Issues in adult basic education: An annotated bibliography and guide to research. New York: Garland Publishing Co., 1981.
- Schaie, W.K., & Strother, C.R. A cross-sequential study of age changes in cognitive behavior. Psychological Bulletin, 1968, 70, 671-680.
- Schaie, W.H., & Willis, S.L. Life-span development: Implications for education. Review of Research in Education, 1978, 6, 120-156.
- Seeman, M. Powerlessness and knowledge: A comparative study of alienation and learning. Sociometry, 1967, 30, 105-123.
- Sharon, A.T. Adult academic achievement in relation to formal education and age. Adult Education, 1971, 21, 231-237.
- Shipp, T., & McKenzie, L.R. Adult learners and non-learners: Demographic characteristics as an indicator of psychographic characteristics. Adult Education, 1981, 31, 187-198.
- Sjogren, D.D., & Knox, A.B. The influence of speed and prior knowledge and experience on adult learning. Lincoln, Nebraska: Nebraska University, 1965 (ERIC Document Reproduction Service No. ED 003 490)
- Sjogren, D.D., Knox, A.B., & Grotelueschen, A. Adult learning in relation to prior adult education participation. Adult Education, 1968, 19, 3-10.
- Sorenson, H. Adult ages as a factor in learning. Journal of Educational Psychology, 1930, 21, 451-459.
- Thorndike, E.L. Adult learning. New York: Macmillan, 1928.
- Tremblay, D., & O'Connor, J. Growth and decline of natural and acquired intellectual characteristics. Journal of Gerontology, 1966, 21, 9-12.

- Walker, S.M., Ewert, D.M., & Whaples, G.C. Perception of program impact: ABE/GED in Maryland. Paper Presented at the 1981 Lifelong Learning Research Conference. College Park: University of Maryland, 1981.
- Wechsler, D. The measurement of adult intelligence. Baltimore: The Williams & Wilkens Co., 1944.
- Weiner, M. Organization of mental abilities from ages 14 to 54. Educational and Psychological Measurement, 1964, 24, 573-587.
- Wesman, A.G. Wesman personnel classification test manual. New York: The Psychological Corporation, 1965.
- Welsh-Hill, J. The effects of a short-term career development intervention on the locus of control of adult basic education students. Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University, 1981.
- White, K.R. The relationship between socioeconomic status and academic achievement. Unpublished doctoral dissertation, University of Colorado, 1976.
- Wolf, R.M. The identification and measurement of environmental process variables related to intelligence. Unpublished doctoral dissertation, University of Chicago, 1964.
- Zahn, J. Some adult attitudes affecting learning: Powerlessness, conflicting needs, and role transition. Adult Education, 1969, 19, 91-97.

APPENDICES

APPENDIX A
QUESTIONNAIRE

QUESTIONNAIRE

This questionnaire has been designed to obtain information on your academic history and current factors which may have influenced your participation in the adult basic education classes. All information will be held in the strictest confidence. Your help in collecting this information is appreciated.

1. What is your social security number? _____
2. What is your date of birth? _____ / _____ / _____
Month Day Year
3. What is your sex? (CHECK ONE ✓) MALE _____ FEMALE _____
4. What is your race? (CHECK ONE ✓) WHITE _____
BLACK _____
OTHER _____
5. Please CIRCLE the highest grade that you COMPLETED in the formal school system
GRADE 1 2 3 4 5 6 7 8 9 10 11 12 Some College
6. AFTER high school, have you ever attended any OTHER adult education OR vocational education courses?
Please CIRCLE either: YES or NO
If you circled-NO-skip down to question number 10,
If you circled YES,
7. How many adult or vocational education courses have you PREVIOUSLY COMPLETED? Write your number here _____
- 8a. How many weeks did the first course which you COMPLETED meet? Write your answer here _____. How many hours per week did this course meet? _____ hours.
- 8b. How many weeks did the second course which you COMPLETED meet? Write your answer here _____. How many hours per week did this course meet? _____ hours.
- 8c. How many weeks did the third course which you COMPLETED meet? Write your answer here _____. How many hours per week did this course meet? _____ hours.

9. In what year (for example, 1979) did you attend your LAST adult education or vocational education course? Write the year here _____.
10. In what year (for example, 1978) did you attend your LAST formal school grade. Write your answer here _____.
11. Including yourself, what is the TOTAL number of people (and children) who live in your house? Write the number here _____.
12. Including your income, which of the following represents the TOTAL income per year of all the people who live in your house? Place a CHECK (✓) beside the amount.

- _____ less than \$6,000
- _____ between \$6,000 and \$10,000
- _____ between \$10,001 and \$14,000
- _____ between \$14,001 and \$18,000
- _____ between \$18,001 and \$22,000
- _____ between \$22,001 and \$26,000
- _____ between \$26,001 and \$30,000
- _____ more than \$30,000

13. Are you CURRENTLY employed more than 30 hours per week? Please **CIRCLE** either: YES or NO

- 14a. If you circled YES, how long have you been employed on this particular job? Place a CHECK (✓) in the blank beside the years that apply to you.

- _____ less than 1 year
- _____ between 1 and 3 years
- _____ more than 3 years

- 14b. If you circled NO, how long have you been employed less than 30 hours per week or unemployed? Place a CHECK (✓) in the blank beside the years that apply to you.

- _____ less than 1 year
- _____ between 1 and 3 years
- _____ more than 3 years

15. The following list contains some reasons why many people enroll in adult basic education classes. Some of these reasons may be more important to you than others. In the list which follows, please CIRCLE whether EACH of these reasons are of: (1) PRIMARY importance to you, meaning the main reason why you are attending; (2) SECONDARY importance to you, meaning a less important reason why you are attending; (3) NOT-AT-ALL important to you, meaning that you are not attending for this reason. PLEASE MAKE ONE CIRCLE FOR EACH REASON.

- | | |
|--|------------------------------|
| 1. to prepare for a
new job | PRIMARY SECONDARY NOT-AT-ALL |
| 2. to increase my income
on my present job | PRIMARY SECONDARY NOT-AT-ALL |
| 3. to get a licence for
a particular job | PRIMARY SECONDARY NOT-AT-ALL |
| 4. to prepare myself
for college | PRIMARY SECONDARY NOT-AT-ALL |
| 5. to get away from home
for a few hours | PRIMARY SECONDARY NOT-AT-ALL |
| 6. to meet new people | PRIMARY SECONDARY NOT-AT-ALL |
| 7. to feel better about
myself (self concept) | PRIMARY SECONDARY NOT-AT-ALL |
| 8. just for the sake of
getting an education | PRIMARY SECONDARY NOT-AT-ALL |
| 9. to change my life style | PRIMARY SECONDARY NOT-AT-ALL |

PLEASE CHECK TO SEE IF YOU MADE NINE (9) CIRCLES

THANK YOU

APPENDIX B
ADULT PERFORMANCE LEVEL ASSESSMENT:
FORM AA-1

COMMUNITY RESOURCES

1. Russell Grant kept 2 library books 3 days past the day they were due. The library charges a fine of 10¢ for every day a book is overdue. How much was Russell's fine?

- A. 20¢
- B. 30¢
- C. 50¢
- D. 60¢

2.

GUIDE TO STATE PARKS		
Name	Access Road	Facilities
Johnson Recreation Area	13 miles south of Boone	Picnicking, skiing, fishing, camping, boating
Mountain Lake	Highway 42 Bypass	Boating, fishing
Raccoon State Park	Highway 9 North	Cabins, sightseeing
Rocky Road Park	Highway 18 East	Camping, picnicking, swimming

Rhonda and her friends want to camp and fish. They got the *Guide to State Parks* shown above. Which park has what they want?

- A. Rocky Road Park
- B. Mountain Lake
- C. Raccoon State Park
- D. Johnson Recreation Area

3.

————— **JOHNSON THEATRE** —————
 234 W. 80th St.
 Phone: _____

Wednesday—Saturday: 8:00 PM
 \$13.50, \$12.00, \$10.00, \$8.00
Wednesday and Saturday Matinees: 2:00 PM
Sunday Matinees: 2:00 PM and 5:30 PM
 \$10.00, \$8.00, \$6.00, \$5.00

 Phone Reservations: _____
 ————— Group Sales: —————

Maria Chavey is going to the Johnson Theatre on Friday night. According to the guide shown above, what time does the play begin on Friday nights?

- A. 6:00 PM
- B. 8:00 PM
- C. 10:00 PM
- D. 12:00 PM

4. *Recreational World* costs \$.75 a copy at the newsstand. Sheila pays \$8.50 to receive 30 copies of *Recreational World* in the mail. How much does she save this way on 30 copies?

- A. \$14.00
- B. \$22.50
- C. \$27.50
- D. \$29.00

5.

SUPERSONIC LANES	
Prices	
Shoes	\$0.25
Lockers	\$0.25 / day
Lessons	\$3.00 / half hour
Bowling	\$0.40 / game

Fred and Marcia Hanley each bowled 2 games. Both have their own shoes and bowling balls. According to the price list shown above, how much did they have to pay altogether?

- A. \$1.60
 - B. \$1.20
 - C. \$0.80
 - D. \$0.60
6. Jane Seymore wants to find out what kind of fertilizer to use on her lawn. Where should she call for some help?
- A. Food and Drug Administration
 - B. County Agricultural Extension Agent
 - C. Society for the Prevention of Cruelty to Animals
 - D. Property Tax Assessor
7. Dick Livingstone watches a great deal of television. He says he gets a lot of information that way. Which information could he NOT get by watching television?
- A. What the weather will be like tomorrow
 - B. What happened in Washington, D.C., today
 - C. The cost of food at a local grocery store
 - D. How much a doctor charges for an operation

8.

New high school teacher is moving to Midvale and wants to rent a 2- or 3-bedroom home in the country. If you have one, please call collect: after 5:00 PM.

The Midvale newspaper charges \$1.00 for a classified ad of 20 words or less. The ad above is too long. Which is the best way to shorten it?

- A. Moving to Midvale. Need 2- or 3-bedroom home in country. Call collect: after 5:00 PM.
 - B. If you have a 3-bedroom house in country and want good renters, call
 - C. New teacher would like to rent 2- or 3-bedroom house in country. Desperate. Please call collect: if you have one.
 - D. WANTED TO RENT: 2-3 bedroom house in country. Call collect after 5 PM.
9. Tony left his jacket on the bus. In writing a letter to the bus company, he should include all of the following information EXCEPT
- A. where he left the jacket.
 - B. when he left the jacket.
 - C. a detailed description of the jacket.
 - D. the names of those who were with him.
10. Mrs. Miller's three-year-old son swallowed some cleaning fluid from a bottle. Where should she check first to see what to do?
- A. The hospital
 - B. The local emergency number
 - C. The police station
 - D. The label on the bottle

11. Anne Peterson wants a pet. Where could her parents get one for her?

- A. The Economic Opportunity Agency
- B. The Humane Society
- C. The Salvation Army
- D. The Red Cross

12.

SUNFLOWER COUNTY COURTHOUSE BUILDING DIRECTORY	
Agency or Person	Room
Auditor	117
Clerk of Court	206
District Attorney	211
Family & Children's Services	219
Food Stamp Program	222
Health Department	127
Motor Vehicle Department	102
Public Works	109
Sheriff	103

The Pearsons have recently moved to Sunflower County from out of state. They must register their two cars and buy license plates. They found the building directory shown above in the county courthouse. Where should they go now?

- A. Room 102
- B. Room 103
- C. Room 117
- D. Room 206

13. The city garbage truck has not picked up Esther Maxey's garbage for 3 weeks. Esther is having trouble keeping the flies and mice away. What should she do?

- A. Take the garbage down the street to an empty lot.
- B. Call the hospital to complain about the mice.
- C. Call the sanitation department about the problem.
- D. Cover the garbage with a large sheet.

14. Families who participate in the Aid-to-Dependent-Children program may own:
- Life insurance policies of up to \$1000 in value for each member of the family;
 - A car or cars with a total net value of \$2500;
 - The home they live in, household goods, heirlooms; and
 - Other real and personal property reserve, provided the value is no more than \$800.

According to the rules listed above, which of the following would keep a family from receiving help from Aid to Dependent Children?

- A. Owning a house and household goods
- B. Owning a late-model car valued at \$2000
- C. Owning rental property
- D. Owning \$1000 in life insurance covering each child

15. **ID CN DO**
APPLICATION FOR A SOCIAL SECURITY NUMBER B34
 See Instructions on Back. Print in Black or Dark Blue Ink or Use Typewriter. **DO NOT WRITE IN THE ABOVE SPACE**

1	Print FULL NAME YOU WILL USE IN WORK OR BUSINESS <i>(First Name) (Middle Name or Initial — if none, draw line—) (Last Name)</i>		
2	Print FULL NAME GIVEN YOU AT BIRTH	6	YOUR DATE OF BIRTH <i>(Month) (Day) (Year)</i>
3	PLACE OF BIRTH <i>(City) (County if known) (State)</i>	7	YOUR PRESENT AGE <i>(Age on last birthday)</i>
4	MOTHER'S FULL NAME AT HER BIRTH <i>(Her maiden name)</i>	8	YOUR SEX MALE <input type="checkbox"/> FEMALE <input type="checkbox"/>
5	FATHER'S FULL NAME <i>(Regardless of whether living or dead)</i>	9	YOUR COLOR OR RACE WHITE <input type="checkbox"/> NEGRO <input type="checkbox"/> OTHER <input type="checkbox"/>

Dennis Jastrow is applying for a Social Security number. Dennis usually signs his name Dennis A. Jastrow. His father's name is Raymond P. Jastrow. What should Dennis print on Line 1 on the application form shown above?

- A. Dennis Jastrow
- B. Jastrow, Raymond P.
- C. Jastrow, Dennis A.
- D. Dennis A. Jastrow

16.

BUS SCHEDULE					
	Leave Uptown	1st St.	9th St.	Hill St.	Arrive Downtown
AM	6:25	6:30	6:36	6:42	6:49
	7:25	7:30	7:36	7:42	7:49
	8:25	8:30	8:36	8:42	8:49
	9:25	9:30	9:36	9:42	9:49
	11:25	11:30	11:36	11:42	11:49
PM	1:25	1:30	1:36	1:42	1:49
	2:25	2:30	2:36	2:42	2:49
	3:25	3:30	3:36	3:42	3:49
	4:25	4:30	4:36	4:42	4:49
	5:25	5:30	5:36	5:42	5:49

Alan lives in an apartment on 9th Street. He needs to be at work in the downtown area by 5:00 PM. When should he be at his bus stop to catch the last bus that will get him there on time?

- A. 3:36 PM
- B. 3:42 PM
- C. 4:36 PM
- D. 4:49 PM

17. Andrew has called the bus station to find out about taking a bus to Trenton. Several bus companies use this station. He is making notes so he won't forget. Which of the following things does he NOT need to write down?

- A. The time the bus leaves
- B. The name of the bus company
- C. The name of the ticket agent
- D. The time the bus gets to Trenton

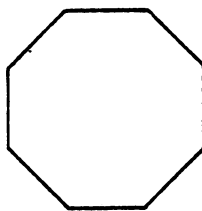
18. A taxi charges \$.50 a mile for the first 5 miles and \$.25 a mile thereafter. Susan took the taxi from the airport to her apartment. The trip is 6 miles long. What was the cab fare?

- A. \$2.50
- B. \$2.75
- C. \$2.90
- D. \$3.10

19. Jane plans to visit her relatives in a nearby state. Before beginning her drive, she studies a map. In the lower right-hand corner, she notices a *legend*. What does the map legend tell her?

- A. A story handed down from the past
- B. The names of famous persons
- C. The title of the map
- D. The meaning of the symbols on the map

20.



Traffic signs have different shapes. What does the sign with the shape shown above always mean?

- A. Stop
- B. Slow
- C. Railroad crossing
- D. No passing zone

OCCUPATIONAL KNOWLEDGE

21.

OCCUPATIONS	Courses Recommended			
	English	Algebra	Science	Social Studies
Bank Teller	X			X
Photographer	X		X	X
File Clerk	X			
Dietitian	X	X	X	X
Painter	X		X	
Carpenter	X	X	X	
Miner	X		X	X

According to the chart above, for which of the following jobs is algebra recommended?

- A. Bank Teller
- B. Photographer
- C. Dietitian
- D. Miner

22. Which of the following service agencies would probably be best qualified to give individual vocational counseling?
- A. Social Services Office
 - B. Salvation Army
 - C. Federal Job Information Center
 - D. Job Service Center
23. Sid Brokaw is in the National Guard and has to go to camp for 2 weeks every summer. Because of this, which of the following will he be most interested in when he goes to look for a job?
- A. Sick leave policy
 - B. Retirement plan
 - C. Vacation policy
 - D. Profit-sharing plan

24.

Age Limits for Truck Drivers

New drivers must be 21-55 years of age. Previously hired drivers may work from 55 to 62 years of age, provided they pass physical examinations twice a year. Drivers may work after 62 years of age until they are 65 years of age, if they pass physical examinations three times a year.

Mike Jones is 54 years old. If he goes to work for the trucking company whose policy is shown above, what is the maximum number of years he can work if he stays healthy?

- A. 6 years
- B. 8 years
- C. 10 years
- D. 11 years

25.

Local florist needs two persons to drive delivery trucks 6-9 PM, M-F. Must be licensed. Inquire Box M in care of this paper.

Bob Thornberry is looking for a part-time job. He can work 15 to 20 hours a week. The ad shown above caught Bob's eye. How many hours a week would this job be?

- A. 12
 - B. 15
 - C. 18
 - D. 20
26. Herbert Ludlow has to find a job right away. He wants to make sure that if there is a job, he will know about it. Which of the following would be the LEAST helpful way for Herbert to find out about jobs as soon as they open up?
- A. Call the big companies and read the want ads in the paper every day.
 - B. Go to the state employment office every day to read their listings.
 - C. Sign up with an employment agency and call them often.
 - D. Read the big want ad section in the Sunday papers.

27.

A major textile company has an opportunity for a sewing machine mechanic. Prefer experience on Singer 269 W tackers, but not necessary. Call _____ or write:
New York, New York.

Mark Smith is looking for a job. He wants to answer the ad shown above: What should he do?

- A. Call the main Singer office.
- B. Call the listed number or write a letter.
- C. Go to the Singer office as soon as possible.
- D. Call someone who has worked for the company.

28. Norma Lockwood is applying for a job. Which information is she NOT required to provide on her application?
- A. Marital status
 - B. Name
 - C. Address
 - D. Social Security number
29. Glenda Potter wants to list 3 personal references to be used when she applies for sales jobs. Which of the following groups would be best to list?
- A. Her business school teacher, her mother, and a doctor she knows
 - B. A previous employer, her business school teacher, and a banker she knows
 - C. A friend from school, a banker she knows, and her minister
 - D. Her lawyer, her father, and her insurance agent
30. David is answering an ad for a job in the local branch of a national company. Before going for an interview, he should be sure to
- A. contact the company's home office for information.
 - B. contact his last employer for a letter of reference.
 - C. ask his high school or college for a transcript.
 - D. write down all of his past work experiences.

31.

Week of March 15	
If the last digit of your Social Security number is:	You go to the pay line at:
4	2:00
5	2:15
6	2:30
7	2:45
8	3:00
9	3:15
0	3:30
1	3:45
2	4:00
3	4:15

Kathy Burns works for a large company. To avoid mix-ups on payday, the company has people go to get paid at different times. According to the sign shown above, when should Kathy go to the pay window on March 15 if her Social Security number is 231-72-4982?

- A. 2:15
 - B. 3:00
 - C. 4:00
 - D. 4:15
32. Betty has just started work on a new job. One morning her alarm clock does not go off on time and she oversleeps. She realizes that she will be late for work. What should she do first?
- A. Call her boss and tell him she is sick.
 - B. Call and explain that she will be late for work.
 - C. Hurry and get to work as soon as she can.
 - D. Stay home and report for work the next day.

33. Janet Carr has worked for the Dinsdale Company for 2 years. Other people with less experience have been promoted ahead of her. Janet doesn't understand why. What should she do first about it?
- A. Go to work for another company where she can get ahead.
 - B. Ask one of the new people how she got promoted.
 - C. Try to think of everything she has done wrong at work.
 - D. Ask her boss if there is something wrong with her work.
34. Paul works in a state that has a right-to-work law. What effect will that law have on Paul?
- A. He doesn't have to join a union if he doesn't want to.
 - B. He has to work if he is mentally and physically able.
 - C. He can work anywhere he wants to regardless of his race.
 - D. He doesn't have to work at all if he doesn't want to.
35. Maria packs 100 cartons a day, 5 days a week. She is paid \$.20 for each carton. How much does she earn in a week?
- A. \$10.00
 - B. \$20.00
 - C. \$100.00
 - D. \$200.00

CONSUMER ECONOMICS

36. Sally Hernandez gets paid \$400.00 once a week. She pays \$400.00 rent at the end of each month. She tries to budget an equal part of her pay every week toward the rent. How much should she save each week?
- A. \$25.00
 - B. \$50.00
 - C. \$100.00
 - D. \$200.00
37. The Gleasons can spend about \$2250 a year for rent. Which of the following rents is the most they can afford to pay each month?
- A. \$100
 - B. \$185
 - C. \$200
 - D. \$225

38.

BUDGET PLANNING TIP

When planning a budget it is wise to know the difference between needs and wants. Your needs are the things you must have to be comfortable and healthy. Your needs are the things that should come first in a budget. The following are examples of needs:

- a place to live
- heat and hot water
- food
- basic clothing
- medical care –doctors, dentists, etc.

Wants are the extras you would like to have. The following are examples of wants:

- entertainment
- an expensive suit
- a vacation

According to the budget planning advice given above, which of the following is an example of a need?

- A. A blender
- B. A place to live
- C. A night at the movies
- D. A tennis racket

39. Mary Wilson's grocery bill is too high because she buys things she doesn't need. Which of the following is the best way to help cut down her grocery bill?

- A. Send her husband to buy the groceries.
- B. Make and use a shopping list.
- C. Buy only the specials.
- D. Buy for 1 meal at a time.

40. Lee Maxwell has been reading about inflation in the newspaper, and he has been thinking about the effect it will have on him. What effect does inflation have on a wage earner?
- A. Increases buying power
 - B. Decreases buying power
 - C. Decreases prices
 - D. Decreases wages

41.

LESLIE ANN WILLIAMS 1928 S.W. 85th St. Portland, Oregon 97219	No. 380 _____ 19 ____	Line 1
PAY TO THE ORDER OF _____	\$ _____	Line 2
_____	DOLLARS	Line 3
National Bank of Oregon Southfield Branch Portland, Oregon 97219	_____	Line 4
⑆1230 00124070 018152 8 380		

Leslie Williams is making out a check for \$18.50 worth of groceries at Sam's Grocery. What should Leslie write on Line 3?

- A. *Eighteen and 50/100*
- B. *18.50*
- C. *Sam's Grocery*
- D. *Leslie Ann Williams*

42.

<p>44a If you itemize deductions, check here <input type="checkbox"/> and enter total from Schedule A line 40, and attach Schedule A</p> <p>b Standard deduction—If you do not itemize deductions, check here <input checked="" type="checkbox"/>, and</p> <p>enter the greater of \$2100 OR 16% of line 43—but not more than \$2900</p>		<table border="1"> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td>44</td> <td></td> <td></td> </tr> </table>				44		
44								

The Morrisons are filing their tax return. They use the standard deduction. They have checked the box on line 2. Following instructions, they find 16 percent of line 43 to be \$1600. What should they write on line 44?

- A. \$1600
- B. \$2100
- C. \$2400
- D. \$2800
43. Lenny and Peg just bought a house. They paid \$3200 and took out a mortgage from their bank for \$28,800. How much home owners' insurance will the bank insist they buy?
- A. \$2800
- B. \$3200
- C. \$28,800
- D. \$32,000
44. Richard wrote a check to pay for groceries, but forgot to record the amount in his checkbook. When he found his mistake a week later, he couldn't remember the amount of the check. What is the best thing for him to do?
- A. Call the grocery store and ask if they have a record of the amount he wrote the check for.
- B. Call the bank and ask how much the check had been written for.
- C. Enter the amount he usually spends for groceries in the checkbook.
- D. Stop writing checks until he gets next month's bank statement.

45. A 12-ounce bottle of syrup sells for 66¢. How much does it cost per ounce?
- A. 5½¢
 - B. 6¢
 - C. 6½¢
 - D. 12¢
46. Noreen and Dick want to get their daughter, Beth, a top-quality 10-speed bicycle. To find the best make, they should
- A. ask all Beth's friends who own 10-speeds which one is best.
 - B. ask several bicycle salesmen what they think.
 - C. read a consumer's guide at the library.
 - D. read very carefully the advertisements for 10-speed bicycles.
47. Phil writes about 20 checks each month. Which of the following banks offers him the best deal in a checking account?
- A. Bank A: \$1.00 monthly service charge, \$1.00 printing charge per 100 checks printed
 - B. Bank B: 10¢ per check processing charge
 - C. Bank C: \$3.00 monthly service charge
 - D. Bank D: \$1.00 printing charge per 200 checks printed

48.

8-digit Calculator**\$11.85**

CAPACITY, MEMORY: 8-digit display capacity. Red-color display lighting. No memory.

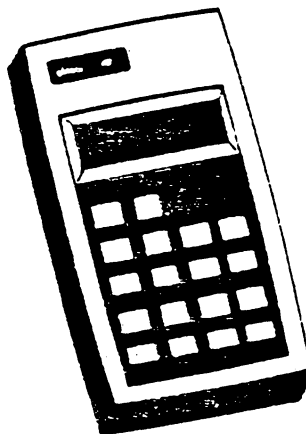
ARITHMETIC FUNCTIONS: Add, subtract, multiply and divide. Do repeat addition and subtraction. Do chain and mixed calculations, even to negative answers. Automatic constant.

SPECIAL FUNCTIONS: Percent key . . . percentages, mark-ups, or discounts. Floating decimal.

CONSTRUCTION: High-impact black and white plastic body. $5\frac{1}{4} \times 2\frac{1}{4} \times 1$ -in. Japan.

ELECTRICAL INFORMATION: 9-volt battery included. Adapter sold separately below.

ORDERING INFO.: Instructions included.
3 K 58004C Shipping weight 1 lb. . . . \$11.85



PAGE NUMBER	NAME OF ITEM (1 or 2 words)	HOW MANY (pkgs. etc.)	CATALOG NUMBER	PRICE FOR ONE	TOTAL PRICE

Susan Jones wants to order the calculator shown above on Page 1005 in the catalog. What should she write in the column called "CATALOG NUMBER"?

- A. $5\frac{1}{4} \times 2\frac{1}{4} \times 1$
- B. 1005
- C. \$11.85
- D. 3 K 58004C
49. Ann has started doing all her own auto maintenance. To buy top grade motor oil for the best price, she would probably go to a
- A. large discount store.
- B. neighborhood service station.
- C. convenience store.
- D. department store.

50. The law says that a person who buys something from a door-to-door salesperson has 3 days to cancel the sale. Why is this a good law?
- A. It protects people who buy things they don't need from salespersons who are too pushy.
 - B. It protects manufacturers of the things that door-to-door salespersons usually sell.
 - C. It helps door-to-door salespersons make a living.
 - D. It teaches door-to-door salespersons not to be pushy.

51.

WASHING INSTRUCTIONS		
<u>Fabric</u>	<u>Cycle</u>	<u>Temperature</u>
Cottons and linens	normal	hot
Viscose rayon	delicate	cold
Cotton with Dacron, Orlon	wash & wear	warm
Washable woolens	delicate	warm

Stan wants to wash his woolen sweaters in an automatic washing machine. The directions on the lid of the machine are shown above. What setting should he use?

- A. Delicate cycle, warm water
 - B. Wash and wear cycle, hot water
 - C. Delicate cycle, cold water
 - D. Normal cycle, hot water
52. George bought a toaster at Alexander's Appliance Store. In the box was a card labeled "1-Year Warranty." What is a 1-year warranty?
- A. A promise that the store will replace the toaster after 1 year
 - B. A promise that the toaster will be fixed or replaced if it should break within 1 year
 - C. A guarantee that the toaster will not break for 1 year
 - D. A slip that the police can use to claim the toaster if George doesn't pay for it

53. Alex can shave for 10 weeks with a pack of stainless blades. He can shave for 2 weeks with a pack of regular blades. If regular blades are \$.50 a pack, how much would Alex have to spend on regular blades to get as many shaves as he does from 1 pack of stainless blades?
- A. \$1.00
 - B. \$1.50
 - C. \$2.00
 - D. \$2.50
54. The Livingstons are going on a 2-week vacation. They want to protect their house from burglars while they're gone. Which of the following things will NOT help protect their house from burglars?
- A. Shutting off the main water supply
 - B. Asking neighbors to pick up newspapers and mail
 - C. Connecting some lights to automatic timers
 - D. Locking all the doors and windows
55. Burt thinks it would be a good idea to make a list of everything of value in his house. Which of the following types of information would Burt NOT need to include on his list?
- A. The name of each item
 - B. The serial number of each item
 - C. The weight of each item
 - D. The value of each item

56.

APPLIANCES
REPOSSESSED—REBUILT
Truckloads Daily
Refrigerators, freezers, ranges, washers &
dryers. Any size, color, or price. We Deliver.
Warranty on All Merchandise
Appliance Barn

Which items does the ad shown above offer for sale?

- A. Truckloads of any size or price furniture for your business
- B. New equipment for any room in your house or apartment
- C. Equipment or furniture for your office, home, or apartment
- D. Used equipment for the kitchen and laundry area

57.

CUSTOMER EXPERIENCE RECORD	
A Better Business Bureau Service Form	
Date of Transaction <u>March 3, 1978</u>	Date you complained to company <u>March 7, 1978</u>
Salesperson <u>Campbell</u>	Identify product or service <u>Watch</u>
Company _____	Your Name _____
Address _____	Address _____
City & State _____ zip code	City & State <u>Encino, CA.</u> <u>92016</u>
	Home Phone _____ Business _____
Check cause(s) of complaint and explain briefly:	
1. <input type="checkbox"/> Advertised item not available	5. <input type="checkbox"/> Misrepresentation
2. <input type="checkbox"/> Defective merchandise	6. <input type="checkbox"/> Promised adjustment not made
3. <input type="checkbox"/> Guarantee or contract not fulfilled	7. <input type="checkbox"/> Other (explain below)
4. <input type="checkbox"/> Unsatisfactory installation or service	

Mrs. Godwin went to Tudball's and bought a watch. She got home and the watch didn't work. When she took the watch back to Tudball's, they wouldn't fix it. Now she is filling out the form shown above. Which causes should she check?

- A. 1 and 4
- B. 2 and 4
- C. 4 and 6
- D. 5 and 6

58.

.....

Satisfaction Guaranteed Or Your Money Back

Whatever you buy at Smith's, you have the right to use it for a reasonable time before you determine it is satisfactory and decide to keep it. If you decide it is not satisfactory, return it to us. We will do whatever is necessary to correct the cause of your dissatisfaction. If we can't satisfactorily provide a remedy, or if you request a refund, we will refund your full purchase price including any appropriate delivery charges, finance charges and applicable taxes.

Smith's Pledge of Fairness. If, after you have decided to keep your purchase, it doesn't give you the service or performance you reasonably expect of it and there isn't a specific warranty on the item that will satisfactorily correct the problem, please let us know.

We want to make an adjustment that you will consider fair.

.....

According to the policy statement shown above, what would you do if you bought something at Smith's and then didn't like it?

- A. Keep it
- B. Take it back to Smith's
- C. Take it to a local repair shop
- D. Write to the Consumer Goods Repair Service

59. Prices of food often go up and down. For example, if the price of sugar in 1974 was twice what it is today, what might have caused this price to go down?
- A. Many people would not pay the higher price for sugar in 1974.
 - B. A disease reduced the sugar crop in 1978.
 - C. Grocery stores wanted to increase their profits in 1974.
 - D. There was more sugar available to buy in 1974.

60.

Wall Street-API- Prices rose sharply today in response to announcements by Saudi Arabian officials that there would be no increase in the price of crude oil in the near future. Saudi officials are quoted as being concerned about the effect a price increase might have on world economy. They noted that a recession in this country would cause problems in the Saudi Arabian economy, which depends on American technology.

According to the newspaper article shown above, why did the Saudi Arabians decide not to raise their prices?

- A. They were afraid it would start a war.
- B. They knew a price increase would hurt their own economy in the long run.
- C. They had worked out a deal for our government to pay them to keep prices down.
- D. They wanted everyone to like them.

HEALTH

61. Doctors suggest calling for advice if a baby is listless or inactive, refuses to eat, throws up repeatedly, has rectal temperature of 101 degrees or over, or cries more than usual. A phone call to the doctor would NOT be necessary if a baby
- A. spits up after eating.
 - B. has a rectal temperature of 102 degrees.
 - C. fusses and cries at bedtime.
 - D. just lies in the crib and doesn't react to a smile.
62. In which of the following cases would you probably go to a hospital emergency room?
- A. You have been feeling very tired.
 - B. You have a sore throat.
 - C. You have severe chest pains.
 - D. You have a temperature of 100.

63.

PLAZA DRUG STORE	
No. 590586	
For:	Ken Smith
Directions:	Take one tablet every 8 hours as needed for congestion.
Physician:	Dr. Pucci
449379	9JUN78 BC

The label on Ken Smith's prescription is shown above. If Ken takes one pill at 8 AM, at what time should he take the next pill?

- A. 12 noon
- B. 4 PM
- C. 6 PM
- D. 8 PM

64.

Foods to Eat	
White bread, not toasted	Margarine
Eggs, boiled	Potatoes
Beef, boiled or broiled	Lettuce
Poultry, boiled or broiled	Peas
Fish, boiled or broiled	Celery

Jean's doctor wanted her to lose weight, so he put her on a diet. He gave her the list of foods shown above. Which meal would be best for Jean?

- A. Broiled beef, peas, macaroni and cheese
- B. Fried chicken, celery, potato
- C. Pork chop, lettuce, white bread
- D. Broiled fish, peas, potato

65.

1	IF CLAIM FOR DEPENDENT NAME _____ RELATIONSHIP _____ DATE OF BIRTH _____
2	DEPENDENT'S OCCUPATION _____ NAME OF EMPLOYER _____
3	DATE VISION CARE SERVICE BECAME NECESSARY _____ 19 _____
4	WERE SERVICES REQUIRED DUE TO LOSS OR BREAKAGE OF EXISTING GLASSES? <input type="checkbox"/> YES <input type="checkbox"/> NO
5	ARE THESE SERVICES ALSO BEING COVERED BY ANY OTHER INSURANCE, UNION WELFARE, OR GOVERNMENT PROGRAM? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, NAME OF PROGRAM OR PLAN _____
6	DID THIS LOSS ARISE OUT OF OR IN THE COURSE OF EMPLOYMENT? <input type="checkbox"/> YES <input type="checkbox"/> NO
7	HAS THIS BEEN REPORTED AS A WORKMEN'S COMPENSATION OR EMPLOYER'S LIABILITY CLAIM? <input type="checkbox"/> YES <input type="checkbox"/> NO
8	I CERTIFY THE ABOVE ANSWERS ARE TRUE AND CORRECT
	DATE _____ SIGNED _____

Cheryl Porter's glasses were broken at work when a belt flew off a machine. Cheryl was not hurt. Now Cheryl is filling out the vision care insurance claim. How should she answer questions 6 and 7 on the claim shown above if she filed no other claims for the accident?

- A. No on both questions
- B. No on question 6 and Yes on question 7
- C. Yes on question 6 and No on question 7
- D. Yes on both questions

66. Preventive medicine is used to keep people
- A. from getting hurt and hurting others.
 - B. well by following certain health habits.
 - C. well by avoiding certain medicines.
 - D. from taking the wrong medicine.
67. Chris likes to exercise 45 minutes each weekday and 90 minutes every Saturday and Sunday. How many hours does he spend exercising each week?
- A. Less than 5 hours
 - B. Between 5 and 6 hours
 - C. Between 6 and 7 hours
 - D. More than 7 hours

68. Mary is making lunch for her family. Balanced meals include food from the 4 food groups: bread and cereal, fruit and vegetables, milk, and meat. Which of the following would provide the most balanced meal?
- A. Tomato soup, crackers, jello, cola
 - B. Steak, cottage cheese, lettuce salad, milk
 - C. Egg salad sandwich, orange, milk
 - D. Turkey and dressing, sweet potatoes, beans, tea

69.

Breakfast		Lunch	
Egg	80 calories	Salad	60 calories
Orange juice	60 calories	Crackers	60 calories
Toast	95 calories	Skim milk	100 calories
	<u> </u>	Apple	80 calories
TOTAL	235 calories	TOTAL	<u> </u>
			300 calories

Laura is on a 1000-calorie-a-day diet. She had the breakfast and lunch shown above. How many calories does she have left for dinner?

- A. 235
- B. 395
- C. 465
- D. 525

70.

NAME				
BIRTHDATE				
RACE	SEX	PARENT'S NAME	PHONE	PHYSICIAN'S NAME
W	F			
IMMUNIZATION		DATES		
DPT	5-14-71	9-7-71	11-30-71	6-26-73
DT				
Measles	2-15-72			
Mumps				
Polio	5-14-71	9-7-71	6-26-73	5-30-75
Rubella	2-15-72			
Smallpox				
Tetanus				
Typhoid				

Kirk Brown is trying to decide whether or not to take his daughter Elizabeth to get a polio booster. He found her medical record, which is shown above. When did Elizabeth have her last polio booster?

- A. February 1971
- B. February 1972
- C. June 1973
- D. May 1975

71. If a doctor tells a pregnant woman she "may experience postpartum depression after childbirth," she may expect to feel

- A. very happy after she has her baby.
- B. very happy before she has her baby.
- C. down or blue after she has her baby.
- D. down or blue before she has her baby.

72.

VASECTOMY

Vasectomy is an easy and short operation that prevents the male from emitting sperm. Because the tubes which carry sperm are cut and tied during the procedure, a vasectomy is usually irreversible. There is a slight chance of a woman becoming pregnant shortly after a vasectomy has been performed, since sperm can remain in the man's semen for a short time. About 2,000,000 men living in the United States have undergone vasectomies. The procedure is safe, quick, effective, legal and not very expensive.

After reading the article shown above and discussing it with his wife, Joe decided to have a vasectomy. After he has had the vasectomy, what are the chances that it can be reversed?

- A. The operation is always reversible.
- B. The chances are good if the vasectomy is done carefully.
- C. The chances are slim.
- D. The operation is totally irreversible.

73. A normal, healthy baby usually has a feeding every 3-5 hours. If a baby is on a 4-hour schedule, how many feedings will be needed in a day?

- A. 3
- B. 6
- C. 8
- D. 9

74. Families who have more than 1 child often experience sibling rivalry. What is *sibling rivalry*?
- A. Brothers and sisters sometimes compete with each other for their parents' attention.
 - B. Children often fight with their parents if they do not get the things that they want.
 - C. Children learn more if brothers and sisters are close in age.
 - D. Brothers and sisters who are close in age often fight with each other.
75. Stanley Corn's son, Michael, is away at college for the first time. Michael is not adjusting to college life, and his grades are poor. Mr. Corn is writing a letter to Michael to try to help him. Which of the following statements should Mr. Corn use to show that he understands what Michael is going through?
- A. "I remember having the same kind of problem in army basic training. It's no disgrace to fall down. You just have to get back up and try again."
 - B. "Your mother and I have worked hard to be able to send you to college. It's really costing us more than we can afford. Don't disappoint us now."
 - C. "What's the problem? Your brother made good grades all the way through college. You should try to follow his example."
 - D. "I understand you're having a rough time. Well, I'm not surprised. You never were willing to work for anything in your life."
76. Mr. Brown has a small lake on his farm. In the winter, the lake freezes. Some of the teenagers in the area like to skate on the ice. Last year one fell in. Now Mr. Brown wants to put up a sign to warn people about the danger. What should he write on the sign?
- A. CONDEMNED
 - B. SWIM AT YOUR OWN RISK
 - C. DANGER! THIN ICE
 - D. NO FISHING

77. When the Johnsons moved to their new house with their young daughter, they had to decide where to put all their cleaning supplies. The safest place for their cleaning supplies would be in a cabinet
- A. over the refrigerator.
 - B. under the kitchen sink.
 - C. next to the washing machine.
 - D. in the basement.
78. Harry Truitt is leaving the babysitter a list of things to do in case of a fire. Which of the following would he NOT need to include on the list?
- A. The location of his important papers
 - B. The location of the fire extinguisher
 - C. Instructions on how to get onto the fire escape
 - D. Instructions on how to avoid smoke
79. Donna Zuber's friend, Lois, has had a very serious accident and is in shock. Donna is trying to help out until an ambulance comes. Which of the following should Donna NOT do?
- A. Put Lois's feet up.
 - B. Get Lois to walk around.
 - C. Keep Lois warm.
 - D. Tell Lois that help is coming.
80. Ted's child has been hit by a car and is unconscious but breathing. Whom should Ted call first?
- A. Any doctor
 - B. His family doctor
 - C. An ambulance
 - D. His wife

GOVERNMENT AND LAW

81. Which of the following is a major disadvantage of the seniority system used in Congress?
- A. Younger congressmen have less power than older congressmen.
 - B. Younger congressmen have more power than older congressmen.
 - C. The longer a person has been in Congress, the more committees he can serve on.
 - D. New, younger congressmen are given too much work.
82. A person who runs for president of the United States can spend up to \$10 million on state primary elections. The candidate may also spend up to \$20 million in the general election and get another \$20 million from the government to spend. How much can a person spend altogether to run for president?
- A. \$10 million
 - B. \$30 million
 - C. \$50 million
 - D. \$70 million
83. Congress sent a bill to the president and he vetoed it. A two-thirds majority in each house is now needed to pass the bill without the president's consent. If all 435 representatives vote, how many will have to vote for the bill before it can go to the Senate?
- A. 145
 - B. 218
 - C. 290
 - D. 435
84. An amendment to the United States Constitution becomes law only if it is approved by how many states?
- A. 25
 - B. 34
 - C. 38
 - D. 50

85. One reason given for not having a Department of Education in Washington is that the federal government is not responsible for education. Each state is responsible for its own educational system. How could all that be changed?

- A. Change state laws concerning education.
- B. Get rid of the Department of Health, Education and Welfare.
- C. Change the Constitution of the United States.
- D. Do away with local school boards.

86. Tony is voting in the primary election and he wants to vote for Jean Richards for United States Senator. Which of the following shows the correct way to vote for a person whose name is not on the ballot?

A.

United States Senator
(to fill vacancy)
VOTE FOR not more than ONE

JOHN R. MARTIN, JR.
311

CHARLES E. POTTER
312

Jean Richards
313

B.

United States Senator
(to fill vacancy)
VOTE FOR not more than ONE

JOHN R. MARTIN, JR.
311

CHARLES E. POTTER
312

Jean Richards

C.

United States Senator
(to fill vacancy)
VOTE FOR not more than ONE

~~JOHN R. MARTIN, JR.~~
311

~~CHARLES E. POTTER~~
312

D.

United States Senator
(to fill vacancy)
VOTE FOR not more than ONE

JOHN R. MARTIN, JR.
311

CHARLES E. POTTER
312

Jean Richards

87.

VOTER REGISTRATION

Who may register? All persons legally residing within the state may register to vote. Persons must reside within the state and be registered 30 days prior to federal and state elections in order to vote. Six months residency in the same county is required for persons desiring to vote in county elections where they reside. All persons desiring to register to vote must do so in person at the County Registrar's Office.

The Palmers just moved to a new state. They got the voter registration information shown above at their county courthouse. How long must the Palmers live in their new location before they can vote in local elections?

- A. One month
 - B. Three months
 - C. Six months
 - D. One year
88. Bonita was not allowed to vote because she could not pass a reading test. Bonita thinks this is wrong. She is a citizen. What should she do?
- A. Study so she can pass the test
 - B. Demand that she be allowed to vote
 - C. Cancel her voter registration
 - D. Threaten the person who won't let her vote

89.

WASHINGTON, D.C. (API)—Coffee cups clinked. The lobbyists closed the hotel-room door to keep out a reporter. Then they discussed their assault on the core of the president's energy package. Sitting in the meeting with big oil companies were the Consumer Federation of America, various unions, cotton growers, airlines, and a dozen other farm, labor, and business groups who often disagree.

The crude-oil tax, which the president has called the centerpiece of his energy strategy, is being attacked by oil companies who seek the money for themselves. It is also being fought by consumer advocates, farm groups, and businesses opposed to a rise in the prices they pay for fuel.

Unions are working against it, fearing a loss of jobs and an economic jolt that could tip the economy into a recession. Airlines say a rise in fuel costs would push up air fares by 5 percent.

According to the newspaper story above, which of the following statements is true?

- A. Poor consumers are leading the fight against the president's energy package.
- B. Only a few, very powerful people are against the president's energy package.
- C. People from many different points of view are against the crude-oil tax.
- D. The airlines favor the crude-oil tax.

90.

Last Will and Testament

I, _____ **I** _____, being of sound mind and body, hereby
(testator)
 make the following disposition of my property and possessions.

Signed and sealed on this _____ day of the month of _____ **II** _____ in the
 Year of Our Lord 19 ____.

_____ IV _____	_____ III _____
<small>(witness 2)</small>	<small>(testator)</small>
_____	_____
<small>(date)</small>	<small>(witness 1)</small>
_____	_____
<small>(date)</small>	<small>(date)</small>

Some states require that a will be signed by the person making the will and by witnesses. Mary asks Glenda to witness her will. Where should Glenda sign her name?

- A. I
- B. II
- C. III.
- D. IV

91. Robert Richardson has been arrested for shoplifting. The police officer has told him that the arraignment will be tomorrow. What will happen at the arraignment?

- A. He will be legally charged with shoplifting.
- B. The jury will decide whether he is innocent or guilty.
- C. The judge will tell him what his punishment will be.
- D. He will answer questions while the jury listens.

92. What does it mean to say that "ignorance of the law is no excuse"?
- A. If a person doesn't know something is against the law, he cannot be arrested for doing it.
 - B. If a person doesn't know something is against the law, he can still be arrested for doing it.
 - C. If a person doesn't know the law, he can be charged only with a lesser crime.
 - D. If a person doesn't know the law, he can be charged with a higher crime.
93. Janet Dean is suing her former boss for back wages. Her boss was supposed to have paid her \$175 on December 31. Now it's April 4 and he has not paid, even though Janet has asked him 4 times. Janet has to state her case in writing on a form. Which of the following statements would be the most helpful to her case?
- A. "My boss was always a tightwad. He wouldn't pay me for my vacation last year either!"
 - B. "He has plenty of money. He'd better give me mine or else!"
 - C. "You'd think I was asking for the moon. All I want is my \$175!"
 - D. "He admits he owes me the money but claims he doesn't have it. I want my \$175!"
94. Fred was arrested for a crime that someone talked him into committing. The person who got Fred to commit the crime turned out to be the policeman who arrested him. What should Fred do now?
- A. Get a lawyer and prove that he was illegally arrested
 - B. Help the police catch other criminals and ask to be let off easy
 - C. Post bail and get out of town
 - D. Ask if he can plead guilty to a less serious crime

95. Lewis is suing Jack for injuring him in a car accident. Jack's lawyer wants to find out how badly Lewis was hurt. Must Lewis tell him?
- A. Yes. He must tell Jack's lawyer everything the lawyer wants to know.
 - B. Yes. However, Lewis can wait until the court orders him to tell.
 - C. No. Since Jack caused the accident, it's his problem to figure out what happened.
 - D. No. Lewis doesn't have to tell Jack's lawyer anything.

96.

15. ADJUSTED GROSS INCOME	<u>6,352</u>
16. DEDUCTIONS	<u>1,325</u>
17. TAXABLE INCOME (subtract line 16 from line 15)	<u>5,027</u>
18. TAX ON LINE 17 (read from table below)	<u>95</u>
19. TAX CREDIT	<u>15</u>
20. TAX DUE (subtract line 19 from line 18)	<u>80</u>

The chart above shows part of David Jones's state tax return. He just found out that he forgot to enter a \$35 tax credit. What is the corrected amount of his tax due (line 20)?

- A. \$45
- B. \$50
- C. \$60
- D. \$130

97.

BARGAIN BOOKS
 100 Fifth Avenue
 New York, New York 10015

TITLE(S)	PRICE
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Total Cost _____

New York residents please add Sales Tax

Ship/Hand _____

Amount Due _____

Please enclose a check for the full amount due.
 Allow at least 3 weeks for delivery.

Susan, who lives in Albany, New York, is using the form shown above to order a book. The book costs \$10.00. The tax is \$.80. The shipping and handling costs are \$1.00. What should she write in the circled space on the order form?

- A. \$.80
- B. \$1.00
- C. \$10.00
- D. \$11.00

98.

WASHINGTON, D.C. (API)—The Supreme Court ruled today in a 5-4 decision that the United States Constitution does not require that a state use taxes to fund abortions through the Medicaid program.

The ruling came as a shock to many feminist organizations. The leader of one group said the ruling would force poor women to turn to "back-alley" abortionists.

According to the newspaper article shown above, what does the United States Constitution say on the question of whether a state can use Medicaid funds to pay for abortions for women who otherwise couldn't afford them?

- A. The U.S. Constitution allows states to use tax money for abortions if they so choose.
- B. The U.S. Constitution says no tax money may ever be used for abortions.
- C. The U.S. Constitution forbids poor women to have abortions.
- D. The U.S. Constitution forbids all abortions.

APPENDIX C
MOOS FAMILY ENVIRONMENT SCALE:
FORM R

True or False:

1. Family members really help and support one another.
2. Family members often keep their feelings to themselves.
3. We fight a lot in our family.
4. We don't do things on our own very often in our family.
5. We feel it is important to be the best at whatever you do.
6. We often talk about political and social problems.
7. We spend most weekends and evenings at home.
8. Family members attend church, synagogue, or Sunday School fairly often.
9. Activities in our family are pretty carefully planned.
10. Family members are rarely ordered around.
11. We often seem to be killing time at home.
12. We say anything we want to around home.
13. Family members rarely become openly angry.
14. In our family, we are strongly encouraged to be independent.
15. Getting ahead in life is very important in our family.
16. We rarely go to lectures, plays or concerts.
17. Friends often come over for dinner or to visit.
18. We don't say prayers in our family.
19. We are generally very neat and orderly.
20. There are very few rules to follow in our family.
21. We put a lot of energy into what we do at home.
22. It's hard to "blow off steam" at home without upsetting somebody.
23. Family members sometimes get so angry they throw things.
24. We think things out for ourselves in our family.
25. How much money a person makes is not very important to us.
26. Learning about new and different things is very important in our family.
27. Nobody in our family is active in sports, Little League, bowling, etc.
28. We often talk about the religious meaning of Christmas, Passover, or other holidays.
29. It's often hard to find things when you need them in our household.
30. There is one family member who makes most of the decisions.
31. There is a feeling of togetherness in our family.
32. We tell each other about our personal problems.
33. Family members hardly ever lose their tempers.
34. We come and go as we want to in our family.
35. We believe in competition and "may the best man win."
36. We are not that interested in cultural activities.

37. We often go to movies, sports events, camping, etc.
38. We don't believe in heaven or hell.
39. Being on time is very important in our family.
40. There are set ways of doing things at home.
41. We rarely volunteer when something has to be done at home.
42. If we feel like doing something on the spur of the moment we often just pick up and go.
43. Family members often criticize each other.
44. There is very little privacy in our family.
45. We always strive to do things just a little better the next time.
46. We rarely have intellectual discussions.
47. Everyone in our family has a hobby or two.
48. Family members have strict ideas about what is right and wrong.
49. People change their minds often in our family.
50. There is a strong emphasis on following rules in our family.
51. Family members really back each other up.
52. Someone usually gets upset if you complain in our family.
53. Family members sometimes hit each other.
54. Family members almost always rely on themselves when a problem comes up.
55. Family members rarely worry about job promotions, school grades, etc.
56. Someone in our family plays a musical instrument.
57. Family members are not very involved in recreational activities outside work or school.
58. We believe there are some things you just have to take on faith.
59. Family members make sure their rooms are neat.
60. Everyone has an equal say in family decisions.
61. There is very little group spirit in our family.
62. Money and paying bills is openly talked about in our family.
63. If there's a disagreement in our family, we try hard to smooth things over and keep the peace.
64. Family members strongly encourage each other to stand up for their rights.
65. In our family, we don't try that hard to succeed.
66. Family members often go to the library.
67. Family members sometimes attend courses or take lessons for some hobby or interest (outside of school).
68. In our family each person has different ideas about what is right and wrong.
69. Each person's duties are clearly defined in our family.
70. We can do whatever we want to in our family.

71. We really get along well with each other.
72. We are usually careful about what we say to each other.
73. Family members often try to one-up or out-do each other.
74. It's hard to be by yourself without hurting someone's feelings in our household.
75. "Work before play" is the rule in our family.
76. Watching T.V. is more important than reading in our family.
77. Family members go out a lot.
78. The Bible is a very important book in our home.
79. Money is not handled very carefully in our family.
80. Rules are pretty inflexible in our household.
81. There is plenty of time and attention for everyone in our family.
82. There are a lot of spontaneous discussions in our family.
83. In our family, we believe you don't ever get anywhere by raising your voice.
84. We are not really encouraged to speak up for ourselves in our family.
85. Family members are often compared with others as to how well they are doing at work or school.
86. Family members really like music, art and literature.
87. Our main form of entertainment is watching T.V. or listening to the radio.
88. Family members believe that if you sin you will be punished.
89. Dishes are usually done immediately after eating.
90. You can't get away with much in our family.

APPENDIX D

WESMAN PERSONNEL CLASSIFICATION TEST:

FORM A

PART I

1.is to side as ceiling is to.....
- | | | | |
|---------|--------|---------|-------------|
| 1. flow | 2. fit | 3. wall | 4. industry |
| A. far | B. top | C. iron | D. plaster |
2.is to agreement as expert is to.....
- | | | | |
|-----------|-------------|---------------|------------|
| 1. treaty | 2. denial | 3. experiment | 4. amateur |
| A. import | B. skillful | C. extant | D. proud |
3.is to beanstalk as Aladdin is to.....
- | | | | |
|--------------|----------|----------|----------|
| 1. cornstalk | 2. Jack | 3. story | 4. climb |
| A. camel | B. genie | C. Arab | D. lamp |
4.is to sit as bed is to.....
- | | | | |
|----------|-------------|-----------|----------|
| 1. stand | 2. run | 3. chair | 4. rest |
| A. lie | B. mattress | C. pillow | D. night |
5.is to work as recreation is to.....
- | | | | |
|-----------|-----------|---------------|--------------|
| 1. hour | 2. salary | 3. occupation | 4. home |
| A. employ | B. play | C. dilation | D. enjoyment |
6.is to hogs as beef is to.....
- | | | | |
|---------|----------|-----------|---------|
| 1. sow | 2. bacon | 3. boar | 4. sty |
| A. stew | B. steak | C. cattle | D. hoof |
7.is to white as ebony is to.....
- | | | | |
|----------|----------|-------------|-----------|
| 1. house | 2. shirt | 3. ivory | 4. luster |
| A. fat | B. black | C. skeleton | D. tree |
8.is to tree as skin is to.....
- | | | | |
|---------|----------|----------|---------|
| 1. leaf | 2. acorn | 3. root | 4. bark |
| A. rind | B. peel | C. cheat | D. man |
9.is to boy as Mary is to.....
- | | | | |
|-----------|--------|---------|-------------|
| 1. man | 2. lad | 3. John | 4. football |
| A. dishes | B. sew | C. aunt | D. girl |
10.is to sphere as square is to.....
- | | | | |
|-----------|---------|------------|----------|
| 1. circle | 2. peri | 3. world | 4. oval |
| A. cube | B. foot | C. polygon | D. angle |
11.is to hook as bear is to.....
- | | | | |
|----------|---------|---------|--------|
| 1. fish | 2. bait | 3. worm | 4. eye |
| A. honey | B. cub | C. trap | D. fur |

12.is to man as aunt is to.....
- | | | | |
|----------|----------|-----------|-----------|
| 1. foot | 2. uncle | 3. male | 4. young |
| A. woman | B. old | C. mother | D. nephew |
13.is to Bell as phonograph is to.....
- | | | | |
|----------|--------------|--------------|-------------|
| 1. radio | 2. telephone | 3. telegraph | 4. airplane |
| A. Morse | B. Marconi | C. Whitney | D. Edison |
14.is to bore as rivet is to.....
- | | | | |
|----------|--------------|----------|----------|
| 1. weary | 2. drill | 3. ennui | 4. hole |
| A. bolt | B. fascinate | C. join | D. screw |
15.is to hot as ice is to.....
- | | | | |
|----------|----------|-----------|----------|
| 1. cold | 2. shore | 3. sign | 4. food |
| A. drink | B. stone | C. winter | D. steam |
16.is to yellow as turquoise is to.....
- | | | | |
|------------|---------|----------|-----------|
| 1. emerald | 2. rose | 3. topaz | 4. gloss |
| A. jewel | B. pale | C. blue | D. ornate |
17.is to flowers as frame is to.....
- | | | | |
|---------|---------|---------|-------------|
| 1. rose | 2. vase | 3. weed | 4. seed |
| A. wood | B. gilt | C. fix | D. painting |
18.is to paper as worm is to.....
- | | | | |
|---------|------------|---------|-----------|
| 1. tree | 2. ink | 3. wrap | 4. letter |
| A. fish | B. wriggle | C. silk | D. bird |
19.is to attic as bottom is to.....
- | | | | |
|---------|----------|-----------|-----------|
| 1. roof | 2. house | 3. cellar | 4. window |
| A. wide | B. well | C. top | D. black |
20.is to baker as ink is to.....
- | | | | |
|------------|----------|----------|-----------|
| 1. flour | 2. cake | 3. bread | 4. pastry |
| A. printer | B. paper | C. pen | D. lead |
21.is to newspaper as manager is to.....
- | | | | |
|--------------|--------------|----------------|-------------|
| 1. reporter | 2. column | 3. advertising | 4. editor |
| A. president | B. publisher | C. store | D. employer |
22.is to executive as Congress is to.....
- | | | | |
|--------------|--------------|----------------|-------------------|
| 1. business | 2. president | 3. treasurer | 4. representative |
| A. committee | B. court | C. legislature | D. senator |
23.is to back as near is to.....
- | | | | |
|---------|------------|-----------|-----------|
| 1. rear | 2. retreat | 3. behind | 4. front |
| A. dear | B. far | C. before | D. beyond |

24.is to fight as episode is to.....
 1. round 2. boxer 3. gloves 4. gong
 A. grave B. whiskey C. serial D. peach
25.is to cutlery as cup is to.....
 1. sword 2. bleeding 3. knife 4. hardward
 A. crockery B. plate C. ladle D. saucer
26.is to fish as mallard is to.....
 1. rod 2. perch 3. hunt 4. bait
 A. hammer B. quack C. bird D. bruiser
27.is to Wellington as Lee is to.....
 1. Washington 2. Napoleon 3. Gage 4. Howe
 A. Grant B. Lincoln C. Jackson D. Nelson
28.is to Holland as Flemish is to.....
 1. Dutch 2. windmill 3. dike 4. Netherlands
 A. Antwerp B. Hague C. Finland D. Belgium
29.is to war as day is to.....
 1. fight 2. battle 3. soldier 4. nation
 A. night B. sun C. hour D. week
30.is to hindrance as discord is to.....
 1. obstacle 2. rear 3. sour 4. chord
 A. melody B. reject C. sweet D. contention
31.is to multiplication as quotient is to.....
 1. addition 2. product 3. proportion 4. times
 A. answer B. ratio C. division D. subtraction
32.is to none as many is to.....
 1. zero 2. half 3. all 4. two
 A. few B. every C. each D. most
33.is to files as books are to.....
 1. rasp 2. manicure 3. clerk 4. correspondence
 A. pages B. library C. authors D. learning
34.is to egg as plant is to.....
 1. ham 2. fried 3. fowl 4. yoke
 A. ivy B. sow C. seed D. garden
35.is to hill as crest is to.....
 1. mountain 2. summit 3. climb 4. ant
 A. wave B. high C. ocean D. fall

36.is to play as music is to.....
 1. piano 2. dialogue 3. game 4. actor
 A. sweet B. concert C. sonnet D. orchestra
37.is to phlegmatic as gushing is to.....
 1. husky 2. rheumatic 3. pneumatic 4. apathetic
 A. elusive B. pouting C. effusive D. griping
38.is to loom as turn is to.....
 1. weave 2. flax 3. spin 4. linen
 A. lathe B. revolve C. reverse D. direction
39.is to sword as mortar is to.....
 1. sheath 2. blade 3. rapier 4. hilt
 A. shell B. cannon C. rifle D. shot
40.is to Z as initial is to.....
 1. Y 2. A 3. E 4. X
 A. name B. signature C. final D. unknown

PART II

1. Add

$$\begin{array}{r} 6949 \\ 585 \\ 76 \\ \hline 7388 \end{array}$$
2. Subtract

$$\begin{array}{r} 7832 \\ 6985 \\ \hline \end{array}$$
3. Multiply

$$\begin{array}{r} 96 \\ 75 \\ \hline \end{array}$$
4. Multiply

$$\begin{array}{r} .014 \\ .014 \\ \hline \end{array}$$
5. Divide

$$.07 \overline{) 7.042}$$
6. $\frac{1}{2} \div \frac{1}{4} =$
7. $\frac{3}{8} \times \frac{5}{8} =$
8. $\frac{4}{9} \times 342 =$
9. Add

$$\begin{array}{r} 18\frac{5}{8} \\ 9\frac{3}{4} \\ \hline 7\frac{1}{2} \end{array}$$
10. Add

$$\begin{array}{r} 19 \text{ ft. } 7 \text{ in.} \\ 7 \text{ ft. } 11\frac{1}{2} \text{ in.} \\ 18 \text{ ft. } 9 \text{ in.} \\ \hline 5 \text{ ft. } 8\frac{1}{2} \text{ in.} \end{array}$$
11. Add

$$\begin{array}{r} 17 \text{ lbs. } 9 \text{ oz.} \\ 5 \text{ lbs. } 2 \text{ oz.} \\ 29 \text{ lbs. } 14 \text{ oz.} \\ \hline 8 \text{ lbs. } 7 \text{ oz.} \end{array}$$
12. $\frac{5}{8} = \frac{35}{?}$
13. List price=\$150.00
 Discounts=33 $\frac{1}{3}$ %;2%
 Net Price=_____
14. $\sqrt{256} =$
15. $\sqrt{\frac{16}{49} \times \frac{9}{25}} =$
16. $\sqrt[3]{8 \times 64} =$
17. $9 = ?\%$ of 4
18. $\frac{8 - 2 + 5 \times 3}{4 + 3 \times 5 + 2} =$
19. What one number can replace both question marks?
 $1 : ? = ? : 25$
20. What one number can replace both question marks?
 $2 : ? = ? : 12\frac{1}{2}$

APPENDIX E
MEANS AND STANDARD DEVIATIONS
FOR ALL VARIABLES

MEANS AND STANDARD DEVIATIONS
FOR ALL VARIABLES

Independent Variables	Mean	Standard Deviation
Community Resources	16.8289	2.7441
Occupational Knowledge	12.5526	9.2295
Consumer Economics	19.1974	3.2742
Health	14.5000	4.2158
Government-and-Law	12.7105	8.5927
Identification of Facts	13.7763	6.0764
Reading	16.8553	8.9543
Writing	16.5789	8.8848
Computation	15.6974	6.1515
Problem Solving	14.9737	9.2361
Age	28.1053	11.0195
Formal Educational Att.	9.5395	2.0941
Time Since Last School Exp.	8.1184	9.7775
Prior Adult Ed. Experience	62.4080	187.2670
Household Size	3.8684	2.4019
Total Family Income	3.8947	2.7548
Years of Current Employment	2.7632	1.3051
Years of Current Unemployment	2.8553	1.3828
Reason 1	1.2763	0.8733
Reason 2	0.6184	0.8636
Reason 3	0.5789	0.8527
Reason 4	1.3421	0.8415
Reason 5	0.1842	0.4820
Reason 6	0.4211	0.5947
Reason 7	1.3684	0.7974
Reason 8	1.0395	0.8709
Reason 9	0.9474	0.8929
Verbal Intelligence	12.5395	6.9387
Math Intelligence	5.9211	3.5880
Subset 1	6.7632	2.0387
Subset 2	4.6579	1.5539
Subset 3	2.9079	2.0732
Subset 4	5.9605	1.6120
Subset 5	5.9605	1.6528
Subset 6	5.2632	2.0223
Subset 7	5.1842	1.8454
Subset 8	5.8158	1.9981
Subset 9	6.3026	1.7437
Subset 10	4.8684	1.7765

APPENDIX F
INDEPENDENT VARIABLE OUTPUT FOR EACH LITERACY
PERFORMANCE SUBTEST FOR MALES (n = 30)
TABLES A - J

TABLE A
 STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
 COMMUNITY RESOURCES SCORES FOR MALES

Independent Variable	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Math IQ	.54866	.30103	.54866	1.00460	12.059*
Reason 3	.61647	.38003	.30278	0.64824	8.275*
Prior Ad. Ed.	.69573	.48404	-.07586	0.02660	8.130*
Reason 7	.73620	.54199	-.22357	-0.11926	7.396*
Time Last School	.76043	.57826	.00480	4.95582	6.581*
Verbal IQ	.79738	.63582	.42889	-0.44521	6.692*
Reason 6	.82337	.67793	.19405	1.05939	6.615*
Subset 10	.85269	.72708	-.25492	-0.65577	6.993*
Age	.88454	.78241	-.00879	-3.34124	7.991*
Form. Ed. Att.	.94282	.88891	.03765	0.29582	15.204*
Reason 9	.94832	.89930	.05744	-0.68955	14.614*
Reason 2	.95497	.91197	.17398	0.13667	14.676*
Reason 5	.95957	.92078	-.05155	-1.09934	14.305*
Subset 8	.96708	.93525	-.04969	-0.62108	15.476*
Reason 8	.97075	.94235	-.01959	-0.26286	15.256*
Total Fam. Inc.	.97251	.94587	-.06890	-0.09883	14.173*
Subset 3	.97545	.95152	.07575	0.07298	13.851*
Reason 1	.97742	.95536	-.06987	-0.04123	13.078*
Subset 1	.98086	.96210	.10355	0.31758	13.359*
Subset 7	.98408	.96841	.09905	0.96313	13.794*
Yrs. Curr. Emp.	.98600	.97220	-.04882	-0.33975	13.324*
Subset 6	.98780	.97574	.16665	-1.03947	12.800*
Subset 2	.98884	.97780	.20531	-0.40809	11.488*
Subset 5	.99013	.98035	-.05705	0.38688	10.394*
Reason 4	.99140	.98287	.06110	0.38262	9.181**
Subset 9	.99397	.98798	.02437	-0.56915	9.486**
Subset 4	.99473	.98948	-.22800	0.08992	6.966
Household Size	.99489	.98980	.27986	0.08834	3.466

*p < .01

**p < .05

TABLE B

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
OCCUPATIONAL KNOWLEDGE SCORES FOR MALES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Reason 5	.41862	.17524	-.41862	-0.38661	5.949**
Reason 6	.53667	.28802	.21200	0.60569	5.461**
Total Fam. Inc.	.64938	.42169	.37019	0.36444	6.319*
Time Last School	.74398	.55351	.28020	2.47462	7.748*
Subset 6	.79650	.63441	.02804	-1.43356	8.329*
Subset 7	.85041	.72319	.05898	0.86498	10.015*
Age	.88858	.78957	.24680	-0.82617	11.792*
Reason 2	.90443	.81800	-.14217	-0.72438	11.798*
Form. Ed. Att.	.91557	.83827	-.21418	0.29441	11.518*
Household Size	.92965	.86425	.09041	0.50926	12.096*
Subset 1	.93632	.87669	-.10857	-0.21022	11.634*
Reason 7	.95391	.90005	.12688	-0.43109	14.315*
Subset 3	.96468	.93061	-.02982	-0.10615	16.506*
Yrs. Curr. Unemp	.97638	.95331	.26983	0.22152	21.877*
Subset 2	.98829	.97671	.12817	0.32070	39.149*
Reason 4	.99304	.98613	-.28518	-0.22113	57.757*
Prior Ad. Ed.	.99684	.99369	-.11293	-0.26134	111.087*
Reason 1	.99755	.99512	.03807	0.18936	124.501*
Subset 9	.99803	.99606	.17177	-0.16093	133.123*
Subset 4	.99857	.99714	-.08893	0.12290	156.859*
Yrs. Curr. Emp.	.99937	.99873	-.19340	-0.17296	299.823*
Reason 9	.99971	.99943	.21034	-0.13555	544.857*
Reason 3	.99980	.99960	.04758	-0.03233	655.256*
Subset 10	.99987	.99974	.07812	0.04136	793.740*
Subset 8	.99996	.99992	.39593	-0.05276	2052.09*
Subset 5	.99999	.99998	-.07236	0.03148	6050.18*
Reason 8	.99999	.99999	-.12906	0.01509	5098.97*
Verbal IQ	.99999	.99999	-.10540	-0.00227	2558.55*

*p < .01**p < .05

TABLE C

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
CONSUMER ECONOMICS SCORES FOR MALES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Subset 5	.37152	.13803	-.37152	0.11921	4.484**
Age	.46605	.21721	.22090	-5.15303	3.754**
Math IQ	.56938	.32420	.17762	0.23166	4.158**
Subset 3	.63105	.39822	.12882	-0.06504	4.136**
Subset 4	.70114	.49160	.00314	1.14154	4.641*
Subset 1	.73891	.54599	-.25274	-1.36809	4.610*
Reason 3	.76114	.57933	.15981	0.96079	4.328*
Reason 9	.78392	.61453	-.19484	-0.19386	4.185*
Reason 4	.79900	.63840	.22906	0.74689	3.923*
Total Fam. Inc.	.81828	.66958	.14252	-0.01041	3.850*
Prior Ad. Ed.	.83211	.69240	.04514	1.03324	3.683*
Subset 2	.85163	.72528	-.12545	0.17132	3.740*
Reason 6	.87745	.76993	.02809	0.22002	4.119*
Household Size	.89861	.80750	.03415	0.24879	4.494*
Verbal IQ	.91449	.83629	.25652	-0.10102	4.768*
Yrs. Curr. Emp.	.93511	.87444	.10297	-2.10274	5.568*
Yrs. Curr. Unemp	.95680	.91547	-.02819	-1.68066	7.645*
Reason 1	.96426	.92979	-.03290	-0.72587	8.093*
Time Last School	.97523	.95107	.20026	6.80622	10.229*
Reason 8	.98276	.96582	-.24162	-1.39939	12.715*
Subset 9	.98651	.97320	-.00369	0.46733	13.834*
Reason 2	.99030	.98070	-.02633	-0.81869	16.168*
Subset 8	.99358	.98720	.11733	-0.92161	20.122*
Subset 6	.99636	.99272	.08111	-0.20218	28.428*
Reason 5	.99846	.99691	-.05071	0.28510	51.686*
Reason 7	.99859	.99719	.16293	-0.07003	40.910*
Subset 10	.99880	.99761	-.01754	-0.13874	30.927**
Form. Ed. Att.	.99885	.99769	-.12916	0.03385	15.447

*p < .01

**p < .05

TABLE D
 STEPWISE INDEPENDENT VARIABLE OUTPUT
 FOR HEALTH SCORES FOR MALES

Independent Variable	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Verbal IQ	.37556	.14104	.37556	-2.21032	4.598**
Reason 6	.48182	.23215	.28848	-0.39402	4.082**
Total Fam. Inc.	.54233	.29412	.19336	1.44214	3.611**
Reason 3	.59315	.35182	.36536	1.45820	3.392**
Time Last School	.63990	.40948	-.07716	8.82772	3.465**
Math IQ	.68903	.47476	.31679	3.00865	3.787*
Subset 9	.73926	.54651	-.13889	-0.45050	3.595*
Prior Ad. Ed.	.76026	.57800	-.06481	-1.25648	3.456**
Subset 3	.78016	.60866	.22032	1.29567	3.286**
Yrs. Curr. Unemp	.81783	.66884	-.07611	-2.41968	3.305**
Yrs. Curr. Emp.	.83473	.69678	-.10321	-1.53066	3.255**
Reason 2	.84447	.71313	-.00711	0.11607	3.059**
Reason 1	.85800	.73616	-.09234	0.60675	2.989**
Subset 7	.86743	.75244	.18622	-0.26017	2.837**
Household Size	.88095	.77608	.27598	-0.94167	2.816**
Age	.90847	.82531	-.08340	-6.73294	3.335**
Form. Ed. Att.	.92225	.85055	-.10151	-0.72626	3.478**
Subset 4	.92921	.86343	-.25530	1.20718	3.328**
Subset 2	.93809	.88001	.20829	2.08106	3.300**
Reason 9	.94412	.89136	-.00596	-1.02959	3.126
Subset 6	.95201	.90632	.07689	-2.66176	3.078
Subset 5	.95943	.92051	-.10691	-1.45838	3.021
Subset 1	.96586	.93289	-.09003	1.88671	2.896
Subset 10	.98646	.97311	-.17467	1.16855	5.789**
Reason 8	.99920	.99840	.03781	0.73667	71.787*
Subset 8	.99951	.99902	-.12789	0.22719	75.595*

*p < .01

**p < .05

TABLE E

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
GOVERNMENT-AND-LAW SCORES FOR MALES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Subset 5	.35330	.12482	-.35330	-0.49792	3.993
Subset 9	.43742	.19133	.06717	0.13067	3.194
Math IQ	.51491	.26513	.15258	1.41888	3.127**
Total Fam. Inc.	.55976	.31333	.26850	1.00643	2.852
Reason 3	.60349	.36420	.27478	0.97359	2.750**
Time Last School	.65969	.43519	.16966	8.76925	2.954**
Reason 9	.70015	.49020	-.18417	-0.64690	3.022**
Age	.74993	.56239	.15763	-7.12802	3.374**
Reason 5	.77851	.60607	.07851	0.20630	3.419**
Form. Ed. Att.	.80474	.64760	-.13891	-0.10704	3.492*
Subset 7	.82972	.68844	-.13430	-0.76715	3.616*
Subset 4	.86623	.75036	-.13379	1.23433	4.258*
Subset 3	.89515	.80129	.05056	0.48101	4.963*
Yrs. Curr. Emp.	.91463	.83656	.13256	-1.54829	5.484*
Yrs. Curr. Unemp	.94704	.89688	-.13087	-1.37593	8.118*
Household Size	.95987	.92134	.21021	-0.20885	9.517*
Reason 7	.96746	.93598	-.14646	0.30773	10.320*
Reason 2	.97345	.94760	.12057	-0.10921	11.051*
Subset 1	.98153	.96340	-.04270	0.39973	13.854*
Subset 10	.98285	.96599	-.11765	0.38071	12.780*
Subset 8	.98485	.96992	-.00865	-0.65438	12.284*
Subset 2	.98657	.97332	-.17317	0.67301	11.609*
Reason 1	.98708	.97433	-.04505	0.02989	9.904*
Verbal IQ	.98849	.97710	.33961	-0.53489	8.890**
Subset 6	.99007	.98024	.02654	-0.88797	7.938**
Reason 4	.99272	.98550	.03136	0.28788	7.843
Reason 8	.99724	.99449	-.19747	-0.43456	13.362
Reason 6	.99739	.99478	.10525	-0.08481	6.806

*p < .01**p < .05

TABLE F

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR IDENTIFICATION
OF FACTS AND TERMS SCORES FOR MALES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Total Fam. Inc.	.30059	.09035	.30059	1.24243	2.781
Subset 5	.39934	.15947	-.29392	-0.88068	2.561
Time Last School	.46834	.21936	.18326	9.12175	2.435
Subset 3	.54445	.29642	.07707	1.25008	2.633
Verbal IQ	.59864	.35856	.27350	-1.54260	2.695**
Reason 5	.66293	.43948	.02892	0.02694	3.006**
Subset 4	.69674	.48545	-.06588	1.76469	2.965**
Yrs. Curr. Emp.	.74798	.55948	.15555	-2.57536	3.334**
Yrs. Curr. Unemp	.80750	.65202	-.21771	-2.88979	4.164*
Prior Ad. Ed.	.83325	.69431	-.02001	-0.35839	4.315*
Reason 2	.85111	.72439	.02892	-0.24567	4.301*
Reason 9	.86724	.75211	-.09143	-1.08331	4.298*
Math IQ	.87669	.76859	-.00209	1.95965	4.088*
Reason 3	.88979	.79173	.13355	1.24716	4.073*
Subset 6	.91032	.82869	-.02688	-2.37403	4.515*
Age	.92557	.85667	.18018	-6.49998	4.856*
Reason 4	.94128	.88602	-.02109	0.52369	5.489*
Subset 2	.95445	.90907	-.12228	1.36420	6.110*
Subset 1	.96426	.92981	-.05748	1.08462	6.972*
Reason 7	.97389	.94847	.01239	0.30677	8.282*
Household Size	.97727	.95506	.09411	-0.26580	8.096*
Form. Ed. Att.	.98070	.96178	.05271	-0.41190	8.007*
Subset 10	.98439	.96902	-.20799	0.67517	8.150*
Reason 6	.99549	.99101	-.06941	-0.44035	22.957*
Subset 7	.99801	.99620	-.09562	-0.26313	40.021*
Reason 1	.99916	.99831	-.20322	0.23456	68.222*
Subset 8	.99960	.99920	-.02230	-0.15795	92.959**
Subset 9	.99986	.99972	-.07291	-0.13470	127.822**

*p < .01**p < .05

TABLE G

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
READING SCORES FOR MALES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Verbal IQ	.33537	.11248	.33537	-0.42508	3.548
Time Last School	.48900	.23912	.16675	8.12607	4.243**
Reason 6	.59486	.35385	.22247	0.35838	4.746*
Subset 9	.65752	.43234	-.11370	-0.04521	4.760*
Math IQ	.72285	.52251	.25961	1.26198	5.253*
Household Size	.77514	.60084	.32740	-0.19849	5.770*
Form. Ed. Att.	.81969	.67189	-.14098	0.57025	6.436*
Subset 6	.85794	.73607	-.03977	-0.14419	7.321*
Reason 5	.87248	.76123	-.02614	-0.07174	7.085*
Subset 2	.88350	.78508	-.16196	0.33828	6.759*
Reason 1	.89337	.79811	-.24566	-0.60428	6.469*
Reason 3	.90334	.81602	.26456	0.88024	6.283*
Subset 1	.91535	.83787	-.15060	-0.35952	6.361*
Subset 4	.93101	.86678	-.18920	0.81681	6.971*
Subset 10	.93780	.87946	-.07051	0.16483	6.810*
Age	.94512	.89325	.13625	-6.62394	6.799*
Prior Ad. Ed.	.95548	.91295	-.14547	0.43759	7.403*
Total Fam. Inc.	.95946	.92056	-.11460	0.42455	7.082*
Yrs. Curr. Unemp	.96471	.93066	-.01650	-0.91780	7.064*
Yrs. Curr. Emp.	.97659	.95373	-.07481	-0.83421	9.276*
Reason 4	.98227	.96486	-.06673	-0.00038	10.459*
Subset 8	.98372	.96771	.06854	-0.33661	9.536*
Reason 9	.98744	.97526	.04481	0.14324	10.284*
Reason 7	.99138	.98284	-.03023	0.37134	11.934*
Subset 7	.99237	.98480	-.20946	-0.69137	10.366**
Subset 5	.99730	.99461	-.27482	-0.47383	21.305**
Subset 3	.99796	.99595	.13117	-0.11967	18.077

* $p < .01$ ** $p < .05$

TABLE H
 STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
 WRITING SCORES FOR MALES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Reason 3	.46786	.21889	.46786	0.44684	7.847*
Reason 4	.57642	.33226	.11336	0.48657	6.717*
Total Fam. Inc.	.65015	.42269	.21761	0.25310	6.345*
Reason 6	.72446	.52484	.31443	0.49166	6.904*
Reason 9	.74754	.55882	.27563	-0.64307	6.080*
Reason 2	.77320	.59783	.01533	-0.75753	5.698*
Reason 8	.79540	.63266	-.10096	0.18717	5.413*
Household Size	.81593	.66574	.34405	0.51454	5.228*
Subset 3	.83117	.69085	.13527	0.27138	4.842*
Reason 5	.84745	.71817	.21341	1.05316	5.188*
Subset 10	.87190	.76020	.14307	-0.24331	5.493*
Reason 1	.89161	.79497	-.08269	-0.49465	5.774*
Form. Ed. Att.	.91816	.84302	.05818	0.31755	5.754*
Time Last School	.93606	.87622	-.07940	1.25864	6.607*
Prior Ad. Ed.	.94262	.88853	.20845	-0.52948	6.476*
Verbal IQ	.94809	.89888	.13390	-1.09513	6.275*
Subset 7	.95262	.90749	.27517	1.09988	5.995*
Subset 2	.97200	.94478	.12964	0.02328	9.005*
Subset 6	.97986	.96012	.14510	-1.65748	10.834*
Reason 7	.98457	.96938	.00657	-0.14774	12.061*
Subset 1	.98916	.97843	.13221	0.14774	14.434*
Yrs. Curr. Unemp	.99148	.98304	.07814	0.72884	15.121*
Math IQ	.99444	.98892	.26092	-0.72345	18.588*
Subset 8	.99592	.99185	-.04728	1.02637	19.477*
Subset 5	.99751	.99502	-.08984	-0.51771	23.047**
Subset 4	.99901	.99803	.03698	0.21430	37,453**
Yrs. Curr. Emp.	.99913	.99825	.01544	-0.08434	20.427

*p < .01

**p < .05

TABLE I
 STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
 COMPUTATION SCORES FOR MALES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Reason 8	.40172	.16138	-.40172	-0.23635	5.388**
Subset 4	.53361	.28474	-.22890	-0.09278	5.374**
Subset 7	.62096	.38559	.16624	0.08921	5.439*
Reason 9	.71393	.50969	-.29278	0.13206	6.497*
Subset 9	.75063	.56344	.17685	0.44165	6.195*
Math IQ	.78007	.60851	.25487	0.71507	5.958*
Subset 1	.79774	.63639	-.12946	-0.77615	5.501*
Reason 6	.81288	.66078	.05324	0.23731	5.113*
Time Last School	.83171	.69174	.20319	5.64031	4.987*
Subset 8	.87153	.75956	.15679	-0.38146	6.002*
Verbal IQ	.88234	.77852	.22162	-0.11366	5.752*
Prior Ad. Ed.	.88949	.79119	.05311	0.56274	5.368*
Reason 2	.90100	.81181	.13724	0.60167	5.309*
Total Fam. Inc.	.91198	.83171	.35652	0.64983	5.295*
Household Size	.92796	.86110	-.11089	-1.23433	5.786*
Subset 3	.94278	.88883	.03498	-0.18508	6.496*
Age	.94934	.90125	.22193	-5.36115	6.442*
Yrs. Curr. Unemp	.95675	.91537	.08557	-0.12049	6.610*
Reason 1	.96006	.92171	.04409	-0.83332	6.196*
Reason 3	.98280	.95690	.01679	0.75938	12.748*
Subset 6	.99131	.98269	.25981	0.60860	21.628*
Form. Ed. Att.	.99287	.98578	-.07310	0.14902	22.060*
Subset 2	.99458	.98919	.27352	0.17839	23.881*
Subset 5	.99486	.98974	-.09750	-0.41123	20.094*
Subset 10	.99527	.99056	-.02194	-0.18204	16.783*
Reason 7	.99595	.99192	.06270	0.13445	14.158**
Reason 4	.99670	.99342	.07415	-0.14786	11.180
Reason 5	.99692	.99386	-.20331	0.16594	5.779

*p < .01

**p < .05

TABLE J

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
PROBLEM SOLVING SCORES FOR MALES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Verbal IQ	.48771	.23786	.48771	0.38807	8.739*
Form. Ed. Att.	.58475	.34193	-.27342	-0.61471	7.015*
Yrs. Curr. Emp.	.66073	.43656	-.03333	-3.04031	6.715*
Time Last School	.69089	.47733	.04283	11.26371	5.708*
Reason 5	.71917	.51721	-.04933	0.32743	5.142*
Subset 1	.75428	.56893	-.21562	-1.15622	5.059*
Reason 3	.77261	.59693	.28229	0.68461	4.654*
Reason 8	.78983	.62384	.01250	-2.60462	4.353*
Reason 9	.80462	.64741	-.16349	-0.46178	4.080*
Subset 4	.81476	.66383	-.17685	1.41541	3.752*
Years Curr. Unemp.	.82976	.68850	-.09861	-1.62398	3.617*
Subset 7	.84409	.71248	-.11696	-0.66818	3.511*
Total Fam. Inc.	.86312	.74498	.07472	-0.39970	3.595*
Subset 5	.88377	.78105	-.33511	0.92481	3.822*
Subset 6	.89316	.79773	-.03752	-0.85541	3.681*
Subset 9	.90036	.81066	-.10105	-0.12974	3.479**
Age	.90651	.82177	.01122	-8.95331	3.255**
Math IQ	.91959	.84564	.19876	-0.01562	3.348**
Reason 7	.92690	.85914	.01585	-0.04371	3.210**
Subset 8	.93351	.87144	.01902	-2.53405	3.050**
Reason 4	.94025	.88408	-.12892	0.69704	2.905***
Reason 6	.95465	.91135	.19913	0.14293	3.271***
Reason 2	.96235	.92612	-.06474	-1.47274	3.270***
Prior Ad. Ed.	.97231	.94540	-.23871	0.93436	3.607***
Household Size	.98036	.96110	.23665	1.25243	3.953***
Reason 1	.98672	.97361	-.08914	-0.15703	4.257
Subset 2	.99024	.98057	-.09459	1.08197	3.739
Subset 3	.99661	.99323	-.02475	-0.92357	5.242

*p < .01

**p < .05

***p < .10

APPENDIX G
INDEPENDENT VARIABLE OUTPUT FOR EACH LITERACY
PERFORMANCE SUBTEST FOR FEMALES (n = 46)
TABLES A - J

TABLE A

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
COMMUNITY RESOURCES SCORES FOR FEMALES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Total Fam. Inc.	.46998	.22088	.46998	0.51366	12.474*
Reason 5	.59911	.35893	-.46079	-0.25685	12.038*
Prior Ad. Ed.	.66853	.44693	.28323	0.56675	11.313*
Age	.71902	.51699	-.15492	-0.58069	10.971*
Household Size	.75522	.57036	-.10181	-0.40409	10.620*
Reason 3	.79984	.63974	-.05014	0.50498	11.543*
Reason 2	.82545	.68136	-.22483	-0.17314	11.608*
Subset 7	.84832	.71964	-.04647	-0.28821	11.872*
Yrs. Curr. Unemp	.85616	.73301	-.09479	0.10759	10.982*
Reason 4	.86123	.74171	-.09494	-0.16412	10.051*
Subset 9	.86502	.74826	-.32364	-0.16121	9.187*
Subset 3	.86948	.75600	.13015	-0.30986	8.521*
Time Last School	.87489	.76543	-.23186	-0.18063	8.032*
Verbal IQ	.87999	.77439	.39666	-0.17007	7.600*
Reason 6	.88139	.77685	-.19472	-0.31727	6.962*
Subset 2	.88299	.77966	-.07934	-0.08879	6.414*
Reason 8	.88434	.78206	-.09861	-0.02047	5.910*
Subset 6	.88554	.78419	-.04403	0.15259	5.450*
Subset 5	.88818	.78886	-.28361	-0.11216	5.113*
Subset 4	.88918	.79063	-.08412	-0.15351	4.720*
Yrs. Curr. Emp.	.89003	.79216	.09866	-0.07938	4.356*
Subset 1	.89072	.79339	-.26013	0.10022	4.015*
Subset 8	.89127	.79435	-.21843	-0.06755	3.695*
Reason 1	.89172	.79517	-.11283	0.02599	3.397*
Math IQ	.89228	.79617	.46856	0.09535	3.125*
Subset 10	.89275	.79701	-.18361	-0.07835	2.869**
Form. Ed. Att.	.89346	.79828	.24184	-0.07212	2.638**

* $p < .01$ ** $p < .05$

TABLE B

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
OCCUPATIONAL KNOWLEDGE SCORES FOR FEMALES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Form. Ed. Att.	.50216	.25217	-.50216	-0.34456	14.837*
Subset 1	.62300	.38813	-.47006	-0.88907	13.638*
Household Size	.70840	.50183	-.30083	-0.17849	14.103*
Subset 2	.74946	.56170	.23399	0.14028	13.136*
Subset 7	.78655	.61867	.00846	0.35910	12.979*
Subset 5	.82320	.67767	.04869	0.23654	13.665*
Subset 9	.84279	.71030	.02974	0.23652	13.310*
Reason 3	.85508	.73117	-.08403	0.34570	12.579*
Reason 6	.89004	.79217	-.14647	-0.41528	15.246*
Reason 8	.90014	.81025	-.16977	-0.11122	14.945*
Reason 2	.90644	.82163	.18950	0.21980	14.237*
Total Fam. Inc.	.91262	.83287	-.17740	-0.16457	13.704*
Reason 4	.91888	.84433	-.17740	-0.17181	13.351*
Subset 10	.92338	.85263	.12926	-0.14918	12.812*
Yrs. Curr. Emp.	.92794	.86107	-.34692	-0.06596	12.396*
Math IQ	.93116	.86706	-.17951	0.16520	11.822*
Time Last School	.93336	.87115	-.15943	-0.12816	11.136*
Subset 3	.93489	.87402	.21629	-0.09205	10.407*
Verbal IQ	.93556	.87527	-.18668	-0.06953	9.602*
Reason 1	.93620	.87647	-.20358	-0.02899	8.869*
Reason 9	.93662	.87725	-.13046	0.05042	8.168*
Prior Ad. Ed.	.93770	.87798	.04736	-0.05649	7.522*
Reason 7	.93710	.87815	-.27682	-0.03535	6.893*
Subset 4	.93721	.87836	-.20419	0.02400	6.318*
Yrs. Curr. Unemp	.93732	.87856	-.27687	-0.05684	5.788*
Age	.93751	.87892	.15698	0.06587	5.305*
Subset 8	.93763	.87915	-.10489	-0.02821	4.850*

*p < .01**p < .05

TABLE C

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
CONSUMER ECONOMICS SCORES FOR FEMALES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Math IQ	.56143	.31520	.56143	0.38303	20.252*
Total Fam. Inc.	.63248	.40003	.49752	0.39523	14.335*
Reason 7	.66248	.44489	.30707	0.06687	11.220*
Household Size	.69273	.47987	.17626	0.38892	9.457*
Subset 2	.71053	.50485	.15220	0.22560	8.157*
Verbal IQ	.73803	.54469	.48901	0.50962	7.776*
Form. Ed. Att.	.75203	.56555	-.06657	-0.17831	7.067*
Reason 2	.76747	.58901	-.06008	-0.24854	6.628*
Reason 5	.78495	.61615	.02924	0.39783	6.421*
Prior Ad. Ed.	.79886	.63818	.16561	-0.02103	6.173*
Reason 8	.81109	.65786	.04803	0.32933	5.943*
Subset 7	.82243	.67639	.12047	-0.07960	5.748*
Subset 4	.83342	.69458	.15676	-0.43906	5.598*
Subset 8	.84259	.70996	-.18349	-0.04467	5.420*
Subset 6	.85101	.72421	.08954	0.39816	5.298*
Reason 6	.85553	.73193	-.05209	-0.48213	4.916*
Yrs. Curr. Emp.	.86033	.74017	.02749	-0.28425	4.692*
Subset 5	.86395	.74642	-.05869	-0.36564	4.415*
Reason 4	.86745	.75247	.26055	0.30743	4.160*
Subset 1	.87586	.76714	-.13261	0.46141	4.118*
Yrs. Curr. Unemp	.88279	.77932	-.00089	-0.36516	4.036*
Subset 3	.88577	.78459	.05083	-0.10658	3.808*
Subset 9	.88727	.78725	-.31947	0.12702	3.539*
Age	.88986	.79185	-.08218	0.29113	3.329*
Time Last School	.89218	.79599	-.09984	-0.12236	3.121*
Reason 9	.89430	.79977	.02706	0.10997	2.919*
Reason 1	.89583	.80251	.08259	0.12948	2.709**
Reason 3	.89821	.80679	.01072	-0.14900	2.535**
Subset 10	.89836	.80705	-.18160	0.03206	2.308**

* $p < .01$ ** $p < .05$

TABLE D
 STEPWISE INDEPENDENT VARIABLE OUTPUT
 FOR HEALTH SCORES FOR FEMALES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Math IQ	.51534	.26558	.51534	0.40134	15.911*
Yrs. Curr. Emp.	.60498	.36600	.30595	-0.07150	12.412*
Form. Ed. Att.	.65487	.42885	.06285	0.01011	10.512*
Reason 4	.67611	.45712	-.09463	0.11417	8.631*
Reason 8	.69794	.48712	.16905	0.12130	7.598*
Reason 7	.70814	.50145	.01650	-0.03067	6.538*
Subset 4	.72112	.52002	-.03651	-0.64373	5.881*
Subset 7	.74302	.55208	-.02172	0.08479	5.701*
Reason 9	.75309	.56714	.11113	0.34249	5.241*
Reason 6	.76563	.58620	-.13702	-0.56425	4.958*
Reason 3	.77601	.60219	.08918	-0.07043	4.878*
Subset 8	.78396	.61459	-.34912	-0.23683	4.385*
Subset 9	.79296	.62879	-.36144	-0.25230	4.169*
Subset 6	.80250	.64400	.02784	0.37420	4.006*
Reason 5	.80985	.65586	-.03078	0.41763	3.812*
Subset 5	.81869	.67025	-.09395	-0.49018	4.006*
Verbal IQ	.82963	.68829	.44753	0.66791	3.636*
Subset 1	.83919	.70425	-.10558	0.51930	3.572*
Total Fam. Inc.	.84375	.71192	.36561	0.30407	3.382*
Yrs. Curr. Unemp	.84763	.71848	-.01058	-0.44082	3.190*
Age	.85469	.73050	-.03944	0.66778	3.098*
Prior Ad. Ed.	.86252	.74394	-.04277	-0.33755	3.037*
Reason 1	.87368	.76331	.16173	0.23594	3.085*
Subset 10	.88160	.77723	-.08561	0.29199	3.053*
Subset 3	.88969	.79154	.24487	0.27557	3.038*
Reason 2	.89142	.79463	-.01904	-0.09495	2.828**
Subset 2	.89269	.79689	.05500	0.07499	2.616**
Time Last School	.89336	.79810	.11712	0.05731	2.399**

* $p < .01$

** $p < .05$

TABLE E
 STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
 GOVERNMENT-AND-LAW SCORES FOR FEMALES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Math IQ	.63295	.40062	.63295	0.56558	29.410*
Subset 8	.68715	.47217	-.42556	-0.21569	19.133*
Subset 6	.72973	.53250	.12810	0.49067	15.947*
Reason 6	.76127	.57954	-.21551	-0.47119	14.128*
Reason 9	.79377	.63008	.15080	0.31425	13.626*
Subset 1	.82776	.68519	-.29672	0.15619	14.147*
Time Last School	.83885	.70366	-.00182	0.20406	12.890*
Age	.85952	.73878	-.32979	-0.25747	13.080*
Reason 3	.87144	.75941	-.01008	0.06951	12.626*
Total Fam. Inc.	.87649	.76823	.43648	0.25688	11.601*
Subset 4	.88196	.77785	.07835	-0.32510	10.823*
Reason 4	.88685	.78650	.18904	0.21226	10.131*
Subset 2	.89261	.79676	-.08171	0.07489	9.650*
Reason 2	.89733	.80520	-.25047	-0.13848	9.152*
Reason 5	.89921	.80859	-.15652	0.13864	8.449*
Subset 5	.90086	.81154	-.09960	-0.19041	7.805*
Subset 9	.90225	.81406	-.43630	0.05080	7.211*
Reason 1	.90323	.81582	-.00593	0.05317	6.644*
Reason 8	.90422	.81761	.11134	0.10089	6.134*
Household Size	.90521	.81940	.04284	0.07274	5.671*
Yrs. Curr. Unemp	.90599	.82081	-.05208	-0.13983	5.235*
Yrs. Curr. Emp.	.90733	.82325	-.03705	-0.07279	4.869*
Subset 7	.90892	.82614	-.22969	-0.11700	4.537*
Subset 10	.90898	.82625	.37881	0.00984	4.158*
Subset 3	.90904	.82636	.07505	-0.02407	3.804*
Form. Ed. Att.	.90910	.82647	.14848	-0.01876	3.478*

*p < .01

**p < .05

TABLE F

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR IDENTIFICATION
OF FACTS AND TERMS SCORES FOR FEMALES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Math IQ	.44165	.19506	.44165	0.30275	10.662*
Total Fam. Inc.	.50878	.25886	.41275	0.57911	7.509*
Reason 5	.54430	.29626	.07289	0.48871	5.894*
Reason 2	.57123	.32630	-.09396	-0.35395	4.965*
Subset 6	.59835	.35802	.13171	0.50563	4.461*
Subset 4	.63856	.40775	-.02962	-0.96038	4.475*
Subset 1	.71631	.51311	-.03287	0.68848	5.721*
Subset 8	.77630	.60265	-.27744	-0.42884	7.015*
Subset 3	.79365	.62989	.02706	-0.13913	6.808*
Reason 9	.80882	.65418	.03396	0.25142	6.621*
Reason 6	.81758	.66843	-.10983	-0.44572	6.231*
Yrs. Curr. Emp.	.82544	.68136	.18414	-0.38150	5.880*
Verbal IQ	.83431	.69608	.36675	0.42658	5.638*
Reason 1	.84470	.71351	.07055	0.24078	5.515*
Yrs. Curr. Unemp	.85289	.72742	.09490	-0.29055	5.337*
Age	.86071	.74082	.10239	0.40684	5.181*
Form. Ed. Att.	.86699	.75167	.02457	0.13128	4.985*
Subset 2	.87073	.75817	.11727	0.12037	4.703*
Reason 4	.87407	.76400	.06289	0.14761	4.430*
Reason 8	.87578	.76699	.11811	0.09577	4.115*
Subset 5	.87750	.77000	.07879	-0.07996	3.826*
Subset 7	.87813	.77111	.09676	0.05729	3.522*
Subset 9	.87874	.77219	-.35942	0.05595	3.242*
Time Last School	.87917	.77294	.04547	-0.07562	2.979*
Prior Ad. Ed.	.88971	.77389	.17700	-0.09383	2.738**
Reason 7	.88071	.77470	.09249	-0.03691	2.513**
Household Size	.88045	.77520	-.01887	0.05266	2.299**
Reason 3	.88106	.77626	.08961	-0.09553	2.106
Subset 10	.88154	.77712	-.18836	0.05808	1.924

*p < .01**p < .05

TABLE G
 STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
 READING SCORES FOR FEMALES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Verbal IQ	.58590	.34327	.58590	0.78648	22.999*
Math IQ	.64687	.41844	.58350	0.29585	15.469*
Reason 4	.68458	.46864	-.09228	-0.14986	12.348*
Reason 7	.72757	.52936	.17631	0.07892	11.529*
Reason 9	.74343	.55268	.17975	0.30279	9.884*
Reason 6	.76305	.58225	-.11777	-0.59747	9.060*
Reason 3	.78564	.61723	.08467	0.16047	8.754*
Subset 7	.80023	.64037	.13863	0.21592	8.235*
Reason 5	.80868	.65397	-.08094	0.37281	7.560*
Subset 4	.82028	.67286	.18511	-0.37933	7.199*
Subset 9	.83086	.69034	-.28334	0.24510	6.891*
Subset 2	.83907	.70403	.12013	0.17903	6.542*
Subset 3	.84881	.72048	.15590	0.20007	6.345*
Household Size	.85700	.73444	-.00543	0.12380	6.124*
Subset 10	.86447	.74731	-.11303	0.26253	5.918*
Subset 5	.87061	.75796	-.15306	-0.40292	5.676*
Subset 6	.87948	.77348	.00318	0.21342	5.624*
Reason 8	.88302	.77972	.12808	0.17386	5.310*
Subset 8	.88605	.78508	-.30292	0.01218	4.999*
Age	.88877	.78991	-.19842	0.31506	4.700*
Reason 2	.89183	.79537	-.05864	-0.20320	4.422*
Total Fam. Inc.	.89481	.80068	.40751	0.25165	4.200*
Time Last School	.89743	.80537	-.18741	-0.16097	3.958*
Subset 1	.90035	.81063	-.04833	0.28689	3.746*
Form. Ed. Att.	.90124	.81224	.11709	0.01816	3.461*
Yrs. Curr. Unemp	.90190	.81343	-.08828	-0.17266	3.186*
Yrs. Curr. Emp.	.90267	.81481	.15885	-0.15039	2.933**
Reason 1	.90418	.81755	.02166	0.14045	2.721**
Prior Ad. Ed.	.90658	.82188	.04935	-0.11716	2.546**

* $p < .01$ ** $p < .05$

TABLE H
 STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
 WRITING SCORES FOR FEMALES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Math IQ	.41685	.17376	.41685	0.40212	9.254*
Reason 7	.51819	.26852	.33352	0.45176	7.892*
Subset 4	.59906	.35888	-.08250	-0.75389	7.837*
Reason 2	.64419	.41497	-.07055	-0.16877	7.271*
Household Size	.67655	.45773	.17769	0.24485	6.753*
Subset 10	.79820	.48748	-.04418	0.25608	6.182*
Yrs. Curr. Unemp.	.73071	.53394	-.10373	-0.53046	6.219*
Subset 1	.74093	.54898	-.21498	0.55567	5.630*
Subset 8	.75528	.57045	-.21668	-0.19107	5.312*
Reason 4	.76526	.58562	.31336	0.37351	4.946*
Reason 6	.77806	.60538	-.06161	-0.88710	4.742*
Subset 5	.78953	.62336	-.20166	-0.55536	4.551*
Reason 5	.80820	.65335	-.08115	0.47247	4.639*
Subset 6	.82428	.67944	-.03468	0.45554	4.693*
Reason 9	.83676	.70016	.08868	0.15521	4.670*
Subset 3	.85135	.72480	.06995	-0.26020	4.774*
Subset 7	.86832	.75398	-.04358	-0.39497	5.048*
Verbal IQ	.88039	.77509	.02110	0.30385	5.169*
Reason 1	.88278	.77931	.18690	0.19424	4.832*
Yrs. Curr. Emp.	.88707	.78690	.09291	-0.19350	4.616*
Form. Ed. Att.	.88924	.79075	.00280	0.11409	4.319*
Time Last School	.89042	.79285	.03157	0.07776	4.001*
Age	.89060	.79317	-.23245	-0.05144	3.668*
Total Fam. Inc.	.89074	.79342	.26929	0.02634	3.361*
Subset 2	.89086	.79363	-.03394	0.02343	3.077*
Reason 3	.89101	.79389	.16121	0.03185	2.815**

*p < .01

**p < .05

TABLE I

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
COMPUTATION SCORES FOR FEMALES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Math IQ	.62472	.39027	.62472	0.18780	28.164*
Total Fam. Inc.	.68629	.47099	.51721	0.40596	19.142*
Reason 2	.72625	.52744	-.26971	-0.23297	15.626*
Prior Ad. Ed.	.76538	.58581	.27912	0.35751	14.497*
Reason 5	.77200	.59598	-.33291	-0.01690	11.801*
Reason 8	.78011	.60847	-.09137	0.21706	10.106*
Form. Ed. Att.	.78692	.61924	.10501	-0.14574	8.829*
Time Last School	.79299	.62883	-.11834	-0.06095	7.835*
Subset 7	.79760	.63617	-.09253	-0.30891	6.994*
Subset 9	.80025	.64040	-.29746	0.18178	6.233*
Verbal IQ	.80352	.64564	.44497	0.35667	5.632*
Reason 6	.81052	.65694	-.29490	-0.48445	4.923*
Reason 3	.81651	.66668	-.17614	0.26632	4.520*
Reason 4	.81927	.67121	.04625	0.16663	4.520*
Subset 5	.82241	.67637	-.18338	-0.33278	4.180*
Subset 6	.82988	.68870	-.04938	0.18935	4.010*
Yrs. Curr. Emp.	.83316	.69415	.01055	-0.18939	3.738*
Reason 9	.83616	.69917	-.14858	-0.13725	3.486*
Subset 1	.83884	.70365	-.29893	0.21897	3.249*
Subset 2	.84170	.70846	-.06663	-0.06107	3.038*
Subset 3	.84360	.71167	.25236	0.07684	2.821*
Subset 8	.84513	.71424	-.16272	0.10987	2.613**
Household Size	.84629	.71621	.05129	-0.10822	2.414**
Reason 1	.84752	.71829	-.06922	0.09334	2.231**
Reason 7	.84846	.71988	-.00421	-0.09137	2.056***
Subset 4	.84904	.72087	.03463	0.06043	1.887***
Age	.84950	.72166	-.09152	-0.09095	1.728
Subset 10	.85014	.72273	-.15539	-0.06142	1.583

*p < .01**p < .05***p < .10

TABLE J

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
PROBLEM SOLVING SCORES FOR FEMALES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Math IQ	.47854	.22900	.47854	0.31493	13.069*
Subset 9	.56117	.31492	-.47184	-0.04239	9.883*
Reason 9	.60874	.37056	.20962	0.39070	8.242*
Yrs. Curr. Unemp	.64307	.41354	-.12965	-0.58199	7.228*
Time Last School	.68838	.47357	.05574	0.10785	7.205*
Subset 6	.69952	.48932	.01533	0.30881	6.228*
Subset 8	.71029	.50451	-.40580	-0.29690	5.527*
Total Fam. Inc.	.72079	.51953	.31020	0.28277	5.001*
Form. Ed. Att.	.73104	.53442	-.13350	-0.17921	4.591*
Reason 6	.74310	.55219	-.08949	-0.45801	4.316*
Subset 4	.74778	.55918	.05971	-0.22175	3.921*
Reason 5	.75342	.56764	-.03807	0.25048	3.610*
Prior Ad. Ed.	.75843	.57522	-.13861	-0.19961	3.333*
Subset 3	.76220	.58094	.28166	0.02009	3.070*
Reason 4	.76500	.58523	.12930	0.33981	2.822*
Age	.76823	.59018	-.23198	0.31275	2.610**
Subset 5	.77056	.59376	-.06807	-0.31584	2.407**
Subset 1	.77326	.59793	-.18725	0.35016	2.231**
Subset 7	.77772	.60485	-.03342	-0.25291	2.095**
Verbal IQ	.78240	.61215	.46127	0.26991	1.973***
Reason 7	.78715	.61215	.13996	-0.15519	1.862***
Subset 10	.79036	.62466	-.19614	0.11757	1.740
Yrs. Curr. Emp.	.79107	.62579	.18897	-0.04732	1.600
Reason 3	.79130	.62615	.08103	-0.03540	1.466

*p < .01**p < .05***p < .10

APPENDIX H
INDEPENDENT VARIABLE OUTPUT FOR EACH LITERACY
PERFORMANCE SUBTEST FOR WHITES (n = 44)
TABLES A - J

TABLE A
 STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
 COMMUNITY RESOURCES SCORES FOR WHITES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Verbal IQ	.48289	.23318	.48289	0.19914	12.772*
Reason 5	.60897	.37084	-.44112	-0.26645	12.083*
Prior Ad. Ed.	.66609	.44367	-.24140	-0.14699	10.633*
Math IQ	.70185	.49259	.46834	0.39280	9.465*
Subset 10	.73245	.53648	-.44767	-0.40443	8.796*
Subset 1	.75812	.57475	-.14351	0.28715	8.334*
Time Last School	.77251	.59678	.09291	0.63071	7.611*
Age	.79756	.63611	-.16089	-0.68734	7.647*
Reason 3	.81057	.65703	-.10638	0.26708	7.237*
Subset 6	.82151	.67489	.04527	0.25151	6.850*
Subset 5	.83050	.68973	-.20594	-0.29831	6.467*
Reason 9	.83595	.69883	.05859	-0.15294	5.994*
Yrs. Curr. Emp.	.84145	.70804	.00952	-0.10555	5.597*
Form. Ed. Att.	.84399	.71232	.23718	-0.01817	5.129*
Reason 7	.84571	.71522	-.05859	0.02780	4.688*
Subset 7	.84906	.72090	-.09569	-0.02339	4.359*
Subset 4	.85030	.72300	-.10257	-0.13917	3.992*
Reason 1	.85145	.72496	-.24881	0.14516	3.661*
Reason 8	.85371	.72883	-.09782	0.22161	3.395*
Reason 6	.85524	.73143	-.31729	-0.19713	3.132*
Subset 8	.85848	.73699	-.11071	0.20224	2.936*
Total Fam. Inc.	.85924	.73829	.35065	0.09059	2.693**
Subset 3	.86010	.73978	.15165	-0.07815	2.472**
Household Size	.86099	.74131	.18483	-0.11140	2.269**
Reason 4	.86147	.74213	.07081	-0.03002	2.072
Subset 9	.86203	.74310	-.13205	0.08630	1.891
Yrs. Curr. Unemp	.86238	.74370	-.08445	0.06842	1.720
Subset 2	.86259	.74406	-.16979	0.03251	1.557

*p < .01

**p < .05

TABLE B

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
OCCUPATIONAL KNOWLEDGE SCORES FOR WHITES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Total Fam. Inc.	.35881	.12874	.35881	0.41774	6.206**
Yrs. Curr. Unemp	.49127	.24135	.31376	0.47812	6.522*
Verbal IQ	.58182	.33852	.29236	0.31685	6.823*
Subset 1	.63938	.40881	.10240	-0.27114	6.742*
Subset 3	.65549	.42967	-.12338	-0.63881	5.726*
Reason 2	.67716	.45844	-.19608	-0.06724	5.222*
Subset 6	.71106	.50561	.07775	0.52171	5.260*
Reason 3	.72801	.53000	.07628	0.12759	4.934*
Reason 7	.73453	.53954	.05496	-0.26179	4.267*
Reason 6	.74237	.55111	-.12670	0.39218	4.051*
Reason 9	.74776	.55915	.13017	0.16433	3.690*
Yrs. Curr. Emp.	.75422	.56885	-.05239	0.18735	3.408*
Math IQ	.76026	.57800	.25893	-0.18231	3.161*
Subset 9	.76273	.58176	-.00729	-0.19002	2.881*
Subset 5	.76648	.58749	.17312	0.26783	2.659**
Reason 5	.77001	.59291	-.12195	-0.15678	2.458**
Household Size	.77222	.59632	.10388	0.18663	2.260**
Prior Ad. Ed.	.77717	.60399	.16131	0.12560	2.118**
Subset 10	.78005	.60847	-.06322	-0.04697	1.963
Time Last School	.78069	.60948	.14719	-0.21029	1.795
Age	.78112	.61171	.15045	0.19021	1.650
Reason 8	.78275	.61270	-.10668	-0.12028	1.510
Subset 8	.78408	.61479	.09194	-0.13368	1.388
Reason 1	.78534	.61676	.03836	-0.07873	1.274
Subset 2	.78606	.61789	.00057	-0.04412	1.164

*p < .01**p < .05

TABLE C

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
CONSUMER ECONOMICS SCORES FOR WHITES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Total Fam. Inc.	.47605	.22663	.47605	0.35631	12.308*
Math IQ	.62495	.39056	.47348	0.21883	13.137*
Reason 4	.67729	.45872	.35298	0.52892	11.300*
Subset 8	.70923	.50301	-.04429	0.30090	9.868*
Subset 10	.74616	.55676	-.40593	-0.11848	9.547*
Reason 2	.76551	.58600	-.15772	-0.33784	8.729*
Form. Ed. Att.	.78578	.61744	.25824	0.40842	8.301*
Yrs. Curr. Unemp	.79870	.63792	.04999	-0.11355	7.708*
Subset 3	.80810	.65303	.08384	-0.12209	7.110*
Reason 3	.81664	.66691	-.02567	0.06463	6.607*
Prior Ad. Ed.	.82012	.67260	.04248	0.09952	5.976*
Reason 7	.82235	.67625	.15472	0.21693	5.396*
Subset 7	.82566	.68172	-.09140	-0.34194	5.396*
Reason 6	.83024	.68930	-.22032	-0.12691	4.596*
Subset 2	.83341	.69457	-.13663	0.10442	4.245*
Yrs. Curr. Emp.	.83640	.69956	.04972	-0.26155	3.930*
Subset 6	.83968	.70507	.06537	0.09834	3.656*
Household Size	.84474	.71359	.01232	0.11913	3.460*
Age	.84610	.71589	.06695	0.20675	3.183*
Verbal IQ	.84731	.71793	.46399	0.08750	2.927*
Subset 4	.84830	.71962	.08671	0.13201	2.689**
Subset 5	.85110	.72437	-.05549	-0.18186	2.509**
Subset 1	.85147	.72500	-.16288	0.11879	2.292**
Reason 1	.85228	.72639	-.06776	0.09428	2.102
Reason 8	.85295	.72753	-.14930	0.05877	1.923

*p < .01**p < .05

TABLE D
 STEPWISE INDEPENDENT VARIABLE OUTPUT
 FOR HEALTH SCORES FOR WHITES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Math IQ	.51173	.26186	.51173	0.43531	14.900*
Total Fam. Inc.	.60221	.36266	.39263	0.30540	11.665*
Subset 2	.67886	.46085	.23280	0.22770	11.398*
Subset 10	.69998	.48998	-.39858	-0.27808	9.367*
Subset 8	.73366	.53825	-.13442	0.23578	8.859*
Reason 2	.76658	.58765	-.34895	-0.36970	8.788*
Reason 3	.78952	.62334	-.06480	0.21207	8.511*
Subset 7	.80500	.64803	.06358	0.29881	8.005*
Subset 4	.83921	.70428	-.05729	-0.25684	8.997*
Subset 3	.85217	.72619	.09147	-0.22713	8.752*
Yrs. Curr. Unemp	.85824	.73658	.09633	0.17648	8.134*
Prior Ad. Ed.	.86477	.74783	-.16504	-0.11278	7.661*
Subset 5	.87023	.75729	-.14065	-0.26028	7.200*
Form. Ed. Att.	.87516	.76590	.27372	0.18483	6.777*
Subset 6	.88107	.77628	-.00280	0.14258	6.477*
Reason 7	.88510	.78340	.16106	0.13482	6.103*
Age	.88686	.78653	-.06350	0.03338	5.635*
Subset 9	.88794	.78843	-.31605	-0.13988	5.176*
Reason 4	.89003	.79215	-.07348	-0.11166	4.814*
Verbal IQ	.89051	.79301	.40136	-0.02279	4.406*
Time Last School	.89083	.79358	-.01336	0.06443	4.028*
Reason 9	.89112	.79410	.05231	0.03251	3.681*
Household Size	.89129	.79440	.04347	-0.04636	3.360*
Reason 6	.89164	.79502	-.20000	-0.03970	3.070*

* $p < .01$

TABLE E
 STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
 GOVERNMENT-AND-LAW SCORES FOR WHITES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Total Fam. Inc.	.52321	.27375	.52321	0.45747	15.831*
Math IQ	.66773	.44587	.49063	0.18106	16.495*
Subset 6	.71405	.50987	.19791	0.47267	13.870*
Subset 10	.76492	.58510	-.48757	-0.00079	13.749*
Reason 8	.78449	.61542	-.16810	-0.15953	12.162*
Reason 2	.79971	.63954	-.24475	-0.39166	10.941*
Reason 3	.81670	.66700	-.06592	0.31686	10.301*
Subset 7	.82872	.68677	-.07523	-0.37146	9.592*
Reason 4	.83798	.70221	.29325	0.38344	8.908*
Subset 9	.84765	.71852	-.20863	0.06461	8.424*
Subset 5	.85681	.73413	-.11018	-0.17248	8.033*
Time Last School	.86409	.74665	.04877	0.18909	7.613*
Subset 4	.87147	.75946	.10315	0.10467	7.286*
Form. Ed. Att.	.87738	.76979	.26889	0.21783	6.926*
Reason 9	.88955	.79129	.17796	0.27799	7.077*
Reason 6	.89656	.80282	-.20580	0.32096	6.914*
Reason 5	.90332	.81599	-.20620	-0.29446	6.782*
Reason 1	.90827	.82496	-.17740	-0.31961	6.546*
Subset 2	.91207	.83187	-.11783	0.10897	6.250*
Verbal IQ	.91334	.83419	.42713	-0.04638	5.786*
Subset 3	.91449	.83630	.26444	-0.11587	5.351*
Yrs. Curr. Emp.	.91524	.83766	.15682	0.17326	4.925*
Yrs. Curr. Unemp	.91643	.83985	-.04510	0.22906	4.560*
Subset 1	.91785	.84246	-.14883	-0.06620	4.233*
Subset 8	.91863	.84388	-.15549	-0.09094	3.892*
Prior Ad. Ed.	.91920	.84493	-.12139	-0.08356	3.563*
Household Size	.92009	.84657	.03912	-0.08282	3.270*
Age	.92043	.84718	-.14399	-0.08071	2.970**
Reason 7	.92052	.84736	.07034	0.02905	2.680**

* $p < .01$

** $p < .05$

TABLE F

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR IDENTIFICATION
OF FACTS AND TERMS SCORES FOR WHITES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Total Fam. Inc.	.49410	.24414	.49414	0.45055	13.566*
Subset 10	.57413	.32962	-.43150	-0.18115	10.080*
Subset 1	.63913	.40848	.05239	0.21616	9.208*
Math IQ	.67045	.44950	.28621	-0.28983	7.961*
Yrs. Curr. Unemp	.68862	.47420	.13457	0.03162	6.854*
Reason 4	.71159	.50636	.18672	0.57596	6.326*
Reason 2	.72494	.52554	-.08382	-0.42362	5.697*
Subset 4	.73506	.54032	.02643	-0.39071	5.142*
Form. Ed. Att.	.74841	.56012	.23026	0.45177	4.810*
Yrs. Curr. Emp.	.75819	.57485	-.04761	-0.37937	4.462*
Subset 3	.76993	.59279	.02924	-0.33914	4.235*
Subset 2	.78086	.60975	.01676	0.38568	4.036*
Subset 6	.79087	.62547	.09369	0.44980	3.854*
Subset 7	.80420	.64674	-.03729	-0.42673	3.792*
Household Size	.82097	.67399	.03616	0.30342	3.859*
Verbal IQ	.82680	.68360	.33600	0.22528	3.646*
Subset 8	.83221	.69257	-.11753	-0.06281	3.445*
Reason 5	.83450	.69639	-.02714	0.17001	3.186*
Time Last School	.83781	.70192	.13056	0.23556	2.975*
Prior Ad. Ed.	.84438	.71298	.03554	0.23623	2.857*
Subset 5	.84786	.71886	.03508	0.12501	2.679**
Reason 1	.84952	.72169	-.12068	-0.16137	2.475**
Reason 9	.85149	.72503	.06133	0.10770	2.293**
Reason 6	.85230	.72641	-.17136	-0.08936	2.102
Reason 7	.85316	.72789	.09893	0.08184	1.926
Reason 8	.85380	.72897	-.14993	-0.05457	1.759
Age	.85395	.72922	.07574	-0.05641	1.596

*p < .01**p < .05

TABLE G
 STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
 READING SCORES FOR WHITES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Math IQ	.50334	.25335	.50334	0.24537	14.251*
Form. Ed. Att.	.56878	.32351	.33885	0.46038	9.804*
Subset 8	.64250	.41280	.04442	0.25301	9.373*
Subset 10	.69544	.48364	-.34179	-0.04378	9.132*
Reason 8	.71603	.51269	.06284	0.25001	7.996*
Reason 2	.73902	.54615	-.22000	-0.47405	7.421*
Household Size	.76448	.58442	.14943	0.16705	7.232*
Subset 3	.79045	.62481	-.03111	0.16705	7.286*
Reason 4	.80656	.65054	.10820	-0.46211	7.032*
Reason 3	.81525	.66463	-.01659	0.29003	6.540*
Total Fam. Inc.	.82568	.68174	.24221	0.23420	6.232*
Subset 5	.83630	.69940	-.11844	0.27827	6.011*
Subset 6	.85566	.73216	.08517	-0.38220	6.308*
Yrs. Curr. Emp.	.86435	.74709	-.04898	0.35589	6.119*
Subset 7	.87179	.76001	-.03128	-0.15790	5.911*
Reason 1	.87378	.76349	-.31938	-0.37342	5.478*
Subset 2	.87572	.76688	-.12672	-0.11964	5.031*
Reason 5	.87714	.76938	-.18461	-0.00461	4.633*
Reason 9	.87833	.77146	.14132	-0.10924	3.938*
Subset 9	.87977	.77400	-.15642	-0.17652	3.938*
Subset 4	.88103	.77621	.07209	0.20711	3.634*
Prior Ad. Ed.	.88208	.77807	-.16310	0.10857	3.346*
Subset 1	.88370	.78093	-.02190	-0.19924	3.100**
Reason 6	.88444	.78223	-.15362	0.12974	2.844**
Yrs. Curr. Unemp	.88547	.78406	.06519	0.11147	2.614**
Time Last School	.88704	.78685	-.03116	-0.16696	2.414**
Age	.88782	.78823	-.08973	0.15200	2.206***
Reason 7	.88850	.78943	-.00114	0.08224	2.008***
Verbal IQ	.88861	.78962	.45389	0.03122	1.812

* $p < .01$

** $p < .05$

TABLE H
 STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
 WRITING SCORES FOR WHITES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Reason 3	.35134	.12344	.35134	0.60061	5.914**
Math IQ	.53148	.28247	.31688	0.57631	8.070*
Reason 8	.62939	.39613	-.23804	0.09015	8.746*
Yrs. Curr. Emp.	.67325	.45326	.17025	0.10802	8.083*
Subset 3	.70112	.49157	.19628	0.34976	7.348*
Subset 9	.72016	.51862	-.03096	0.40373	6.644*
Reason 6	.73100	.53435	.09383	0.25690	5.902*
Reason 5	.73873	.54572	.02980	0.03358	5.255*
Subset 7	.74656	.55735	.12228	0.44756	4.757*
Time Last School	.76185	.58042	-.07690	0.13715	4.565*
Subset 10	.77039	.59351	-.21555	-0.67226	4.247*
Reason 2	.77793	.60518	.00967	-0.65480	3.960*
Reason 1	.78993	.62399	.26742	0.44894	3.830*
Subset 8	.80266	.64426	-.03397	0.53885	3.751*
Subset 5	.81849	.66993	-.05229	-0.19263	3.789*
Reason 4	.82317	.67761	.29931	0.21243	3.547*
Total Fam. Inc.	.82770	.68509	.25693	0.18699	3.327*
Subset 2	.83120	.69090	-.01414	0.09134	3.104*
Household Size	.83563	.69827	.28604	0.12877	2.923*
Reason 9	.83862	.70329	.20730	-0.22431	2.726**
Age	.84071	.70680	-.15483	0.15239	2.525**
Yrs. Curr. Unemp	.84369	.71181	-.01463	-0.22519	2.358**
Verbal IQ	.84653	.71662	.29759	-0.21911	2.199**
Reason 7	.84994	.72240	.11655	-0.17393	2.060***
Form. Ed. Att.	.85232	.72646	.16611	0.14659	1.912***
Subset 6	.85331	.72813	.12059	-0.07388	1.751
Prior Ad. Ed.	.85346	.72839	.01260	0.02842	1.590

*p < .01**p < .05***p < .10

TABLE I

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
COMPUTATION SCORES FOR WHITES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Total Fam. Inc.	.59729	.35675	.59729	0.47189	23.294*
Math IQ	.68912	.47489	.43175	0.21342	18.540*
Reason 5	.73865	.54560	-.44598	0.00173	16.010*
Household Size	.78254	.61237	-.06308	-0.36063	15.403*
Subset 3	.79774	.63639	.10380	-0.37549	13.301*
Form. Ed. Att.	.81111	.65790	.29057	-0.13493	11.895*
Subset 5	.81996	.67233	-.15625	-0.04211	10.552*
Time Last School	.82654	.68316	.10012	0.41090	9.433*
Verbal IQ	.83696	.70051	.48790	0.19629	8.836*
Subset 6	.84324	.71105	-.04734	0.21044	8.121*
Yrs. Curr. Unemp	.85050	.72336	.02455	0.26105	7.607*
Age	.86038	.74025	-.09750	-0.58075	7.362*
Reason 6	.86404	.74656	-.37410	-0.25779	6.798*
Subset 4	.86996	.75684	-.05873	-0.16178	6.447*
Subset 1	.87288	.76192	-.27404	-0.48992	5.974*
Reason 9	.87504	.76569	-.10926	-0.00811	5.515*
Subset 7	.87706	.76924	-.08950	0.36989	5.098*
Subset 8	.88018	.77471	-.07846	0.32434	4.776*
Subset 10	.88203	.77799	-.33822	-0.38999	4.426*
Prior Ad. Ed.	.88447	.78228	.04806	0.13189	4.132*
Yrs. Curr. Emp.	.88550	.78411	.03816	0.12118	3.805*
Reason 4	.88617	.78530	.04719	-0.09824	3.492*
Reason 7	.88717	.78708	-.00153	-0.20602	3.214*
Reason 3	.88888	.79010	-.26175	0.25176	2.980*
Reason 1	.89062	.79321	-.20990	-0.05072	2.762**
Reason 2	.89135	.79450	-.34184	-0.13082	2.528**
Reason 8	.89208	.79581	-.17824	0.09112	2.528**
Subset 9	.89309	.79761	-.09597	0.09334	2.111***

*p < .01**p < .05***p < .10

TABLE J

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
PROBLEM SOLVING SCORES FOR WHITES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Math IQ	.42076	.17704	.42076	0.16629	9.035*
Reason 8	.51663	.26691	-.22710	-0.44239	7.464*
Prior Ad. Ed.	.58006	.33647	-.30620	-0.47298	6.761*
Verbal IQ	.62515	.39081	.38913	0.23146	6.255*
Reason 2	.65059	.42327	-.34184	-0.20808	5.578*
Reason 7	.67937	.46155	.12425	0.39488	5.071*
Subset 7	.70460	.49647	-.17363	-0.52766	5.071*
Subset 4	.74033	.54809	.06606	0.39262	5.306*
Reason 5	.75734	.57356	-.25798	-0.38697	5.081*
Reason 9	.76697	.58824	.09232	0.19053	4.714*
Reason 1	.77414	.59930	-.19782	-0.24584	4.351*
Yrs. Curr. Unemp	.78121	.61028	-.06682	0.19932	4.045*
Subset 9	.78506	.61631	-.31238	-0.07727	3.706*
Reason 3	.78766	.62041	-.16886	0.08751	3.386*
Subset 5	.79068	.62518	-.11707	-0.17545	3.113*
Age	.79284	.62859	-.06648	0.37693	2.856*
Reason 6	.79538	.63262	-.23361	0.22954	2.633**
Total Fam. Inc.	.79704	.63527	.28938	0.07018	2.419**
Reason 4	.79883	.63913	.10855	0.11602	2.228**
Time Last School	.80171	.64273	.04444	-0.23741	2.069**
Subset 6	.80272	.64435	.03054	0.07546	1.898***
Subset 10	.80336	.64539	-.37712	0.28943	1.737
Subset 8	.80581	.64932	-.05360	-0.22603	1.610
Form. Ed. Att.	.80750	.65206	-.02249	0.13921	1.484
Subset 1	.80872	.65403	-.15872	0.14454	1.361
Yrs. Curr. Emp.	.80929	.65495	.04675	0.04859	1.241
Subset 2	.80956	.65540	-.00539	-0.03571	1.127
Subset 3	.80976	.65571	.10833	0.04299	1.020

* $p < .01$ ** $p < .05$ *** $p < .10$

APPENDIX I
INDEPENDENT VARIABLE OUTPUT FOR EACH LITERACY
PERFORMANCE SUBTEST FOR NON-WHITES (n = 32)
TABLES A - J

TABLE A

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
COMMUNITY RESOURCES SCORES FOR NON-WHITES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Time Last School	.56723	.32175	-.56723	-0.76463	14.231*
Math IQ	.66699	.44488	.54239	-0.03774	11.620*
Subset 4	.71462	.51069	-.06149	-0.27303	9.742*
Subset 6	.75372	.56810	.03651	0.25890	8.879*
Subset 10	.78022	.60874	.05281	1.35137	8.090*
Subset 5	.80423	.64678	-.05294	-0.78393	7.630*
Subset 9	.82288	.67713	-.22495	-0.01578	7.190*
Household Size	.84029	.70608	-.03660	-0.65669	6.907*
Yrs. Curr. Emp.	.85588	.73253	-.05367	0.52985	6.695*
Subset 7	.87120	.75899	.17136	0.63771	6.613*
Reason 3	.87976	.77397	.30821	0.58878	6.226*
Reason 7	.88848	.78940	-.21249	-0.80291	5.935*
Reason 2	.89488	.80081	.08840	-0.76492	5.667*
Total Fam. Inc.	.90087	.81157	.23811	0.58991	5.230*
Subset 3	.91453	.83636	-.00365	0.60526	5.452*
Reason 1	.92135	.84889	.13948	-0.20014	5.267*
Form. Ed. Att.	.92774	.86071	.22836	0.01704	5.089*
Reason 4	.93070	.86619	-.18326	0.25711	4.675*
Subset 2	.93361	.87163	.09857	0.27069	4.289*
Reason 9	.93723	.87840	-.06195	0.32727	3.973**
Verbal IQ	.93915	.88200	.35210	0.47295	3.599**
Subset 8	.94376	.89068	-.23696	0.62117	3.033**
Subset 1	.94782	.89837	.03812	0.27656	3.075
Reason 5	.95259	.90743	-.29052	0.52250	2.859
Age	.95960	.92084	-.07175	-0.33448	2.792
Reason 8	.96190	.92525	-.07618	-0.13511	2.380
Reason 6	.96221	.92585	.08360	-0.06315	1.850

*p < .01**p < .05

TABLE B

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
OCCUPATIONAL KNOWLEDGE SCORES FOR NON-WHITES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Yrs. Curr. Emp.	.44516	.19816	-.44516	-0.88466	7.414**
Prior Ad. Ed.	.57534	.33101	.30528	0.56104	7.175*
Reason 9	.62304	.38818	.24500	0.65180	5.922*
Reason 6	.68820	.47361	-.09972	-1.10203	6.073*
Reason 3	.72208	.52140	.01990	0.64748	5.665*
Subset 10	.75983	.57734	-.08190	-0.49515	5.691*
Math IQ	.78369	.61418	.12808	-0.60910	5.458*
Subset 3	.80674	.65083	.09617	0.66559	5.359*
Subset 5	.83044	.68963	-.05943	-0.31350	5.431*
Reason 2	.85594	.73267	-.10170	0.46661	5.754*
Subset 7	.87797	.77083	.17961	0.65958	6.116*
Reason 8	.90158	.81285	-.10677	0.50164	6.877*
Subset 2	.91384	.83511	.16064	0.23808	7.012*
Reason 1	.92281	.85157	-.01337	-0.26801	6.997*
Total Fam. Inc.	.93303	.87054	.07976	0.29468	7.173*
Verbal IQ	.94189	.88716	.14717	0.10836	7.371*
Time Last School	.94642	.89572	-.18389	0.15392	7.073*
Reason 5	.94894	.90048	-.04151	-0.37303	6.535*
Household Size	.95481	.91166	-.02785	0.09811	6.517*
Form. Ed. Att.	.96151	.92450	.05383	-0.27082	6.735*
Yrs. Curr. Unemp	.96363	.92859	.11726	-0.32428	6.192*
Subset 1	.96574	.93266	-.06384	-0.19609	5.666*
Subset 4	.96678	.93466	.15605	0.08968	4.976**
Subset 8	.96783	.93760	-.01722	0.05019	4.316**
Reason 7	.96805	.93713	.12223	-0.22589	3.577
Reason 4	.96818	.93738	.02899	0.07133	2.879
Age	.96843	.93786	.06927	0.20844	2.236

*p < .01**p < .05

TABLE C

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
CONSUMER ECONOMICS SCORES FOR NON-WHITES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Math IQ	.38465	.14795	.38465	0.33498	5.209**
Household Size	.53738	.28878	.34303	-0.22098	5.887*
Reason 7	.67201	.45160	.33260	-0.93703	7.686*
Subset 6	.71252	.50769	.17889	0.17315	6.961*
Reason 5	.74572	.55611	.18618	1.97596	6.515*
Prior Ad. Ed.	.76952	.59215	.26722	-1.99401	6.050*
Reason 6	.79073	.62525	.10709	0.44531	5.720*
Verbal IQ	.82354	.67822	.30843	2.25561	6.060*
Yrs. Curr. Emp.	.85439	.72998	-.15946	-0.58442	6.608*
Subset 5	.86520	.74856	-.12892	-0.81802	6.252*
Reason 8	.88040	.77511	-.04214	-0.55580	6.267*
Reason 9	.88776	.78813	-.08205	0.50849	5.890*
Subset 2	.89543	.80180	.02769	0.59105	5.601*
Subset 1	.90822	.82486	.05642	0.67077	5.719*
Yrs. Curr. Unemp	.91088	.82970	.14727	-1.40513	5.197*
Form. Ed. Att.	.91580	.83869	-.27871	0.53849	4.874*
Reason 3	.92274	.85144	.21382	-0.67577	4.720*
Subset 3	.93124	.86720	-.07676	0.36400	4.716*
Subset 8	.93579	.87570	-.05831	1.07719	4.450*
Subset 10	.94009	.88378	.19338	2.55861	4.182*
Reason 2	.94715	.89709	.13837	-2.28931	4.151**
Total Fam. Inc.	.95039	.90324	.29309	1.09504	3.819**
Reason 4	.95863	.91897	.15776	0.61707	3.945**
Subset 9	.96383	.92896	-.07628	0.03458	3.814**
Reason 1	.96637	.93388	.27429	1.12300	3.390
Age	.9.936	.93966	.15930	2.01162	2.995
Time Last School	.97548	.95155	.10353	-0.68045	2.910
Subset 4	.98066	.96170	.33917	-0.38902	2.690
Subset 7	.98189	.96411	.28627	-0.17031	1.853

*p < .01**p < .05

TABLE D

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
HEALTH SCORES FOR NON-WHITES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Reason 1	.49332	.24336	.49332	-.016483	9.649*
Math IQ	.60036	.36043	.44920	-0.02889	8.172*
Time Last School	.66515	.44242	.12135	0.09004	7.406*
Reason 3	.72370	.52374	.43513	0.49904	7.423*
Total Fam. Inc.	.74507	.55513	.24781	0.22567	6.488*
Subset 3	.76861	.59076	.21990	0.54166	6.015*
Subset 1	.79741	.63587	.13500	0.38676	5.987*
Subset 4	.81580	.66554	-.01295	-0.76909	5.721*
Subset 8	.83093	.69045	-.33362	-0.59238	5.452*
Reason 7	.84649	.71654	.16244	0.63694	5.309*
Household Size	.86501	.74825	.16878	0.09444	5.404*
Subset 2	.97426	.76433	-.05593	-0.19868	5.135*
Age	.88369	.78091	.04008	-0.18668	4.935*
Subset 7	.89352	.79838	.02856	0.87391	4.808*
Reason 2	.91147	.83078	.36493	0.54980	5.237*
Reason 6	.92400	.85377	.11018	-0.85062	5.474*
Subset 9	.93734	.87861	-.15388	0.14891	5.961*
Form. Ed. Att.	.94185	.88708	-.24187	-0.21940	5.674*
Prior Ad. Ed.	.94561	.89418	.09613	0.29186	5.337*
Subset 6	.95457	.91120	.16946	0.47714	5.643*
Reason 8	.96090	.92334	.19558	0.16853	5.735*
Verbal IQ	.96447	.93020	.34343	-0.19926	5.452*
Yrs. Curr. Unemp	.96847	.93793	.06026	-0.22788	5.256*
Subset 5	.97014	.94117	.04308	-0.12993	4.666*
Reason 9	.97104	.94291	.15629	0.10960	3.964*
Subset 10	.97152	.94384	.18983	0.09967	3.232*

*p < .01

TABLE E

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
GOVERNMENT-AND-LAW SCORES FOR NON-WHITES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Math IQ	.43342	.18794	.43342	0.43713	6.943**
Household Size	.58485	.34205	.35634	0.24840	7.538*
Time Last School	.67970	.46200	.11614	0.51912	8.015*
Subset 8	.74035	.54811	-.41782	-0.13531	8.187*
Subset 10	.76287	.58197	.26850	-0.05087	7.239*
Subset 1	.78217	.61179	-.04523	0.77335	6.566**
Subset 2	.79678	.63486	-.25304	-0.43969	5.961*
Reason 9	.80577	.64926	-.12497	-0.29188	5.322*
Reason 3	.81838	.66975	.36524	0.52635	4.957*
Reason 6	.83150	.69139	-.05780	-0.41861	4.705*
Yrs. Curr. Emp.	.84717	.71770	-.00266	-0.02993	4.339*
Subset 5	.86778	.75305	-.15971	-0.42308	4.025*
Subset 4	.87485	.76537	-.07393	-0.27885	4.222*
Reason 4	.87799	.77087	-.02125	0.14104	3.961*
Subset 9	.88116	.77644	-.21003	0.19184	3.256*
Prior Ad. Ed.	.88420	.78182	-.01744	0.49752	2.951**
Form. Ed. Att.	.88582	.78468	-.18162	0.02957	2.632**
Age	.88735	.78739	-.14478	-0.52268	2.339***
Subset 3	.88931	.79088	.11996	0.17337	2.080
Yrs. Curr. Unemp	.89083	.79358	.08836	0.40275	1.831
Reason 1	.89340	.79817	.32397	-0.16988	1.618
Reason 5	.89538	.80171	.05843	0.07636	1.406
Reason 8	.89634	.80343	.13049	0.07448	1.192
Subset 7	.89682	.80428	-.04718	-0.08789	0.986

* $p < .01$ ** $p < .05$ *** $p < .10$

TABLE F

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR IDENTIFICATION
OF FACTS AND TERMS SCORES FOR NON-WHITES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Prior Ad. Ed.	.35467	.12579	.35467	2.63523	4.317**
Subset 2	.46657	.21768	-.25540	-1.13467	4.035**
Subset 1	.58932	.34730	.22765	0.52860	4.966*
Total Fam. Inc.	.67746	.45896	.32288	-0.41667	5.726*
Subset 10	.73216	.53606	.14465	-0.09361	6.008*
Reason 3	.76467	.58471	.18613	0.28003	5.867*
Reason 2	.78983	.62384	.10643	1.07527	5.686*
Time Last School	.80819	.65317	.01180	0.80484	5.414*
Subset 8	.81911	.67093	-.20987	-1.38946	4.984*
Form. Ed. Att.	.82872	.68678	-.05227	0.42451	4.605*
Reason 5	.84097	.70722	.18662	-0.42902	4.392*
Verbal IQ	.87311	.76232	.25712	-0.99628	5.078*
Age	.89516	.80131	.20404	-1.75143	5.584*
Subset 6	.90213	.81282	.15399	0.25834	5.308*
Math IQ	.91068	.82933	.33188	-0.13064	5.183*
Reason 6	.91654	.84005	-.09478	-0.22658	4.924*
Reason 9	.91917	.84487	-.03029	-1.07449	4.485*
Reason 8	.92245	.85091	.09790	0.89271	4.122*
Reason 7	.92411	.85398	-.08527	1.66797	3.694**
Yrs. Curr. Unemp	.92779	.86079	.07575	1.93252	3.401**
Subset 4	.93013	.86514	.15212	0.41542	3.055**
Subset 9	.93222	.86904	-.17962	0.27388	2.715***
Subset 3	.93445	.87324	-.10953	0.15917	2.396
Subset 7	.93676	.87752	.20207	0.36780	2.089
Reason 1	.94075	.88502	.29644	-1.24625	1.847
Yrs. Curr. Emp.	.94737	.89751	.16293	0.60708	1.684
Reason 4	.94915	.90088	-.17078	-0.38253	1.347
Household Size	.95189	.90610	.19248	0.31918	1.034
Subset 5	.95704	.91593	.10638	0.36041	0.751

*p < .01**p < .05***p < .10

TABLE G

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
READING SCORES FOR NON-WHITES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Verbal IQ	.49540	.24542	.49540	0.11011	9.757*
Subset 10	.57426	.32977	.21717	0.00498	7.134*
Math IQ	.63383	.40174	.47530	-0.08537	6.267*
Reason 4	.67867	.46060	-.27276	-0.34151	5.764*
Reason 7	.73599	.54167	.27009	0.78620	6.146*
Household Size	.78504	.61630	.21294	0.20758	6.692*
Reason 9	.81317	.66125	.19560	-0.05654	6.693*
Subset 1	.83529	.69772	.10012	0.31952	6.636*
Prior Ad. Ed.	.85094	.72410	-.37595	-0.54581	6.416*
Subset 8	.87193	.76026	.18628	1.09310	6.659*
Subset 3	.88438	.78231	.17202	0.59037	6.527*
Total Fam. Inc.	.90322	.81580	.23120	0.09948	7.013*
Subset 9	.91198	.83171	-.15145	0.25295	6.843*
Subset 7	.91930	.84512	.09843	0.16588	6.626*
Reason 8	.92765	.86054	.06741	0.48392	6.582*
Reason 6	.93405	.87246	.08839	-0.28791	6.413*
Reason 1	.94003	.88366	.35648	-0.52099	6.255*
Age	.94270	.88869	-.01603	-0.80682	5.766*
Form. Ed. Att.	.94552	.89400	-.12399	0.31472	5.327*
Reason 5	.94760	.89794	.08707	0.17398	4.839*
Subset 5	.95018	.90284	-.14753	-0.32275	4.425*
Subset 6	.95668	.91563	-.05598	0.34593	4.439**
Yrs. Curr. Unemp	.96071	.92297	.01393	0.72340	4.168**
Subset 4	.96215	.92573	.26544	0.34553	3.636**
Reason 3	.96454	.93034	.38676	-0.06207	3.205***
Yrs. Curr. Emp.	.96560	.93239	.01636	0.22126	2.652
Time Last School	.96630	.93373	-.07413	0.21191	2.087
Reason 2	.96649	.93410	.28635	0.33970	1.519
Subset 2	.96691	.93491	-.00314	-0.12036	0.991

* $p < .01$ ** $p < .05$ *** $p < .10$

TABLE H
 STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
 WRITING SCORES FOR NON-WHITES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Math IQ	.39878	.15903	.39878	0.33715	5.673**
Household Size	.48513	.23535	.24322	0.23885	4.463**
Reason 7	.60295	.36355	.32158	0.33002	5.331*
Subset 4	.65998	.43558	-.03824	-0.96302	5.209*
Subset 1	.71504	.51128	-.05723	0.96281	5.440*
Reason 2	.75856	.57541	-.06243	-0.73599	5.646*
Subset 8	.79184	.62701	-.27615	0.17561	5.764*
Subset 10	.83144	.69129	.17813	0.90072	6.438*
Yrs. Curr. Emp.	.84147	.72501	-.17548	-0.36960	6.445*
Time Last School	.86698	.75166	.08898	0.18657	6.356*
Yrs. Curr. Unemp	.88698	.78673	.06170	-0.59813	6.707*
Total Fam. Inc.	.90172	.81309	.22694	0.38775	6.888*
Reason 4	.91409	.83557	.02338	0.37766	7.036*
Form. Ed. Att.	.92776	.86074	-.11234	0.20795	7.505*
Prior Ad. Ed.	.93486	.87396	.06320	-0.04502	7.396*
Subset 2	.93814	.88010	.06519	0.17005	6.882*
Subset 5	.94103	.88554	-.25586	-0.71173	6.371*
Reason 5	.94712	.89773	-.03952	0.60349	6.392*
Reason 9	.95031	.90309	.13751	0.44695	5.886*
Reason 6	.95405	.91021	.03194	-0.56839	5.575*
Reason 3	.96158	.92891	.21174	0.27658	5.842*
Subset 6	.96380	.94135	-.04052	0.36746	5.346*
Age	.97023	.95375	-.13601	-0.22503	5.582*
Subset 3	.97660	.95685	-.00045	0.24512	6.014*
Subset 9	.97819	.95684	-.11457	-0.06913	5.322**
Reason 1	.97895	.95834	.21108	0.09247	4.424***
Subset 7	.97994	.96028	.04682	0.13825	3.582
Reason 8	.98025	.96090	.12949	-0.16451	2.633
Verbal IQ	.98065	.96168	.15962	0.25526	1.731

*p < .01

**p < .05

***p < .10

TABLE I

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
COMPUTATION SCORES FOR NON-WHITES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Math IQ	.59078	.34902	.59078	0.32120	16.085*
Subset 6	.66073	.43657	.27108	0.55106	11.235*
Prior Ad. Ed.	.71149	.50621	.39864	-1.88043	9.568*
Subset 10	.74991	.56237	.19992	2.22405	8.674*
Reason 9	.77427	.59950	-.28753	0.68210	7.784*
Subset 3	.79053	.62494	.18901	0.57310	6.943*
Reason 4	.80589	.64946	.06804	0.71903	6.352*
Time Last School	.81756	.66840	-.20390	-1.20625	5.795*
Form. Ed. Att.	.83029	.68938	-.13033	-0.13625	5.425*
Yrs. Curr. Unemp	.84099	.70726	.29359	-1.47750	5.073*
Reason 1	.85628	.73321	.31385	1.21028	4.997*
Subset 5	.87173	.75992	.02874	-1.10693	5.012*
Reason 5	.88086	.77591	-.13919	1.56453	4.794*
Reason 6	.89651	.80373	-.03664	-0.38833	4.979*
Yrs. Curr. Emp.	.90491	.81887	-.21113	-0.45319	4.822*
Reason 2	.91998	.84636	.17903	-1.55950	5.164*
Household Size	.92304	.85200	.15276	-0.66213	4.741*
Age	.92842	.86197	.17483	1.57243	4.510*
Reason 3	.93090	.86657	.19305	-0.09258	4.102*
Subset 8	.93573	.87560	-.01910	1.21876	3.871**
Subset 7	.93709	.87813	.19029	0.11004	3.431**
Subset 2	.93875	.88124	.20997	0.82897	3.036**
Subset 1	.93985	.88332	.00666	0.11620	2.633***
Reason 8	.94060	.88472	-.24345	-0.76524	2.238
Reason 7	.94156	.88673	-.02869	-1.58168	1.879
Verbal IQ	.94358	.89035	.23198	1.62721	1.561
Total Fam. Inc.	.95213	.90655	.27457	0.88106	1.437
Subset 4	.95927	.92020	.10236	-0.48265	1.235
Subset 9	.95950	.92064	-.11943	-0.03657	0.800

*p < .01**p < .05***p < .10

TABLE J

STEPWISE INDEPENDENT VARIABLE OUTPUT FOR
PROBLEM SOLVING SCORES FOR NON-WHITES

Independent Variables	<u>R</u>	<u>r</u> ²	<u>r</u>	Beta	<u>F</u>
Reason 3	.55071	.30328	.55071	0.59761	13.059*
Verbal IQ	.62468	.39023	.48707	2.57246	9.279*
Time Last School	.67406	.45435	.05833	-0.76351	7.771*
Total Fam. Inc.	.71681	.52382	.14372	1.63335	7.134*
Subset 3	.72875	.53107	.07542	0.65487	5.889*
Subset 2	.73702	.54320	-.20205	0.72971	4.954*
Yrs. Curr. Emp.	.74700	.55801	-.00111	-0.95507	4.329*
Subset 7	.75501	.57005	.06262	0.80259	3.812*
Subset 4	.76809	.58996	-.02018	-1.56537	3.517*
Reason 6	.77949	.60760	.21935	0.00627	3.252**
Form. Ed. Att.	.79188	.62707	-.22836	-0.24833	3.057**
Reason 4	.80163	.64261	.00412	0.93028	2.847**
Reason 1	.81585	.66561	.31396	1.29802	2.756**
Subset 1	.82996	.68883	-.06010	0.82381	2.688**
Subset 5	.84800	.71910	-.14691	-0.88167	2.731**
Subset 6	.85665	.73386	.01677	-0.51360	2.585**
Subset 9	.86833	.75399	-.24216	0.00420	2.524**
Reason 8	.87229	.76088	.22817	-0.84806	2.298***
Subset 8	.87731	.76967	-.37996	1.70501	2.110***
Household Size	.88123	.77657	.26292	-0.45744	1.912
Yrs. Curr. Unemp	.88269	.77914	.01419	-2.74976	1.679
Reason 2	.88380	.78111	.24001	-2.41117	1.460
Reason 9	.88553	.78417	.08303	1.30004	1.264
Reason 7	.88659	.78604	.08876	-2.21087	1.072
Reason 5	.88766	.78794	.19664	1.37076	0.892
Math IQ	.88868	.78974	.33910	0.23789	0.722
Subset 10	.88910	.79049	.09437	2.84537	0.559
Prior Ad. Ed.	.89054	.79307	-.04982	-3.57100	0.411
Age	.92612	.85769	-.17486	3.22815	0.416

* $p < .01$ ** $p < .05$ *** $p < .10$

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Factors Influencing Functional Literacy Performance
Among Adult Basic Education Students

by

Gregory R. Pleasant

(ABSTRACT)

The functional literacy performance among a significant portion of American adults is considerably low. The purpose of this study was to educe a comprehensive profile of the adult learner and his or her literacy performance by examining factors which are a manifestation of both the formal school experience and the environment. The problem investigated was: How do selected developmental, academic, and environmental factors influence the functional literacy performance of adult basic education students?

Multiple regression analysis was used to determine the tenability of ten research hypotheses that each included one of the ten literacy subtests of the Adult Performance Level Assessment. A secondary analysis was performed across sex and race subgroups to determine if the hypotheses were valid for those groups.

One hundred and twenty-three ABE students who were attending a four-week summer school session in Montgomery County, Maryland comprised the initial sample. Data were collected between July 6 and July 27, 1982 inclusive and involved the following four instruments: (a) a demographic

questionnaire, (b) the Adult Performance Level Assessment, (c) the Wesman Personnel Classification Test, and (d) the Moos Family Environment Scale. At the close of the data collection period, 76 adults had completed all four instruments and comprised the final sample.

Four hypotheses involving literacy performance in community resources, consumer economics, government-and-law, and identification of facts and terms were accepted. An alternate hypothesis for each of the ten primary analyses suggested factors which have more utility in understanding functional literacy performance than those factors hypothesized.

The secondary analysis revealed that the selected factors had a differential influence on literacy performance for sex subgroups but not for race subgroups. The most important general finding was that the environmental perceptions (current and past) held by ABE students significantly influenced each of the ten performance subtests and, in many instances, exerted a stronger influence than developmental and academic factors.